[4910-13] **August 2005**

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 1, 21, 23, 27, 29, 61, 91, 119, 121, 125, 135

[Docket No. FAA-2004- Notice No.

RIN 2120-

Part 135/125 and Related Regulations Review

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: On April 8, 2003, the FAA Administrator signed Order No. 120-136**,** which established the Part 135/125 Aviation Rulemaking Committee (ARC). The Order stated that the ARC would provide recommendations for safety and applicability standards to reflect the current industry, industry trends, and emerging technologies and operations of Part 125,135 and associated regulations. This notice of proposed rulemaking contains initial recommendations from the Part 135/125 ARC that the FAA proposes as changes to the regulations. The FAA publishes these proposals for public comment.

DATES: Send your comments on or before [Insert date 120 days after date of publication in the Federal Register].

ADDRESSES: You may send comments on Docket No. FAA-2004- using any of the following methods:

- DOT Docket web site: Go to http://dms.dot.gov and follow the instructions for sending your comments electronically.
- Government-wide rulemaking web site: Go to http://www.regulations.gov and follow the instructions for sending your comments electronically.

- Mail: Docket Management Facility; US Department of Transportation, 400 Seventh Street, S.W., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Fax: 1-202-493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, S.W., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For more information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

Privacy: We will post all comments we receive, without change, to http://dms.dot.gov, including any personal information you provide. For more information, see the Privacy Act discussion in the SUPPLEMENTARY INFORMATION section of this document.

Docket: To read background documents or comments received, go to http://dms.dot.gov at any time or to Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, S.W., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Katherine Perfetti, Air Transportation Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue S.W., Washington, DC 20591; telephone (202) 267-3760; e-mail: *Katherine.Perfetti@faa.gov*

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting proposed changes

in this document. The most helpful comments reference a specific portion of the proposed change, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the ADDRESSES section of this preamble between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. You may also review the docket using the Internet at the web address in the ADDRESSES section.

Privacy Act: Using the search function of our docket web site, anyone can find and read the comments received into any of our dockets, including the name of the individual sending the comment (or signing the comment on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit http://dms.dot.gov.

Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it to you.

Availability of Rulemaking Documents

You can get an electronic copy using the Internet by:

(1) Searching the Department of Transportation's electronic Docket Management System (DMS) web page (http://dms.dot.gov/search);

(2) Visiting the Office of Rulemaking's web page at http://www.faa.gov/avr/arm/index.cfm; or

(3) Accessing the Government Printing Office's web page at http://www.access.gpo.gov/su_docs/aces/aces140.html.

You can also get a copy by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue S.W, Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the docket number, notice number, or amendment number of this rulemaking.

Part 135/125 History and Background

The air taxi industry was recognized in the 1950's and 1960's. This was a period of high growth within this segment of the industry. The part 135 regulations were developed and published. The part 135 regulations were last substantively reviewed and rewritten in 1978. This rewrite continues to serve as the basis for the current regulation of this industry. That rewrite established the defining criteria for part 135 as airplanes with 30 or fewer passenger seats and 7500 pounds or less payload capacity, and all rotorcraft. All air taxi operators were recertified at that time to meet the new standards.

In 1980, Part 125 was established for operations of large airplanes that are not used in common carriage. The defining criterion was established as airplanes with 20 or more passenger seats or 6000 pounds or more payload capacity.

In 1995, the FAA's Commuter Rulemaking moved scheduled turbojets and 10 or more seat scheduled airplanes to part 121. This rulemaking established part 119.

In 2003, the FAA published rulemaking for fractional ownership operations and related part 135 provisions.

Since 1978 there have been approximately 40 amendments to part 135; however, a comprehensive review and analysis of the industry has not been completed since 1978.

The FAA is faced with new issues impacting this industry. These issues include size and types of aircraft operated in part 135, industry trends and dynamics, and competing aircraft operational and ownership options. The current regulations do not adequately address new technologies and new aircraft types. In addition there are multiple industry issues, exemptions, deviations, interpretations and safety recommendations for this segment of the industry. The introduction of the Boeing Business Jet and other large aircraft configured for less than 30 passenger seats, increased use of turbojets, and increased international operations raise additional questions of the adequacy of the current regulatory standards. New aircraft types including large and hybrid airships and part 23 very light jets are not adequately addressed in today's regulations. The overall composition of the part 135 fleet differs significantly from the composition of the fleet in 1978. Additional issues have been raised with enforcement of part 125 operations.

Part 135/125 Aviation Rulemaking Committee

By notice dated January 27, 2003, the Federal Aviation Administration (FAA) announced a comprehensive regulatory review of 14 CFR parts135 and 125 and related regulations. The FAA proposed to establish an Aviation Rulemaking Committee (ARC) to conduct this review and provide advice and recommendations to the FAA to:

a. Resolve current issues affecting this part of the industry.

b. Enable new aircraft types, size and design and new technologies in air transportation operations.

c. Provide safety and applicability standards that reflect the current industry, industry trends and emerging technologies and operations.

d. Address international harmonization and ICAO standards.

e. Potentially, rescind part 125 from 14 Code of Federal Regulations.

Order 1110.135 chartered the Part 135/125 ARC on April 8, 2003. The ARC was comprised of approximately 200 members representing a broad spectrum of the aviation industry and government interests. The ARC was divided into 8 working groups to facilitate discussion of issues. The ARC used a knowledge sharing network (KSN) to post recommendation documents for members to review and provide comments on as the work of the committees continued. The ARC work groups were:

a. Aeromedical

b. Applicability

c. Airworthiness

d. Equipment and Technology

e. Operations

f. Rotorcraft

g. Training

h. Airships

Issues were identified and discussed within each work group then presented to a Steering Committee comprised of a cross section of members from the individual work groups. The Steering Committee recommendations and any dissenting opinions are discussed in this NPRM document. The ARC discussed and made significant recommendations to rewrite part 135, 121

and associated regulations in accordance with the group charter. A summary of the recommendations is presented in the following table. The recommendations are discussed in detail in the preamble discussion. The recommendations are presented and grouped by the associated work group.

(NOTE: Suggest incorporating the executive summary here)

(NOTE: Recommend leaving the work group number in this submittal document to assist in reviewing the individual recommendations. Need to add regulation numbers in this table.

Note: Each of the recommendation documents listed in the table below received Steering Committee consensus with the exception of the following documents. The preamble text and regulatory language in this document reflects the consensus or majority opinion. For those documents that had a dissenting opinion, the entire texts of those dissenting opinions, if provided by the dissenter, are included in this document:

Document Number	Description	Dissenting Opinion
APP-20	Nine or Less Scheduled Turbojet and Single Pilot Operations	ALPA and ADF
APP-32	Increased Payload for All Cargo	ALPA
AWG-23A	Additional Equipment Requirements for All Cargo Airplanes	ALPA on TCAS Issue
OPS-01	Flight Duty and Rest	ALPA, NACA
OPS-69	Activity Reporting	No Consensus in Workgroup

OPS-71	Two Sets of Charts	ALPA
TRA-200	Quality Performance Standards	Consensus Pending FAA Description of Process for Amending or Revising Standards

1

AER	5	Night Vision Goggles	Night vision goggles - The regulations currently do not address Night Vision Goggles (NVGs). This document provides regulation for the use of NVG in Part 91 and 135 operations as well as training requirements under Part 61. 61.1,61.31,61.39, 61.51, 61.57, 61.195, 91.205, 135.207, 135.229
AER	6	Aeromedical Eligible On-Demand	Defines "eligible on-demand operator" for air ambulance rotorcraft operations. 135.4
AER	8	Oxygen for medical use	Reviews requirement for oxygen for medical use by passengers and determines that there is no opportunity to make changes. No regulatory change/ FAA Note: update status of SFAR
AER	9	Child restraint on aeromedical flights	Recommends restraint for carriage of children under the age of two on aeromedical flights 135.128(a)(3)
AER	10	Aeromedical VFR visibility and radar altimeter	Raises VFR visibility minima by one statute mile for aircraft and recommends radar altimeter for aeromedical flights. FAA Note: Need to identify applicable rules
APP	03	Private operations of large airplanes under 91 TBD—Not included in this draft document	Moves the operation of large airplanes used in purely private operations, out of Part 125 into Part 91.501. Incorporates additional safety requirements in subpart F for large airplanes and eliminates some Part 125 deviations.
APP	12	Limits on Part 380 public charter frequency	Amends the definition of "scheduled operations" and "on-demand operation" to prevent a carrier that holds on-demand-authority from conducting charter flights of five or more round trips on one market and in aircraft with 10 to 30 seats and also discusses sale of individual seats in on-demand operation. 119.3 (2 options)

APP	16	Medical personnel as crew members	Definition of medical personnel - Currently, medical personnel are required to perform flight duties in order to not be defined as passenger on the flight and thus the operation having to be conducted under Part 135. The recommendation document designates medical personnel as flight crew without having them perform flight duties. This results in that the flight can be conducted under Part 91 as opposed to 135 when no patients are on-board. 119.1
APP	18	Reimbursement and record keeping under 91.501	Recommends record keeping requirement, but does not change the reimbursement level under 91.501
APP	20	Nine or less scheduled turbojet and single pilot operations	Provides regulatory changes related to use of 9 or less seat jets in commuter operations and operations in turbojets with single pilot authorization. 119.3, 119.21(a)(4), 135.5, 135.19, 135.21, 135.23, 135.69, 135.77, 135.99, 135.101, 135.105, 135.244, 135.551, 135.553, 135.555, 135.557, 135 Subpart K Dissenting Opinion from ALPA and ADF
APP	21	Charter brokers	The conduct of brokers - The ARC recognized the problems of brokers acting as an air carrier without proper authorization from the DOT. However, it also recognized that this becomes an issue of DOT enforcement and education of the community. It was decided that the problem with brokers should be addressed by the OST and that the FAA should request guidance from OST on brokers. DOT issued a notice on Charter Brokers. No further regulatory action recommended.
APP	32	Increased payload for all cargo	This recommendation document provides arguments for raising 135 all cargo payload to 18,000 pounds. Need to develop rule language. Dissenting Opinion from ALPA
APP	41	Flight Department Company Structure	This recommendation updates the rules for flight department companies and the related cost-sharing exemptions. 91.501
APP	42	Small airplane and helicopter ops in 91.501	This recommendation incorporates the exemption for small airplanes to operate under 91.501 cost-sharing rules while complying with certain NBAA requirements. 91.501
APP	39A	Part 125 structure and definition	Definition of private carriage for hire - The recommendation document provides a clear definition of private carriage for hire and its limitations. It provides clarification of holding out, contracts held, and introduces the concept of affiliate of the certificate holder and allows move of certain all-cargo operations to 135. 125.1, 125.9, 125.11, 125.31 (FAA Note: May also require change to 119)

APP	39B	Part 125 Safety Improvements	These are the corresponding safety improvements being made to the new Part 125 private carriage for hire operations. 125.1(b)(5), 125.25, 125.55, 125.209, 125.210, 125.229, 125.284, 125.287, 125.291, 125.299, 125.307, 125.309, 125.335, 125.361, 125.402, 125.XXX Flight and Duty, 125 Subpart M
AWG	1	Part 135 Maintenance Program	Recommends maintenance/inspection program requirements appropriate for "large" airplanes currently operating in Part 135 such as intercontinental business jets and airplanes with modified payload capacity; as well as new airplane operations proposed by the 135ARC such as all-cargo airplanes with payload in excess of 7,500lbs and turbine-powered airplanes in commuter scheduled service. 135.411
AWG	2	Maintenance technician training program	Section 135.433 states that operators of airplanes with 10 or more passenger seats “shall have a training program” for persons performing maintenance functions, but does not prescribe minimum standards nor require FAA approval. As a result, enforcement has been inconsistent and NTSB has repeatedly recommended that maintenance training programs be approved by FAA. The AWG recommends the following rule change: - Operators of airplanes with 10 or more passenger seats shall have an FAA approved maintenance training program providing initial and annual recurrent training that contains specified elements – Operators of airplanes with 9 or less passenger seats shall have a maintenance training program that contains specified elements. 135.411, 135.420, 135.433
AWG	8	Third artificial horizon requirement	Removes requirement for third artificial horizon for newly certificated aircraft provided that they comply with 25.1309 requirements for system analysis. 135.149©
AWG	9	Certification for icing	Certification of flight into icing – Work on flight into icing is being conducted by the ARAC IPHWG and has been submitted to FAA and JAA. Therefore, no action is necessary by this ARC. However, a recommendation for training for flight into icing is forwarded to the Training Workgroup.
AWG	10	Transponder maintenance	Transponder maintenance checks – The recommendation document recommends that a certificate holder that utilizes a maintenance program under 135.411(a)(1) be able to conduct ATC transponder checks and inspection in accordance with FAA approved procedures. 91,413©

AWG	11	Self-Issue of ferry permits	Part 135 only allows certain air carriers with a Continuous Airworthiness Maintenance Program (CAMP for 10+ passengers) to establish approved procedures for the self-issuance of ferry permits. This document proposes a change so that 135 operators with an appropriate maintenance program can self-issue ferry permits in accordance with their FAA approved ops spec procedures. 21.197 ©(2)
AWG	12	Seat removal and installation	Removal and installation of seats – The recommendation document asks whether an STC is needed to remove an aircraft seat. The recommendation is for no change and that unless specifically provided in the AFM, installation and removal of a seat requires TC/STC/337.
AWG	16	Oxygen Capacity	135.157
AWG	17	AMT rating	Type ratings for maintenance technicians – The workgroup decided not to pursue type ratings for maintenance technicians, because safety is achieved through appropriate training not a new system of certification/type rating.
AWG	22	Part 23 high performance airplane certification standards This recommendation is contained in a separate rulemaking package due to unique subject matter and size of package.	Recommends changes to airworthiness safety standards appropriate for Part 23 turbojet powered airplanes with consideration of operations in Part 135 scheduled commuter service.
AWG	23A	Additional equipment requirement for large all cargo airplanes	Recommends changes to Part 135 equipment requirements appropriate for the introduction of new Part 135 operation of all-cargo airplanes with a payload capacity of 7,500 to 18,000 lbs. In general, turbine-powered aircraft with payload in excess of 7,500 lbs would be equipped the same as airplanes with 10-or-more passengers 135.151, 135.152, 135.154, 135.170, 135.175, 135.180 Dissenting Opinion from ALPA on TCAS
AWG	23B	Additional equipment requirement for turbojet in commuter operations	Recommends changes to Part 135 equipment requirements appropriate for the introduction of new Part 135 operation of turbojet-powered airplanes in commuter operation. 135.154, 135.175, 135.180
EQU	2	Mode S and TCAS II	Mode S and TCAS II – The recommendation document asks that aircraft not equipped with TCAS II not be required to have Mode S either and that on-going rulemaking on Mode S is accelerated within the FAA. 121.345'(c) , 135.143 (c)

EQU	3	VOR Check every 30 days	VOR check every 30 days – The document recommends no change to current requirement for VOR checks every 30 days for airplanes with modern FMS since alternate means of compliance already are permitted.
EQU	5	TAWS for piston and turboprop airplanes with 6-9 seats	Based on question from commenter on why turboprops with 9 seats are required to have TAWS while piston aircraft with 9 seats are not required to have TAWS. The group recommends no change to the TAWS requirements for turboprop aircraft.
EQU	7	Electronic flight bags	Use of EFB – No additional change is needed in part 135 to permit the use of EFB in aircraft.
EQU	8	Enhanced Flight Vision Systems	Enhanced Flight Vision System – While the current rule only permits use of EFVS in straight-in landings. The group believes that it is beyond the scope of the ARC to expand the use of EFVS beyond what is currently permitted.
EQU	17	Combi Recorders for rotorcraft	This Rec. Item discusses the pros and cons of permitting the use of a Combination CVR/FDR in rotorcraft instead of the current requirement for dedicated (individual) CVR and FDR units. The Working Group recommends Combination CVR/FDRs be permitted. 27.1457, 27.1459, 29.1457, 28.1459, 91.609, 135.151, 135.152
EQU	18	Pitot Static System – Other approved systems	Allows other approved systems in lieu of dual independent static sources
EQU	19	Terminology	A review of Part 135 and other Parts in 14 CFR showed that some of the terminology needed to be updated to reflect current technology and operations. The Equipment and Technology Working Group reviewed Parts 23, 25, 27, 29, 91, 121, 125, and 135 and recommends changes as described in the Rec. Item. 91.205, 91.711, 125 Index, 125.49, 125.51,125.53, 125.203, 125.225, 125.226, 125.319, 125.321, 135 Index, 135.79, 135.159, 135.161, 135.163, 135.165
EQU	21	Encoding Altimeter and Pitot Static System testing requirements	The current requirements under 14 CFR parts 43, Appendix E and F, and 14 CFR part 91, §§ 91.411 and 91.413 are not technically consistent and need to be revised. The text appendices E and F represent a burden to testing encoding altimeters, which are installed but are not connected to a transponder, thus requiring that they be tested. 91.411

EQU	23	Use of datalink in lieu of weather radar	Datalink onboard weather systems- This Rec. Item discusses the pros and cons of permitting the use of Datalink weather systems in aircraft in place of traditional weather radar and stormscopes. The Working Group recommends no change to the current rule and finds that the Datalink systems have not matured to the degree where they can be considered as a replacement now or in the near future for traditional, required weather detection systems.
OPS	1	Flight Duty Rest	Recommends revision and clarifies provisions of flight, duty and rest requirements. See Subpart F. Note that rule numbers will change—rule numbers used in this proposal are used only to distinguish this change from current rule structure. Dissenting Opinion from ALPA and NACA
OPS	2	Performance, multi engine departure	Given the information available to operators and crewmembers compliance with the provisions of .379 cannot reasonably be determined. There is a disconnect between the obstacle data provided by TERPS, the requirements of this part, and the certification standards of the aircraft. All of the guidance provided has, historically, assumed the operator has the resources to design engine out departure procedures. The intent of the changes 135.379 are to clarify the criteria needed to determine obstacle clearance for a specific aircraft and to provide the ability to use readily available TERPS data, i.e. SIDS and Instrument Departure Procedures. 135.379
OPS	3	Weight and balance	This issue was adequately addressed by the Weight and Balance ARC, no further action is required.
OPS	4	Harmonization between 135 and JAR-OPS-1	Harmonization between FAA and JAR Ops regulations. Operations WG believes that the only practical solution is to promulgate changes through EASA, which is beyond the purview of the ARC.
OPS	5	Part 135 Jumpseat Authority	Jumpseat on 135 – This document expands provisions of 135.85 (and harmonizes it with 121) so that, with appropriate controls, other certificate holders' flight crew members can be carried non-revenue "observers" on an operator's vacant cockpit jumpseat (or other approved seat.) 135.85
OPS	6	Load Manifest Requirements	Provides requirement for multi-engine airplanes and turbine aircraft to provide load manifest and defines record keeping requirements. 135.63

OPS	8	Fleet Minimum Equipment Lists	Provides MEL requirement for multiple airplanes in a fleet provided that they are of the same make and model. 135.179
OPS	9	Manuals for flight crew	Provides requirement for making manuals available to flight crew and maintenance personnel including electronic means. 135.21
OPS	10	Reporting mechanical irregularities	The wording of 135.65(b) is not clear as to when the PIC must enter maintenance discrepancies in the log. Language provided to clarify. No changes were recommended to 135.23(f). 135.65(b)
OPS	11	CVR Requirement When Autopilot Inoperable	Relief from requirement for a CVR when an airplane is operated single pilot when autopilot is inoperative and a second in command is required. 135.105
OPS	12	Part 135 Alternate Airport Requirements	Rule change is recommended to align alternate airport requirements with Part 91 and to clarify and simplify the existing regulation. 135.223
OPS	13	Clarification of Exclusive Use Definition	Current requirement for exclusive use of one aircraft – The proposal eliminates the “exclusive” element of the existing rule and requires an operator to have a written agreement valid initially for at least 6 months for the use of the aircraft and to maintain an on-going agreement after the initial period has lapsed. 135.25
OPS	14	Emergency Equipment Requirements	Reviews emergency equipment requirement and recommends no change.
OPS	15	Management Requirements	No change to the current regulation is recommended because it is adequate, and any change would decrease the level of safety.
OPS	17	Weather Reporting for IFR Takeoff	The Ops WG recommends development of guidance material regarding weather reporting and the following rule language: Weather Reporting for Take-off: Draft Language (placement TBD): Departures from airports without approved weather are authorized where: 1) there is a published instrument approach procedure, 2) the weather is above the applicable takeoff minimums as determined by pilot observation, and 3) the pilot determines a take-off alternate as defined in 135.217. 135.213(a), 135.219, 135.225 (g),(h), (i)
OPS	18	Recency of Experience	Pilot qualifications, recent experience – This was handled in 91K rule and therefore the group recommends no further action. The group originally believed that recent experience of 3 takeoffs and landings in category, class, and type be reduced to just category and class.

OPS	19	Drug and alcohol testing	Drug and alcohol testing – Changes for use of maintenance technicians that have not been drug/alcohol tested when no-other are available took place in 91 subpart K (which included 135) are adequate and no further action is necessary.
OPS	20	Landing Performance Limitations	It was determined that the current regulation adequately addresses this issue.
OPS	21	Age 60 rule	The ARC recommended no change regarding age 60 for Part 135
OPS	22	Aligning best practices with rules	The commenter stated that safety standards need to be aligned to best practices. The document was closed with no action since inclusion of best practices in the rules is inherent in the aviation rulemaking process with industry participating.
OPS	23	Commercial pilot good moral character	Discusses extending ATP requirements of good moral character to commercial pilots.
OPS	24	Cabin safety crewmember and passenger service specialist	This issue was rolled into OPS-01 Discussion
OPS	25	Transitioning from 135 to 121	Applicability is addressing this issue, and therefore no action can be taken by the Ops working group.
OPS	26	Operational ELT on ferry flights	Modifies the requirement for operational ELT on ferry flights. 91.207(e)(2)
OPS	27	Pilot Oxygen Mask Use Requirements	The proposed change would raise the altitude at which a crewmember of a two pilot crew would be required to use oxygen in non-emergency situations. As the rule is presently written a crewmember must wear an oxygen mask above FL 350. The proposed rule change would raise this altitude to FL 410 and would use essentially the same language as FAR 91.211(b)(ii). 135.89 (b)(3)
OPS	28	Pyrotechnic signaling device	Reviews the need for a pyrotechnic signaling device on large airplanes and recommends that large airplanes in 121 and 135 service not be required to carry a flare gun. 91.205(h)
OPS	29	Serving of Alcoholic Beverages on Board	Provides guidance on how alcoholic beverages should be served on-board airplanes. 135.121

OPS	30	Technical Correction to Regulatory Reference	Editorial change to reference correct subparagraph. 135.211(a) (2)
OPS	31	Harmonizes pilot rec retention with PRIA	Harmonizes pilot record retention with pilot record improvement act. 135.63(b)
OPS	32	Manual Compliance	The commenter stated that an operator should not be required to comply with manual inclusions that are beyond the regulations – The committee agreed and recommended no change. Additional guidance may be needed to clarify the role of the manual regarding its applicability.,
OPS	33	Child restraints	The Ops WG proposes revision this rule to reduce the likelihood of injury of “lap babies” by allowing certificate holders, parents, or guardians to provide alternate child restraint systems rather than car seats. While not perfect, these systems would at least help protect the child during turbulence or aborted takeoff scenarios.
OPS	34	Principal base of operations	Discusses offshore location of Principal Base of Operation
OPS	36	Changes to TSA Regulations	Requests changes to 49 CFR Chapter XII, which refers to the TSA. The group believes this is beyond the scope of the ARC and recommends that no action be taken.
OPS	37	Emergency Exits on All Cargo Aircraft	The Ops WG recommends 135.87 be revised to clarify that only one exit must be accessible to all occupants in cargo-only aircraft with payload capacities less than 7500 pounds 135.87 ©(7)
OPS	38	Autopilot Minimum Altitudes for Use	No change is recommended. Current rule is adequate.
OPS	39	Passenger Briefing Before Takeoff	Passenger Briefing Change – The recommendation document changes the passenger briefing requirements from before each takeoff to no more than once per 24 hour period on multi-leg flights where aircraft, crew and passengers does not change. 135.117 (a)
OPS	40	Manipulation of controls	The working group recommends no action, because there would be a material decrease in safety if any change were made.
OPS	41	Icing Conditions and AFM Restrictions	Icing Conditions – The recommendation document clarifies the icing conditions based on text in the Airplane Flight Manual versus the regulations and when the operator is permitted to take-off. The document clarifies the interpretation of the word “adhere”. 135.227

OPS	42	Cabin safety crewmember and passenger service specialist	The Ops WG recommends a complete overhaul of the regulations regarding required or used flight attendants. The group recommends two new categories to replace the current “flight attendant: position: the “cabin safety crewmember” and the “passenger service specialist”. Training and checking requirements for these individuals would vary with duties assigned. Additionally, this change would remove the current confusion on treatment of these types of individuals when assigned to a flight by a certificate holder but not required by regulation. Part 1, 135.107, 135.117, 135.123, 135.128 ©, 135.150, 135.253, 135.291, 135.295, 135.341, 135.349, Part 121 Appendix I and J
OPS	44	ETOPS	The Operations Working Group recommends taking no action on this issue due to the pending Final Rule regarding Part 135 ETOPS operations. It appears that this rulemaking effort, if enacted as presented in the NPRM, will result in sweeping changes to Part 135 extended over-water operations.
OPS	46	Crew Pairing	No change to the regulation is necessary. This issue was adequately addressed in the eligible on-demand regulations from the fractional rulemaking.
OPS	47	Portable Electronic Devices	Until such a time as the RTCA deems otherwise, the rule as written is adequate. No action needs to be taken.
OPS	49	International certificates	§135.43 should be rescinded because the FAA no longer issues International Crewmember Certificates.
OPS	50	Operational Control Designation	It is impossible for a large organization to provide the name and title of each person authorized operational control and this requirement generates needless manual revisions. Language is proposed that would allow titles rather than individual names be provided. 135.23, 135.77
OPS	51	Stowage of food during surface movement	The Ops WG recommends that the rule be revised to allow paper and plastic service items to be available at certain times while the aircraft is moving on the surface. 135.122
OPS	52	Takeoff Minimums for Foreign and Military Airports	Revision of current language to allow takeoffs at foreign and military airports based on the criteria established by the controlling authority (as permitted in Part 121). 135.225 (f)

OPS	53	Requirement to Maintain Operations Specification at Principal Base of Operation	Rule needs to be revised to reflect 135.63(a) and the fact that IOPSS is now being deployed to Part 135 operators. There should no longer be a requirement to have a physical paper copy on premises – the "official" copy resides within IOPSS. 119.43(a)
OPS	54	Aircraft Proving Tests	As per Amendment #82 effective 11-17-2003 of §135.145, the above recommendations have been accomplished. No further action recommended.
OPS	55	Exemption for lost of destroyed certificate	Numerous exemptions have been granted allowing facsimiles or other means to temporarily substitute for pilot certificates or airman medical certificates, and aircraft airworthiness or registration certificates, when the originals have been lost or misplaced. Means to allow this process should be incorporated into regulations. 135.45
OPS	56	Single Pilot Operations in Turbine Aircraft	Close with no action. Single pilot operations under FAR Part 135 are being addressed in the Applicability Working Group (APP-20) and single engine operations under FAR Part 135 were addressed by the FAA and safety was enhanced after these aircraft were permitted to operate in IMC under FAR Part 135.
OPS	57	Combined	
OPS	59	ICAO Harmonization-Takeoff Alternate	The Ops WG sees no supporting statistical data or significant safety enhancements that would justify a change to the current rule.
OPS	60	ICAO Harmonization-Computing Oil and Fuel	ICAO harmonization issue calling for greater specificity in preflight fuel and oil contingency planning requirements. Work group recommends no action because requirements already exist, although not all in the same place.
OPS	61	ICAO Harmonization-AFM and Human Factors	
OPS	62	ICAO Harmonization-Seaplane equipment	No action: appears to be an issue to be governed by the U.S. Coast Guard regulations.
OPS	63	ICAO Harmonization-Route to be flown	Expansion of 135.299© to include specific requirements for route knowledge prior to flight. 135.23 (s), 135.247 ©, 135.299 ©
OPS	64	ICAO Harmonization-Corrective lenses	Requirement for spare set of corrective lenses – The group rejects harmonization with ICAO requirement for carriage of spare set of corrective lenses due to cost benefit not justifying the requirement.

OPS	65	Discussion of need for transponder to comply with TSO C-112.	Equipment and Technology (EQU 2) has addressed this issue. No action by the Ops WG is required.
OPS	66	Flight attendant movement during taxi	This issue has been addressed by a proposed change to §135.128 that is contained in Operations 42.
OPS	67	Carriage of state and local candidates	Incorporates into regulation Public Law 104-264 of the 104th Congress to include the carriage of state and local candidates.
OPS	68	Flight in Icing Conditions	Ops WG recommends revision to the rule to clarify what equipment is required regarding icing conditions and VFR/ IFR operations. 135.227 ©
OPS	69	Activity reporting	Mandatory activity reporting, but only information already collected by the operator. No Consensus In Workgroup
OPS	70	Flight Locating Requirements	Concerns that current rule does not adequately ensure flight locating. Ops WG recommends no action – current language sufficient.
OPS	71	Two sets of charts	The Ops WG recommends no change to the current rule is required. Dissenting Opinion ALPA
OPS	72	Cockpit Emergency Checklist	Ops WG recommends a change to 135.83(a)(2) to require an emergency checklist for all aircraft. 135.83
OPS	73	Proving tests	Close with no action, the changes from the Subpart K Final Rule addresses the issue.
OPS	74	Takeoff alternate for 3 and 4 engine a/p	Revision to 135.217 to address differences with 3 and 4 engine aircraft. 135.217
OPS	75	Combined	
OPS	76	Takeoff and Landing Currency in Simulators	Revision of 135.247 to allow landing conducted in Level C or higher simulators to count towards landing currency.
OPS	77	Larger All Cargo Aircraft – Runway Requirement	The Ops WG recommends that no change be made to the current rule and finds no reason “larger” (greater than 7,500 pound payload) aircraft cannot be operated utilizing 80% effective runway length.
OPS	78	Large non-transport category – en route limit.	After reviewing Part 135, it was found that §135.391 is identical to §121.201. No change to the current rule is recommended.

OPS	79	Exception to SIC requirements	The current Part 135 rule requires a Commuter Air Carrier "Scheduled" operating 9 or less, "single pilot auto-pilot operations", to operate IFR with two pilots until the Captain has 100 hours of PIC in make and model of aircraft. After review the operations working group has determined that the suggested change would be a material decrease in safety and therefore recommends no change to the current regulation.
OPS	80	Fire extinguishers	There is a disparity between the fire extinguisher requirements of 91.513©(3) and 135.155© wherein the Part 91 rule is more restrictive than the Part 135 rule. The Ops WG recommends revision to the rule language to harmonize Part 91 and Part 135 requirements. 91.513©(3)
OPS	81	Reduced Pilot Experience Requirements	Discusses Reduced IFR Experience Requirements
ROT	1	Separate rule for rotorcraft	
ROT	10-4	Initial and Recurrent Pilot Testing Requirements	Should the competency test include an instrument approach when engaged in VFR operations only? Also removal of make/model for helicopters in 293. 135.293
ROT	11	Alternate airport requirements	Alternate airport requirements – Modifies the flight planning requirement for helicopters based on 01/167 and 91.169. 135.223
ROT	14	Circling approach	Requirement for circling approach – Removes the requirement for circle to land maneuver for helicopters 135.297, 91.175
ROT	20	Marker beacon off-shore operations	Removes requirement for marker beacon in offshore operations. 135.165(b)(4) & (d)(1)
ROT	21	Establishes emergency overwater equipment requirements	Part 1, 135.167, 135.166
ROT	25	135 ops having to comply with 91	Clarifies that operations conducted under Part 135 also have to comply with requirements of Part 91 135.1, 135.3, 135.201
ROT	27	Helicopter IFR requirements	Amends helicopter IFR requirements by changing alternate airport weather planning requirements, weather minima necessary to designate an airport an alternate, and fuel requirements for helicopter flight into IFR conditions. 135.221
ROT	29	Combined with OPS-44	
ROT	33	Helicopter performance regulations.	Expands helicopter performance requirements to cover Category A rotorcraft for certain types of operations. 91.9, 91.103, 91.605, 135.183, 135.184

ROT	43	Landing minima	Adds the word “visibility” in the landing requirements for destination airport weather minimums to clarify that the weather conditions be at or above authorized IFR “visibility” landing minimums. 135.219
ROT	44	Starting instrument approach criteria	Clarifies the takeoff, approach and landing minima so that visibility is the only criteria required to start an instrument approach when using paragraph (a). (Rotorcraft is asked to coordinate with operations and aeromedical before this paper receives final approval.) 135.225
THE TRAINING COMMITTEE HAS PROVIDED COMPILATION DOCUMENTS FOR PREAMBLE AND RULEINFORMATION WHICH ARE INCLUDED IN ADDITION TO THE LISTED RECOMMENDATION DOCUMENTS.			
TRA	142-1	Part 142 Air Carrier Alignment	
TRA	142-2	Part 142 Flight Attendant and Cabin Safety Crew Training	
TRA	142-3	Part 142 Instructor and TCE Training and Qualification	
TRA	200	Quality Performance Standards (QPS)	Consensus Pending FAA Description of Process for Amending or Revising Standards
TRA	291	Applicability	Old TRA-50
TRA	293	Initial and Recurrent Pilot Testing Requirements	Old TRA-50
TRA	294	Alternate Initial and Recurrent Pilot Testing Requirements	Old TRA-50
TRA	295	Initial and Recurrent Flight Attendant Crewmember Testing Requirements	Old TRA-14
TRA	299	Amended Line Check Requirements	
TRA	301	Crewmember: Tests and Checks, Grace Provisions, Training to Accepted Standards	Old TRA-30
TRA	321	Applicability and Terms Used	Old TRA-30
TRA	323	Training Program: General	Old TRA-70
TRA	324	Training Program: Technical Rules	(Technical Correction)
TRA	331	Crewmember Emergency Training	Old TRA-07
TRA	334	Qualifications: Check Cabin Safety Crewmembers	Old TRA-14
TRA	336	Line Oriented Simulator Training Course	Old TRA-50
TRA	337	Qualifications: Check Airmen (Aircraft and Simulators) and Ground Check Airmen	
TRA	338	Qualifications: Flight Instructors (Aircraft and Simulators)	
TRA	339	Initial, Transition and Recurrent Training and Checking, Check Airmen	

TRA	340	Initial, Transition and Recurrent Training and Checking, Flight Instructors	
TRA	342	Initial, Transition and Recurrent Training and Checking, Check Cabin Safety Member	Old TRA-14
TRA	345	Pilots: Initial, Transition and Upgrade Ground Training	Old TRA-178
TRA	346	Pilots: Differences Ground Training	Old TRA-80
TRA	349	Flight Attendants: Initial and Transition Ground Training	Old TRA-185
TRA	350	Cabin Safety Crewmembers: Differences Ground Training	Old TRA-80
TRA	351	Recurrent Training	Old TRA-50
TRA	352	Requalification Training	Old TRA-30
TRA	401	QPS: Basic Indoctrination Ground Training Requirements	Appendix H
TRA	402	QPS: Ground Training Segments of Initial, Transition, Upgrade, Requalification, and Recurrent Curriculums	Appendix H
TRA	411	QPS: Multiengine Airplane Areas of Flight Operation & Environment - Initial	Appendix H
TRA	412	QPS: Multiengine Airplane Areas of Flight Operation & Environment - Recurrent	Appendix H
TRA	413	QPS: Multiengine Airplane Quality Performance Standards	Appendix H
TRA	414	QPS: Single-Engine Airplane Area of Flight Operation & Environment - Initial	Appendix H
TRA	415	QPS: Single-Engine Airplane Area of Flight Operation & Environment - Recurrent	Appendix H
TRA	416	QPS: Single-Engine Airplane Quality Performance Standards	Appendix H
TRA	417	QPS: Helicopter Area of Flight Operation & Environment - Initial	Appendix H
TRA	418	QPS: Helicopter Area of Flight Operation & Environment - Recurrent	Appendix H
TRA	419	QPS: Helicopter Quality Performance Standards	Appendix H
TRA	421	QPS: Basic Indoctrination Ground Training Requirements	Appendix I
TRA	422	QPS: Initial and Transition Ground Training	Appendix I
TRA	423	QPS: Testing Requirements	Appendix I
TRA	431	QPS: Crewmember Emergency Training Task Requirements and Performance Standards	Appendix J
TRA	432	QPS: Crewmember Emergency Training Instruction and Evaluation Requirements	Appendix J

TRA	920	Initial and Recurrent Flightcrew Member Testing Requirements AIRSHIPS—ALL PREAMBLE AND REGULATORY LANGUAGE CONTAINED IN SEPARATE DOCUMENT	Old TRA-11

Aeromedical Recommendations:

(AER 5) Night Vision Goggles

On April 4, 1997, the FAA published a final rule amending parts 61 and 141 of Title 14 of the Code of Federal Regulations (14 CFR) (62 FR 16220). Under the final rule, the FAA amended the pilot and flight instructor certification, training, and experience rules of 14 CFR part 61, the ground instructor certification, training, and experience rules of subpart I of 14 CFR part 61, and the certification rules of 14 CFR part 141 for FAA-approved pilot schools.

In its review, the ARC has determined that changes are needed to further clarify and refine these regulations and address deficiencies discovered since the FAA issued the final rule. Consequently, the FAA is proposing additional revisions and clarifications under 14 CFR part 61 that pertain to pilot, flight instructor, and ground instructor certification requirements. We are also proposing to make revisions to 14 CFR part 141 and its appendixes, which apply to FAA-approved pilot schools. See below for a list of the changes contained in this proposed rule. The list is followed by a more detailed discussion of the proposed changes.

The below listing of proposed changes is organized as follows: The first column identified as "Proposal No." is the paragraph number in the preamble portion of this NPRM and is to assist the reader in locating the detailed written discussion of the proposed changes throughout this document; The second column in the below listing represents the rule that is being proposed to be changed; and the third column, identified as "Summary of the Proposed Changes," is a summary of what is being proposed to be changed.

Proposal	Part 61-Section	Summary of the Proposed Changes

No.	No./ Paragraph No.	
1	§ 61.1(b)(2)	Add a definition for the term *aided* night flight.
2	§ 61.1(b)(14)	Add a definition for the term night vision goggle operations.
3	§ 61.1(b)(15)	Add a definition for the term night vision goggles.
4	§ 61.1(b)(20)	Add a definition for the term *unaided* night flight.
5	§ 61.31(l)	Establish required training for operating with night vision goggles.
6	§ 61.39(c)(2)	Require an instructor recommendation.
7	§ 61.51(b)(3)(iv)	Add a provision for logging night vision goggle time.
8	§ 61.51(e)(1)	Correct an omission so as to permit ATPs to log PIC flight time.
9	§ 61.51(e)(1)(iv)	Permit a pilot who is performing the duties of PIC while under the supervision of a qualified PIC to log PIC time.
10	§ 61.51(k)	Add the criteria and standards for logging night vision goggle time.
11	§ 61.57(f)	Add a night vision goggle recent operating experience requirement in order to remain PIC qualified for night vision goggle operations.
12	§ 61.57(g)	Add a night vision goggle proficiency check requirement in order to regain PIC qualified for night vision goggle operations.
13	§ 91.205(i)	Establish the required instruments & equipment for NVG operations.
14	§ 135.207	Add night vision goggles as a means of maintaining surface light reference at night
15	§ 135.229	Add night vision goggles as a means of maintaining landing surface reference at night

Discussion

The FAA regulations do not presently address the emerging application of night vision goggles. The following changes address night vision goggle technology in the context of the regulations.

FAA Note: The following numbers in the general discussion are not the same numbers as on the above table. Review to ensure all rule sections are addressed in both areas.

General Discussion of the Night Vision Goggle Proposal

(1) Proposal to add a definition of the term "aided night flight" to 14 CFR § 61.1(b).

The FAA proposes to add a definition of the term "aided night flight" to 14 CFR § 61.1(b) for night vision goggle operations. The purpose for this proposal is to facilitate understanding of the new proposed training and qualification for pilots and flight instructors who desire to use night vision goggles. The proposed definition will read as follows: "Aided night flight is a flight at night where the pilot uses night vision goggles to maintain visual surface reference in an aircraft."

(2) Proposal to add a definition of the term "night vision goggle operation" to 14 CFR § 61.1(b).

The FAA proposes to add a definition of "night vision goggle operation" to 14 CFR § 61.1(b). The proposed definition will read as follows: "Night vision goggle operation is a flight at night where the pilot maintains visual surface reference utilizing night vision goggles in an aircraft that is approved for night vision goggle operations."

(3) Proposal to add a definition of the term "night vision goggle" to 14 CFR § 61.1(b).

The FAA proposes to add a definition of "night vision goggle equipment" under 14 CFR § 61.1(b). The purpose for proposing the definition is to describe what the FAA considers as "night vision goggle" equipment. The proposed definition will read as follows: "Night vision goggle equipment is an appliance [device??] worn by a pilot that enhances the pilot's ability to maintain visual surface reference in night time conditions."

(4) Proposal to add a definition of the term "unaided night flight" to 14 CFR § 61.1(b).

The FAA proposes to add a definition of the term "unaided night flight" to 14 CFR § 61.1(b) for night vision goggle operations. The purpose for this proposal is to facilitate understanding of the new proposed training and qualification for pilots and flight instructors who desire to use night vision goggles. The proposed definition will read as follows: "Unaided night flight is a

flight at night where the pilot either does not use night vision goggles or the night vision goggles are in a non-operational position."

(5) Proposal to add paragraph (l) to § 61.31 requiring additional training and qualification requirements for pilots desiring to operate with night vision goggles.

The FAA proposes to add paragraph (l) under 14 CFR § 61.31 that would require ground training and a one-time instructor endorsement for a pilot in command (PIC) to operate with night vision goggles. Additionally, the FAA proposes to add flight training and a requirement for a one-time instructor endorsement for a pilot to act as a PIC during night vision goggle operations.

The FAA proposes to "grandfather" those PIC's who have previously qualified as a PIC for night vision goggle operations under 14 CFR § 61.31(l) by adding a subparagraph (3). This would negate the need for the "one-time" night vision goggle training and endorsement, provided the pilot can document satisfactory accomplishment of any of the following pilot checks for using night vision goggles in an aircraft:

- Completion of an official pilot proficiency check for using night vision goggles that was conducted by a military service of the United States; or
- Completion of a pilot proficiency check for using night vision goggles under part 135 of this chapter that was conducted by an examiner or an approved pilot check airman.

As previously mentioned, proposed paragraph (k) would address the additional training and qualification requirements for pilots who are seeking operating privileges for aircraft that only hold a special airworthiness certificate and for which no civilian type designation exists. New proposed paragraph (l) would address the additional training and qualification requirements for pilots desiring to operate aircraft with night vision goggles.

(6) Proposal to add a provision for logging night vision goggle time by adding subparagraph (iv) to 14 CFR § 61.51(b)(3).

The FAA proposes to add a provision for logging "night vision goggle time" by adding subparagraph (iv) under 14 CFR § 61.51(b)(3). The purpose for this proposal is to establish a condition of flight for logging "night vision goggle time" to show compliance with the required training time and aeronautical experience required for acting as a PIC for night vision goggle operations.

This proposed provision would be under paragraph (b)(3), "Condition of flight" for logbook entries of 14 CFR § 61.51. The logging of night vision goggle time would be permitted when performed in flight, a flight simulator, or a flight training device.

The FAA proposes to add a provision in a new paragraph (k) to 14 CFR § 61.51 establishing the criteria and standards for logging night vision goggle time. Additionally, this proposal would establish the minimum entry information required when logging time in a pilot's logbook. Under the proposed change, time may be logged when a pilot utilizes night vision goggles as the sole visual reference of the surface in an operation conducted in an aircraft at night (during the period beginning 1 hour after sunset and ending 1 hour before sunrise) in flight. Or, the logging of night vision goggle time may be performed in a flight simulator or in a flight training device provided the flight simulator/flight training device's lighting system has been adjusted to replicate the period beginning 1 hour after sunset and ending 1 hour before sunrise.

The proposed change would establish when an authorized instructor may log night vision goggle time. The instructor must be conducting night vision goggle training and must be utilizing night vision goggles as the sole visual reference of the surface. And, the time must be in an aircraft and operated at night in flight.

The proposed change would establish the minimum information that is required in a logbook in order to qualify the time as night vision goggle time. The minimum information required would be: the departure and destination locations; the night vision goggle tasks performed; and make, model, and serial number of night vision goggles utilized.

(7) Proposal to add paragraph (f) to 14 CFR § 61.57 for establishing a recent flight experience requirement for acting as a PIC in a night vision goggle operation.

The FAA proposes to add paragraph (f) under 14 CFR § 61.57 establishing a recent flight experience requirement to remain PIC qualified for night vision goggle operations.

In order for a pilot to act as a PIC using night vision goggles with passengers on board, the pilot, within the preceding 2 calendar months, must have performed and documented the tasks under proposed 14 CFR § 61.57(f) as the sole manipulator of the controls during the time period that begins 1 hour after sunset and ends 1 hour before sunrise. If the pilot has not performed and documented the tasks under proposed 14 CFR § 61.57(f), then this proposed rule will permit the pilot the follow-on 2 calendar months to perform and document the tasks under this proposed paragraph (f) of 14 CFR § 61.57, but the pilot will not be allowed to carry passengers. If the pilot has still not performed and documented the tasks under this proposed paragraph (f) of 14 CFR § 61.57 during those additional follow-on 2 calendar months then the pilot will be required to pass a NVG proficiency check in order to act as a PIC using night vision goggles.

The FAA determined that in defining “night vision goggle operations” it is necessary to further clarify the term “flight.” The term “flight” means a takeoff and landing, with each landing involving a flight in the traffic pattern. Thus, as an example, a person who completes six takeoffs and landings, with each landing involving a flight in the traffic pattern, and uses night vision goggles to maintain visual reference may log six “night vision goggle operations.”

(8) Proposal to add paragraph (g) to 14 CFR § 61.57 for establishing a night vision goggle proficiency check requirement to act as a PIC of a night vision goggle operation.

The FAA proposes to add paragraph (g) to 14 CFR § 61.57 establishing a night vision goggle (NVG) proficiency check requirement to remain PIC qualified for NVG operations. Also, this proposal would establish a NVG proficiency check to regain PIC qualifications for NVG operations when the pilot's NVG privileges have lapsed.

Under 14 CFR § 61.57(g), the proposed change would require a pilot who has not complied with the NVG recency experience requirement of proposed paragraph (f) of 14 CFR § 61.57 to complete a NVG proficiency check in order to regain PIC NVG qualifications. The proficiency check would have to be performed in the same aircraft category that is appropriate to the NVG operation desired. The proficiency check would consist of the tasks listed under proposed 14 CFR § 61.31(l) and would be administered by an individual listed under 14 CFR § 61.31(l).

(9) Proposal to add paragraph (k) to 14 CFR § 61.195 to establish flight instructor night vision goggle qualification requirements for a flight instructor who would be authorized to give PIC qualification and recency training for night vision goggle operations.

The FAA proposes to add paragraph (k) to 14 CFR § 61.195 to establish flight instructor night vision goggle qualification requirements for a flight instructor to give PIC qualification and recency training for night vision goggle operations.

(10) Proposal to amend 14 CFR § 91.205(i) to establish night vision goggle instrument and equipment requirements for night vision goggle operation.

The FAA proposes to add a new paragraph (i) in 14 CFR § 91.205. The purpose for this proposal is to establish night vision goggle instruments and equipment requirements for night vision goggle operations.

This proposal is similar to how the FAA now requires additional instruments and equipment for *visual-flight rules (day)*, *visual-flight rules (night)*, and *instrument flight rules* under § 91.205. The proposed change would amend 14 CFR § 91.205 by proposing to add a new paragraph (i). This proposal would state that for night vision goggle flight operations, the following instruments and equipment are required to be installed in the aircraft, are required to be functioning in a normal manner, and must be approved for use by the Administrator. Additionally, the proposed change would require the following instrument and equipment to be installed in the aircraft and to be functioning normally:

- Instruments and equipment specified in paragraph (b) of 14 CFR § 91.205, and, for night flight, instruments and equipment specified in paragraph (c) of 14 CFR § 91.205.
- Night vision goggles.
- Interior and exterior aircraft lighting system required for use for night vision goggle flight operations.
- Two-way radio communications system.
- Gyroscopic pitch and bank indicator (artificial horizon).
- Generator or alternator of adequate capacity for the required instruments and equipment.

(FAA NOTE: Where is the discussion of the part 135 recommendations??)

(AER 6) Aeromedical Eligible On-Demand Operator.

On September 17, 2003, the FAA published its final rule defining "eligible on-demand operations", the privileges granted to those operators, and the criteria an operator must meet to conduct eligible on-demand operations. (14 CFR §135.4.) The rule requires all eligible on-demand operations to be conducted using two-pilot crews having certain flight experience and meeting certain crew pairing requirements. Crews meeting the requirements of 14 CFR §135.4

are permitted to begin an instrument approach at an airport without an approved source of weather under certain conditions. (14 CFR §135.225(b).)

The rule is based on the recommendations of the Fractional Ownership Aviation Rulemaking Committee (FOARC) dated February 23, 2000. (68 FR 54521, September 17, 2003.) The FOARC's objective was to propose such revisions to the Federal Aviation Regulations and associated guidance material as may be appropriate with respect to fractional ownership programs. "The FOARC concluded that certain changes to part 135 are required. As the FOARC evaluated existing best practices in the industry and parallel provisions of parts 119, 121 and 135 in developing proposed subpart K, the FOARC determined that certain provisions of proposed subpart K provide a level of safety equivalent to the parallel provisions of part 135. Corresponding amendments are proposed to the pertinent sections of part 135 to permit an alternative means of compliance for on-demand operators under these sections of part 135, as appropriate. These changes also reflect improvements in technology and the ability to operate safely as proven by the operating experience of business aircraft, including fractional owners." (66 FR 37523, July 18, 2001.)

Key Points

1) Because of their unique characteristics, helicopters currently may operate in class G airspace under visual flight rules in Part 135 service with visibility requirements as low as ½ mile. (14 CFR §135.205.) The same helicopter, even when equipped and operated with an approved autopilot in lieu of a second in command, may not begin an approach to an airport / heliport without weather reporting facilities. The disparity serves to encourage operations in marginal conditions (i.e. "scud running") because of the limitations imposed by 14 CFR §135.225.

2) In its letter of recommendation dated October 7, 2002, the National Transportation Safety Board notes that pilots operating helicopters in marginal visibility should be required to possess instrument ratings and to demonstrate instrument competency during initial and recurrent evaluation checks.

3) Most helicopters employed in air ambulance operations have limited range and payload capabilities. The additional space occupied by a second pilot and the additional fuel load to compensate for the added weight would significantly reduce this already limited capability. In many cases the additional pilot and required fuel load would preclude the carriage of a patient(s), necessary medical personnel, or equipment.

4) Many helicopters employed in air ambulance operations are not configured for a second pilot in that the space is used for the patient or medical personnel.

5) Continuing improvements in ground and aircraft technology have made instrument approaches available in areas not previously served and have provided better and more reliable means for pilots to acquire weather and airport information in flight. New generation technology and advances in autopilot and cockpit display technology have improved reliability and dependability of aircraft systems and have improved safety by reducing pilot workload.

6) As noted in FAA Exemption No. 6175, there is a significant public interest in increasing the availability of IFR in air ambulance operations.

7) In developing the concept of an eligible on-demand crew the FOARC and, subsequently, the FAA recognized two levels of aircraft complexity: multi-engine, turbine-powered, fixed-wing and powered-lift aircraft, and all other aircraft. Helicopters are not specifically recognized and are therefore grouped with "other aircraft." The FOARC focused primarily on aircraft certificated under 14 CFR Part 25 and not those certificated under other parts. A commenter to the NPRM noted, "…that when the FOARC was considering this NPRM,

aircraft certificated under part 23 were not part of fractional ownership programs (as defined by the NPRM). However, safe and efficient operations of part 23 aircraft are feasible under fractional programs, and FAA should make allowances for them to operate under the proposed part 91, subpart K. However, part 23 aircraft, including some turbofans, are typically certificated to fly safely with a single pilot." The FAA responded: "With respect to aircraft certificated under part 23, FAA believes that the deviation authority provided in §91.1049 is adequate to cover situations where a two-pilot crew is not necessary."(68 FR 54535-54536, September 17, 2003.) Despite the corresponding reasons for it, no corresponding authority was included in 14 CFR §135.4.

Options

1) Amend 14 CFR §135.4 to recognize the use of an approved autopilot in lieu of a second in command in helicopter operations as a means of qualifying as an eligible on-demand operation; or

2) Amend FAR §135.4 to allow the administrator to grant deviations to the two-pilot crew requirement

Cost/benefit information

In the preamble to the 14 CFR Part91, Subpart K final rule, the FAA made the following cost analysis, which may be pertinent to the changes proposed in this paper:

Section 135.4 Eligible On-demand Operations

"An "eligible on-demand" entity operates turbine-powered airplanes that are type certificated for more than one pilot, have higher experienced pilots and have a crew-pairing program. The estimated cost of these provisions over the 15-year period from 2003 to 2017 is approximately $82 million." (68 FR 54556.)

Section 135.225 IFR: Takeoff, Approach, and Landing

"A fractional aircraft ownership program entity operating under part 135 will realize $36,600 annually in cost savings as a result of this requirement. Over the 15-year period from 2003 to 2017, fractional aircraft ownership program operations (operating under part 135) collectively will realize approximately $1.6 million in cost savings. Collectively, eligible on-demand part 135 operators will realize cost savings of approximately $34 million over the 15-year period."

(68 FR 54557.)

Recommendation

Amend 14 CFR §135.4 to include in "eligible on-demand operations" single pilot with autopilot in lieu of a two pilot crew for helicopter operations by certificate holders with air ambulance operations specifications.

FAA Note: Regulatory language cut out of preamble and inserted in rules section.

(AER 8)- Oxygen for Medical Use FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of the preamble.

–(AER 9) Child Restraint on Aeromedical Flights

Discussion

The regulations do not presently make provisions for restraining a child, with certain medical conditions, who has not yet reached his/her second birthday, to be restrained by a means other than on a parents/ guardians/or designated attendants lap or in a DOT approved child restraint system.

Background

14 CFR Part 135.128 is clear in the guidance provided which requires each person carried aboard an aircraft to occupy an approved seat or berth with a separate safety belt.

With regards to a child who has not reached his/her second birthday this regulation goes on to require that that child be restrained in a DOT approved child restraint system. Each such device must be labeled, if the device was manufactured between January 1, 1981 and February 25, 2985 “This child restraint system conforms to all applicable Federal motor vehicle safety standards”; or if manufactured after February 25, 1985 The restraint system must bear two labels: “This child restraint system conforms to all applicable Federal motor vehicle safety standards” and THIS RESTRAINT IS CERTIFIED FOR USE IN MOTOR VEHICLES AND AIRCRAFT”

Alternately to the child restraint system a child who has not yet reached his/her second birthday may be held in the lap of a parent, guardian or designated attendant.

Aircraft routinely utilized to transport medical patients are specifically configured with a litter system approved under a Supplemental Type Certificate (STC) or Field Approval FAA Form 337. Most of these aircraft are designed with a litter system to transport an adult patient on a back board. Some of the designs articulate in such a manner so as to allow a patient to sit up right during transport. Other than accommodations for the carriage of an incubator on one of these approved litter systems no provisions are made for restraint of young children, less than two years of age.

Medical aircraft, airplanes and helicopters, routinely are requested to transport children who have not yet reached their second birthday. In many cases those children may have a medical condition that requires carriage in an incubator or with consideration being given to spinal cord security. In these cases a DOT approved child restraint system may compromise the health, or in fact the life, of the child.

Within the medical industry small backboards, sometimes call “papoose boards” and sleeves, sometimes called “pedimates”, in which a child is slid into the device are marketed and utilized to secure a child’s spinal cord or otherwise retrain them during transportation. In turn these devices are strapped to the adult litter system utilizing the approved litter straps.

The very last sub-paragraph of 14 CFR part 135.1`28 utilizes very vague verbiage that, to some operators, may appear to give an operator an out to the previous provisions stated in the regulation. In part this last sub-paragraph states: “This section does not prohibit the certificate holder from providing child restraints authorized by this, or consistence with safe operating practices, determining the most appropriate passenger seat location for the child restraint system.” Some operators have used this sub-paragraph as allowing them to utilize any restraint system they see fit to use.

It must be understood that holding a child in the lap of an adult or placing them in a child restraint system is not always medically feasible or appropriate to the condition of the child. Operators who are called upon to transport these patients/passengers must be given the option to secure those patients/passengers as they see appropriate utilizing a device such as a “papoose board” or “pedimate”.

§ 135.128

Add sub-paragraph (a) (3) giving the pilot, in conjunction with appropriate medical authority, the authority to secure a child as the medical condition might dictate.

FAA Note: regulatory language-135.128(a)(3) moved to reg section.

(AER 10) Aeromedical VFR visibility and radar altimeters

Discussion:

Current Regulations

The rules governing flight visibility limits for helicopters operating VFR vary depending upon type of helicopter operations.

The limits contained in FAR 135.205 generally restrict all helicopter operations by Part 135 certificate holders as follows:

§ 135.205 VFR: Visibility requirements.

* * *

(b) No person may operate a helicopter under VFR in Class G airspace at an altitude of 1,200 feet or less above the surface or within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport unless the visibility is at least -

(1) During the day - 1/2 mile; or

(2) At night - 1 mile.

A Part 135 certificated air ambulance operator, however, is required to operate under the more restrictive visibility requirements of paragraph A021 of the certificate holder's operations specifications. This paragraph restricts the certificate holder to the values listed in table 1 when "conducting air ambulance work".

Table 1

		CEILING	VISIBILTY
DAY	LOCAL	500 FT	1 sm
DAY	CROSS COUNTRY **or**	1,000 ft 800 ft	1 sm 2 sm

NIGHT	LOCAL	500 ft	2 sm
NIGHT	CROSS COUNTRY	1,000 ft	3 sm

The local flying area referenced in Table 1 may not exceed 100 nm and is defined by operations specification for each base of operations. The table was developed in 1994 after a rash of low visibility accidents involving EMS helicopters.

On the other hand, a helicopter operated by a government agency on a noncommercial basis and engaged in medical evacuation of persons is required only to comply with the relatively unrestricted visibility limits of FAR 91.155 as follows:

§ 91.155 Basic VFR weather minimums.

**********……

(b) Class G Airspace. Notwithstanding the provisions of paragraph (a) of this section, the following operations may be conducted in Class G airspace below 1,200 feet above the surface:

(1) Helicopter. A helicopter may be operated clear of clouds if operated at a speed that allows the pilot adequate opportunity to see any air traffic or obstruction in time to avoid a collision.

****

This regulatory discrepancy creates a safety anomaly for transportation of the especially vulnerable segment of the public requiring medical evacuation by air. These passengers typically have no choice in the kind of transportation provided, the operator providing it, or the equipment used. They assume any aircraft used in their transportation is subject to the same federal aviation safety standards, yet, this is not the case. Among other discrepancies, a person requiring medical evacuation, when transported by a government agency, may be subjected to flight in weather conditions in which a commercial air ambulance is not permitted to operate.

In addition to creating two levels of safety for persons requiring medical evacuation by air, this situation places commercial operators at an economic disadvantage because they are prohibited from operations during weather conditions in which a government agency may operate. In many parts of the country, there is an active rivalry between the commercial sector and the government sector to provide medical evacuation. Limiting the ability of commercial air carriers to provide medical evacuation under certain weather conditions and not so limiting government operators providing the same service may actually encourage those operators to take scene calls in marginal weather conditions, heightening the risk to passengers.

Visibility as a Causal Factor in Accidents

It appears that marginal visibility has been a significant factor in a number of helicopter medical evacuation accidents operating under VFR in the past several years.

In August 2004, the FAA assembled a Helicopter Air Ambulance Accident Task Force (FAA Task Force) to review emergency medical service (EMS) accidents, to determine causal factors, and to make recommendations to reduce them. The task force has identified the following Helicopter EMS (HEMS) accidents:

Total HEMS accident from Jan 1998 – Nov 2004	83
Total HEMS Fatal Accident 98-04	26
Total Fatalities	73
Total Night HEMS Accidents	44
Total Night Fatal Accidents	20

	1998	1999	2000	2001	2002	2003	2004
Air Medical (Part 91/135):	9	10	12	10	13	18	8

In reviewing the EMS accidents of 2004, the task force noted:

¨Eight accidents to date

Five of eight fatal (17 fatalities)

All fatal accidents in **VFR only** aircraft

(3 B-407's, 1 B-206, 1 BO-105)

None were using Enhanced Vision Systems (NVG, HTAWs, EGPWS…)

All the HEMS fatal accidents **occurred at night**.

All the fatal accidents appear to have **CFIT** characteristics.

None of the programs with fatalities are CAMTS accredited

VFR only programs are the largest growth segment of the HEMS industry"

The task force stated in a briefing to the Aeromedical Working Group: "Initial review shows that **controlled flight into terrain, night operations, and inadvertent IMC** are predominant factors in the reviewed accidents.

Radio Altimeters

Aircraft conducting medical evacuation often engage in a significant number of operations at night over random off airway routing. These conditions present an increased risk of controlled flight into terrain, which would be alleviated by the installation and operation of a radio altimeter. Currently neither 14 CFR Parts 91 or 135 require any aircraft to be equipped with a radio altimeter (commonly called a radar altimeter).

According to the FAA Taskforce data discussed above regarding 83 HEMS accidents between 1998 and 2004, 26 or 31% of those 83 accidents were fatal. 53% of those accidents occurred at night, with 77% of night accidents being fatal. It is not insignificant that all HEMS fatal night accidents involved CFIT.

The Aeromedical Working Group believes that requiring the installation and operation of a radio altimeter (commonly called a Radar Altimeter) on any aircraft engaged in medical evacuation operations would enhance safety by assisting pilots to avoid CFIT.

Community Impact

The working group discussed the possible impact this proposal may have on the availability of medical transportation at the local level, but could reach no conclusions.

Proposal

The working group notes the preliminary findings of the task force that accidents involving helicopters engaged in medical evacuation tend to occur disproportionately in VFR equipped aircraft and exhibit CFIT or inadvertent IMC (IIMC) characteristics. To that end it recommends regulatory amendments to require that:

1) Part 135 and operations specifications visibility and ceiling minima for air ambulance helicopters not capable of reverting to instrument flight rules while operating VFR in class G airspace be changed in accordance with Table 2 below;

2) All civil helicopters engaged in medical evacuation operations on a noncommercial basis, including those operated by government agencies, be conducted under the same restrictions;

3) On a transitioned basis, all civil helicopters engaged in medical evacuation operations be equipped with a radio altimeter; and

4) A helicopter engaged in medical evacuation and transitioning from an IFR approach to the visual segment of that approach to operate at the minima established for the approach.

Table 2

	IFR aircraft and crew Ceiling / Visibility	**Non-IFR aircraft or crew Ceiling / Visibility**
DAY-LOCAL	500/1	500/2
DAY-CROSS-COUNTRY	1000/1 or (800/2)	1000/2 (or 800/3)
NIGHT-LOCAL	800/2	800/3
NIGHT-CROSS-COUNTRY	1000/3	1000/3

EXPLAIN THE NEMSPA DISSENTING POSITION.

The National EMS Pilots Association objects to the proposed Night Cross Country minimums of 1000/3 for Non IFR aircraft. It is the NEMSPA position that night flights outside the local flying area present the greatest challenge and potential hazards to HEMS operations and should therefore require more stringent minimums. In a position paper published by NEMSPA in July 04, we recommended a 1500 foot ceiling and 5 miles visibility. After discussions with both our membership and other industry experts the NEMSPA is modifying our recommendation.

For Non IFR equipped aircraft, the Night Cross Country minimums:

1500’ ceiling and 3 sm visibility

OR

1000” ceiling and 5 sm visibility

FAA Note: What are the recommended regulatory changes? What rules are changed? OpsSpecs??

(APP 03) Private operations of large airplanes under part 91

FAA Note: TBD D.Carr

(APP 12) Limits on Part 380 Public Charter

Background

Section 119.3 defines “scheduled operation” as “any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the certificate holder or its representative offers in advance the departure location, departure time, and arrival location. *It does not include any passenger-carrying operation that is conducted as a public charter operation under part 380 of this title.*” [emphasis added] In defining “on-demand operation,” section 119.3 specifically includes Public Charters as an authorized type of operation.

“Public Charters” are a type of charter operation that receive economic authority from the Department of Transportation under 14 CFR Part 380, which allows transportation to be sold to

individual members of the public on a per-seat basis. Typically, such flights are arranged and sold by an *indirect* air carrier known as a Public Charter Operator ("charter operator") who contracts with a *direct* air carrier to provide the air transportation. However, direct air carriers are also allowed to act as their own charter operators and sell such flights to the public without using an indirect air carrier, provided that they comply with the additional rules set forth in 14 CFR 212. Direct air carriers include certificated and commuter air carriers as well as on-demand air taxi operators.

Public Charters are subject to various financial and contractual consumer protection safeguards that are not required for scheduled operations. These include the requirement that the charter operator must obtain a surety bond, surety trust, or letter of credit and establish an escrow account into which passenger payments are to be paid and held until after each flight is completed. In addition, the charter operator must enter into a contract with the passenger that sets forth the passengers' rights and must file a charter prospectus with the Department certifying that all of these safeguards are in place prior to being authorized to advertise the Public Charter flights.

Once the Public Charter requirements have been met, such flights may be advertised and sold to the public. There are no advance purchase requirements, and seats may be sold on a one-way or round-trip basis, with or without a ground package. In addition, Part 380 places no restrictions on the number or frequency of charter flights that may be operated in any city-pair market.
Under Part 135, scheduled airplane operations are subject to different requirements than are on-demand airplane operations. Part 135 carriers conducting scheduled flights of five or more round trips a week in one market are subject to the additional economic licensing rules

applicable to commuter carriers and are required to be found "fit" to conduct such operations by the Department (see 14 CFR 298). All scheduled airplane operators, including commuters, must obtain Part 121 authority if they operate scheduled flights with airplanes with 10 or more passenger seats. On-demand operators are not subject to the Department's fitness requirements, and the "dividing line" for when an on-demand operator must obtain Part 121 authority is when more than 30 passenger seats are present.

"Is it scheduled or is it charter?"

Recently, carriers holding on-demand-only authority under Part 135 have conducted or attempted to conduct Public Charter flights, and thus pursuant to a published schedule, in excess of four round trips a week in one market, making them appear more like regularly scheduled flights than charter flights. In some instances, the flights were marketed by the direct air carrier itself or by a related indirect air carrier using aircraft configured with 10 to 30 seats. By marketing the flights as Public Charters, the direct air carrier was able to operate them under the on-demand rules of Part 135 even though the frequency of the operation would otherwise have required their operation under the commuter rules or under the provisions of Part 121 because of the size of the aircraft involved. We believe that this presents a "loophole" in the regulations that harms the public interest by allowing on-demand operators to conduct an unlimited number of scheduled flights under the guise of a Public Charter operation without having met the additional requirements applicable to commuter operations, and may allow a carrier to operate under Part 135 rather than Part 121 rules if aircraft with between 10 and 30 seats are used.

In those instances where an on-demand operator has operated Public Charter flights whose frequency exceeded four round trips a week in one market, the Department, in enforcing its

economic regulations, has required the carrier to apply for a "fitness" determination, similar to that required of a commuter or a certificated air carrier. It has been the Department's view that permitting air taxis to exceed four round trips per week in a given market pursuant to a published schedule, even if the schedule is that of a charter operator or operated as part of a Public Charter program, would undermine the integrity of the Department's fitness and licensing program, and is contrary to the public interest.

The FAA agrees that the Public Charter exception in section 119.3 creates an unintended loophole because the Public Charter regulations permit an air carrier to operate daily turbojet service according to a pre-established schedule which specifies the departure location, the departure time and the arrival location. In reliance on this exception, the operator of a turbojet aircraft with 30 passenger seats or fewer could operate daily scheduled service in a city pair under the on-demand rules of Part 135 as long as the flights are part of a public charter, even though there is no practical difference from non-public charter scheduled service other than the economic authority under which the flights are offered. As a result, section 119.3, as currently written, is subject to abuse and could be used as a subterfuge for avoiding the additional safety requirements for commuter operations or for operations under Part 121.

To eliminate this loophole, the FAA proposes to treat flights operated as part of a Public Charter in the same fashion as all other flights for purposes of determining whether such flights are part of an on-demand operation or scheduled operation. Except for a modification to permit turbojets with nine or less passenger seats to be operated in limited scheduled service under the rules of Part 135 for aircraft of equivalent size, this modification is not intended to reflect a desire by the FAA to change the underlying requirements for when it considers an operation to be scheduled.

By virtue of this change, the economic classification of the flight will be irrelevant to the determination of whether it is scheduled. Instead, the FAA will look only at (1) whether the departure time, departure location and arrival location are specifically negotiated with the customer or the customer's representative for flights using aircraft with ten or more passenger seats or (2) whether there (a) are more than four roundtrip flights per week over at least one route and (b) is a published schedule, for flights using aircraft of nine or less passenger seats.[1]

The FAA does not believe the mere frequency of operations alone is determinative of whether an operation in aircraft with 9 or less passenger seats is a "scheduled operation" so long as the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative. In the absence of any form of published schedule, such flights are wholly dependent on the demands of the customers. The current regulations, for example, would allow for an on-demand operator to accept a charter contract that may require it to fly between the same two points six times per week at a given time for a period of weeks. However, these points and the times at which the flights will occur will dictated by the specific request of the customer and at the price specifically negotiated between the customer and the on-demand operator. In the absence of a customers' particular request, the on-demand operator would not otherwise operate these flights. A scheduled operation, on the other hand, depends on the matching of customers to seats on a particular aircraft whose schedule has been determined in advance of the customer booking the flight. In other words, the customer's travel plans must conform to the schedule the operator has established for the aircraft, as opposed to the schedule for the aircraft being established to fit the flight times requested by the passengers.

[1] Although all turbojet aircraft operating scheduled service are currently required to operate in accordance with the rules of part 121, the FAA has proposed, as noted elsewhere in this NPRM, to permit any turbojet to be utilized in commuter service, subject to the existing passenger and weight limitations (9 or fewer passengers and maximum 7,500 lbs. payload).

Consistent with its historic understanding of the nature of on-demand operations, FAA maintains that so long as an on-demand operator does not publish a schedule, or otherwise disseminate information that offers in advance the departure location, the departure time, and arrival location of its flights, and each of these elements is specifically negotiated with each individual customer, the operator will not be required to obtain commuter authority from the FAA. This principle holds true whether the operation is conducted using the entire capacity of the aircraft, under the Public Charter rules, or on a per-seat on-demand basis. In determining whether a schedule is published for purposes of classifying an operation, it is immaterial whether that schedule is published by the air carrier, a public charter operator, a travel agent or third party. Circumstances may even exist where a schedule may be deemed to be published, although there is no written schedule. For example, publication may exist if a flight is operated at the same time every day, and it is known by the public that anyone who shows up and is willing to pay will be carried on the flight. Publication may also be found if the passengers themselves transmit information on behalf of the carrier.

The FAA does not believe it is relevant whether the transportation is sold on a per-seat or per-aircraft basis for purposes of determining whether an operation is scheduled or on-demand. Although it may be easier to sell transportation on a per-seat basis if it is scheduled, the FAA does not believe an operator’s economic or business structure is relevant to the classification of the operation. If an operator is capable of developing a method of selling transportation on a per-seat basis without having to publish a schedule in advance that contains the departure time, the departure location and arrival location, such an operation will be considered "on-demand." If per-seat sales cannot take place without the publication of such a schedule, the operation will be

deemed scheduled (and therefore subject the applicable part 135 commuter rules or part 121 rules) if there five or more round trips per week on at least one route between two or more points.

To provide for the consistent treatment and classification of flights, we are proposing to amend the definition of "scheduled operation" and "on-demand operation" in section 119.3 to impose the same frequency limitations as would be imposed on any other on-demand operation--less than five round trips a week over each route between two or more points.[2] In doing so, we do not believe that the majority of Public Charter flights would be affected by this action. The proposed changes affect operations under Part 135 only. We are not proposing to require that any air carrier already operating under the supplemental rules of Part 121 would have to obtain domestic or flag operations specifications. We also recognize that a charter operator wishing to exceed the proposed frequency limit using small aircraft could contract with multiple on-demand operators and limit each air carrier to no more than four round trip flights a week in one market.

Recommendation:

That the definitions of "scheduled operation" and "on-demand operation" contained in section 119.3 be amended as follows:

[2] We note that one commenter suggested either rescinding the frequency limit or increasing it. To rescind the limit and use the definition of "scheduled operation" contained in section 119.3 would result in more on-demand operations falling under the scheduled/commuter rules than do now, since even a single flight "conducted by an air carrier or commercial operator for which the certificate holder or its representative offers in advance the departure location, departure time, and arrival location" would constitute a scheduled operation and thus, adherence to different and arguably more stringent operating rules. We do not believe that this was the commenter's intent. With respect to the suggestion to increase the number of frequencies per week, there was no indication as to what that frequency might be or why such a change was necessary. The current frequency test is similar to the one applied by the Department in determining what constitutes a commuter vs. an on-demand operation. To avoid further confusion between the Department's and the FAA's rules, absent a strong justification to change the current rules, we are not prepared to recommend such a change.

"Scheduled operation" means any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the certificate holder or its representative offers in advance the departure location, departure time, and arrival location. It does not include any passenger-carrying operation that is conducted as a public charter operation under part 380 of this title *as long as that operation is conducted (a) under part 121, (b) under the commuter rules of part 135 or (c) under the on-demand rules of part 135 with a frequency of operations of less than five round trips a week over each route between two or more points.*

"On-demand operation" means any operation for compensation or hire that is one of the following:

(1) Passenger-carrying operations conducted as a public charter under part 380 of this title *with a frequency of operations of less than five round trips a week over each route between two or more points,* or any operations in which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative that are any of the following types of operations:

(i) Common carriage operations conducted with airplanes, including turbojet-powered airplanes, having a passenger-seat configuration of 30 seats or fewer, excluding each crewmember seat, and a payload capacity of 7,500 pounds or less, except that operations using a specific airplane that is also used in domestic or flag operations and that is so listed in the operations

specifications as required by § 119.49(a)(4) for those operations are considered supplemental operations;

(ii) Noncommon or private carriage operations conducted with airplanes having a passenger-seat configuration of less than 20 seats, excluding each crewmember seat, and a payload capacity of less than 6,000 pounds; or

(iii) Any rotorcraft operation.

(2) Scheduled passenger-carrying operations conducted with one of the following types of aircraft with a frequency of operations of less than five round trips per week over each route between two or more points according to the published flight schedules:

(i) Airplanes~~, other than turbojet powered airplanes,~~ having a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds or less; or

(ii) Rotorcraft.

(3) All-cargo operations conducted with airplanes having a payload capacity of 7,500 pounds or less, or with rotorcraft.

(APP 16) Medical Personnel as Crewmembers

The typical air ambulance flight operation includes two or more flight segments, yet only one of these involves the air transportation of one or more patients. Air ambulance flight profiles differ depending upon the location of the patient, whether the air ambulance operator is based at a health care facility or at an independent base, and the entity employing the medical personnel. There is a need to clarify, in all these situations, that Part 91, rather than Part 135, governs those

flight segments in which flightcrew members and medical personnel, but no patients, are on board.

Air Ambulance Flight Profiles

The variations in air ambulance flight profiles, including the number of positioning flights and presence of medical personnel on board, are determined by several factors. These include:

(1) Patient location. Air ambulance operations generally fall into one of two categories: scene responses and patient transfers between hospitals. A scene response flight involves the air transportation of a person, with a health condition requiring treatment by medical personnel from the medical emergency scene landing location to a hospital. An inter-hospital flight involves the air transportation of a patient from one health care facility to another.

(2) Entity Employing the Medical Personnel. Medical personnel participating in air medical transports require specific medical training and experience that meet the specific needs of each patient. The medical personnel may be employees of the certificate holder, employees of the sending or receiving hospital or contracted personnel from another medical service organization depending on the aeromedical program structure.

Medical personnel have the responsibility to provide medical care and treatment to the patient during transport and have no aircraft operational responsibility unless specifically directed by the pilot in command. If aircraft operational duties are assigned, training must have been provided by the operator pursuant to an FAA approved training program.

(3) Aircraft Base. Air ambulance aircraft may be based in any number of locations most conducive to quick response, including airports, heliports, and helipads on and off hospital premises.

Depending upon the combination of factors, there will be one or more positioning flights associated with each patient air transportation flight, medical personnel will be on board one or more of these positioning flights, and the medical personnel aboard may or may not be employed by the certificate holder.

Existing Guidance on Medical Personnel and Positioning Flight Status

The status of medical personnel and positioning flights is addressed in FAA inspector guidance, interagency policy understandings, and the Federal Aviation Regulations with different degrees of clarity.

- FAA Order 8400.10 The Air Transportation Operations Inspector's Handbook, FAA Order 8400.10 provides that medical personnel trained in flight operational procedures may be considered crewmembers, and a flight with only crewmembers on board may be conducted under Part 91. More specifically, Volume 4, Chapter 5, Section 4, Paragraph 1399.B. states:

"Medical personnel may or may not be considered crewmembers at the discretion of the operator. If the operator desires to consider the medical personnel crewmembers, the medical personnel must complete initial and recurrent crewmember training programs. Additionally, the medical personnel must perform some duty in an aircraft that relates to the operation of that aircraft, such as assisting the flightcrew members in seeing and avoiding other aircraft, evaluating a landing site, coordinating with ground personnel at a landing site, and emergency shutdown of aircraft systems in a crash."

NOTE: If the medical personnel are crewmembers, they are not considered passengers. When only crewmembers are on board the aircraft, the flight may be conducted under FAR Part 91. When a patient or passenger is on board the aircraft, the flight must be conducted under FAR Part 135.

The order permits the certificate holder to determine medical personnel status. It implies that if medical personnel do not perform a flight operational duty, they are not considered crew, and, if they are on board a flight without a passenger, i.e. a positioning flight, that flight must be conducted under FAR Part 135.

- FAA/NTSB MOU

In contrast, a 1992 Memorandum of Understanding between the FAA and the NTSB to reconcile policies for accident reporting operational categories is more direct and encompassing. It states: "EMS positioning flights are Part 91 operations until a passenger is picked up. A doctor, nurse, or medical technician are [stet] considered part of the crew." Under the policy reflected in the MOU, all medical personnel are considered to be part of the crew and air ambulance positioning flights are conducted under Part 91. The policy implies that medical personnel are crew by virtue of their medical duties related to the care of the patient and not because of any aviation operational duties.

- Federal Aviation Regulations

The FAR do not specifically address the status of medical personnel. Generally, flights by the certificate holder with only its employees on board are not considered common carriage and may take place under Part 91. Positioning flights with medical personnel employed by the certificate holder on board would appear to be in this category. The status of medical personnel not employed by the certificate holder is less clear.

Further, Section 135.85(a) permits a certificate holder to carry "a crewmember *or other* employee of the certificate holder" without "complying with the passenger-carrying requirements of this part." 14 CFR §135.85(a) (emphasis added). Again, it is not certain whether medical personnel not employed by the certificate holder would be considered a "crewmember" under this exclusion.

Key Points of Discussion

The key point for clarification is that a positioning flight in any of the air ambulance flight profiles with medical personnel on board may be conducted under Part 91. This clarification will affirm, among other things, that the air ambulance operator will be able to access airports, heliports, and helipads without weather reporting capability under instrument flight rules, which is permissible under Part 91.

Medical Personnel Duties

Medical personnel are integral to an air ambulance operation. The pilots and the medical personnel operate as a team with distinct functions. The pilots are responsible for the safe operation of the flight. The primary reason medical personnel are on board is passenger-patient care; any aviation operational duties are ancillary to that primary purpose.

Medical personnel associated with an air ambulance operation have a special status, as the FAA NTSB MOU recognizes, simply by virtue of their medical role. They should be considered crew, and air ambulance positioning flights with only crew on board should operate under Part 91. Requiring medical personnel to perform aviation related duties to achieve crew status may, in some cases, be overly burdensome and should not be necessary. Of course, should the certificate holder choose to assign medical personnel aviation operational duties, those personnel would be required to complete appropriate training, as is the case now.

Weather Reporting

The air ambulance industry wants to be able to operate positioning flights under the higher level of safety afforded by instrument flight rules to any airport, heliport, or helipad, when appropriate to the conditions of the operation. An air ambulance operator’s ability to do so depends on whether a positioning flight with medical personnel on board is considered Part 91 or Part 135.

IFR operations under Part 135 generally are restricted to airports with weather observations made at the airport. 14 CFR §135.213. This restriction forces air ambulance operators, when carrying patients, to operate under visual flight rules when conducting operations into airports without weather reporting capability. Under Part 91, an operator, using IFR, may access any airport, heliport, or helipad regardless of weather reporting capability at that landing facility. Confirmation that positioning flights with medical personnel on board may be operated under Part 91 will remove any artificial barrier to attaining that higher level of safety for positioning flights.

Recommendations:

1) Amend Section 119.1 to include positioning operations of aircraft with pilots and medical personnel on board in its exclusions from the applicability of Part 119.

FAA Note: Specific rule language moved to regulation section.

2) In the regulatory preamble to this change include the following:

Medical personnel are integral to an air ambulance operation. The pilots and the medical personnel operate as a team with distinct functions. The pilots are responsible for the safe operation of the flight. The primary reason medical personnel are on board is passenger-patient care. This amendment does not change the fact that medical personnel do not perform safety-sensitive functions as defined in FAR 121, Appendices I and J, and, therefore, are not subject the drug and alcohol testing requirements of FAR 135.251 and FAR 135.255.

1) Amend Order 8400.10, Volume 4, Chapter 5, Section 4, Paragraph 1399. B

to conform to this regulatory change, including deleting the requirement that "medical personnel must perform some duty in an aircraft that relates to the operation of that aircraft", unless the operator so desires and provides appropriate training.

(APP 18) Reimbursement and record keeping under 91.501

FAA Note: TBD

(APP 20) Nine or less scheduled turbojets and single pilot operations

Discussion:

Goals

I. The proposed changes are intended to permit the limited use of turbojet airplanes in scheduled service under Part 135 Commuter and On-demand regulations

II. The proposed regulations establish the minimum requirements for single pilot operations in turbojets.

I. Discussion/Arguments On Introduction of Turbojet Airplanes for Commuter Operations

Prior to the commuter rule turbojets were permitted in 135 commuter operations. At the time the commuter rule was implemented, FAA required all turboprop airplanes with 10 or more passenger seats to move to part 121 and required that ANY turbojet airplane operated in scheduled service (regardless of passenger capacity) be operated under part 121.

The FAA made several transitional provisions for existing airplanes certificated under part 23 to continue operations under the part 121 regulations. However, the regulations stipulated that any aircraft required to be operated under part 121 (i.e. scheduled passenger

operations in turbojets) newly certificated after March 29, 1995, must be certificated under part 25. (see §121.2 (f))

This has created an operational limitation for the next-generation very light jets (VLJs). The VLJs are being certificated as part 23 airplanes. Under the current regulatory structure, there is no ability to operate a VLJ in scheduled service.

It was not the intent of the FAA to preclude an entire class of airplanes from scheduled service under the appropriate conditions, rather the development of these part 23 turbojet airplanes was not anticipated at the time of the commuter rule and therefore, no regulatory environment within which they could operate was created. The ARC was tasked with determining, among other things, the appropriate regulatory framework and safety standards for the use of such aircraft in scheduled commuter service.

Options:

1. Revise part 121 to include part 23 turbojets.
2. Revise part 135 to permit turbojets in commuter service.

Discussion of Option 1:

Extensive revision of part 121 would be necessary to accommodate part 23 VLJs. This is due to the fact that part 121 requirements are framed around the assumption that all new aircraft used in scheduled service would be part 25. In fact in the commuter rule, the FAA stated that, “many part 121 standards are based on the assumption that transport category [part 25] airplanes are operated.” (see 60 FR 65832) A major revision of this type would be very difficult and may take several years to accomplish. It is not necessary or practical to completely revise part 121 standards to reflect technology improvements for those operators already permitted to conduct scheduled operations in smaller aircraft under part 135 or for a relatively small group of aircraft models.

Discussion of Option 2: (Selected Option)

Part 135 on-demand regulations currently permit the operation of turbojets with up to 30 passenger seats. Although there are at present no commuter operators under part 135 considering use of VLJs for scheduled service, there may be a market in the future for such operations. This is particularly true as the piston and turboprop aircraft in part 135 commuter services continue to age. In the coming years operators may see the VLJ as an appropriate replacement airplane. The existing part 135 commuter population utilizing land airplanes (as opposed to seaplanes) is very small, largely consisting of carriers in Alaska. We believe these operators and any future commuter operators are appropriately regulated under part 135 commuter regulations. Use of turbojets under part 135 commuter rules would continue to be limited to airplanes configured for 9 or fewer passenger seats and 7,500 pounds or less of payload.

Should This Change Include Only Part 23 or Part 25 as Well?

Because the certification standards of part 25 either meet or exceed those of part 23, it would be inconsistent for the FAA to permit part 23 airplanes to be utilized in a type of service while prohibiting the same type of service by a part 25 airplane. Should the FAA limit this change to only part 23 airplanes, it would be a disincentive for new airplane manufacturers to seek part 25 certification if the target market for the airplane is commuter service. Further, potential commuter air carriers would be unlikely to select a part 25 airplane over a part 23 airplane because it would require certification under part 121. For these reasons, the proposal is to permit any turbojet to be utilized in commuter service, subject to the existing passenger and weight limitations (9 or fewer passengers and maximum 7,500 lbs. payload)

Impact on Existing Carriers.

There are no scheduled turbojet airplanes with a seating configuration of 9 or fewer passenger seats in operation. Therefore, no existing part 121 operators would be eligible to transition their aircraft to part 135 under this proposed change. There are no existing part 135 commuter operators that have indicated an interest in utilizing VLJ in their commuter operations.

Economic Impact.

There is a universal economic benefit because the FAA is permitting a type of operation that is currently prohibited. There is the additional potential for economic benefit for small commuter operators that may wish to upgrade to turbojet aircraft in the future because they will be able to maintain their existing certification under part 135 and would not be required to re-certify under part 121.

What, if any, additional safety requirements are necessary for commuter turbojet operations?

Because scheduled turbojet operations are today only permitted under part 121, the ARC also considered whether it is appropriate to apply specific part 121 safety standards to the proposed turbojet scheduled operations under part 135. In evaluating this issue, the ARC considered the benefits the FAA sought to achieve through the implementation of the commuter rule. The ARC considered, among other things, the following:

- Dispatch
- Aircraft performance
- Equipment
- Flight/Duty/Rest Rules (was tied to the belief that the 1995 NPRM would change the system)
- Training

As described in more detail below, not only will part 135, as structured and modified, provide an equivalent level of safety for the operation of small aircraft (i.e., 9 or less passenger

seats or 7500 or less payload) as exists under part 121, it will also provide a more appropriate set of operating rules for aircraft of this type.

Why make this change? Summary.

1. The existing regulatory structure prohibits the operation of certain small jets (new part 23 jets, for example) in scheduled service under parts 121 and 135.
2. There needs to be a regulatory place for such service, but the new jet aircraft are not permitted in part 121 and are specifically prohibited in part 135.

3. The FAA has an obligation to establish the appropriate regulatory and safety framework for scheduled service in smaller turbojet airplanes rather than preclude such operations altogether.
4. It is appropriate and consistent to permit both parts 23 and 25 certificated aircraft in scheduled commuter service.
5. A safety benefit is realized if an existing part 135 operator offering scheduled service operates a turbine aircraft rather than a piston.
6. An economic benefit is also realized by permitting a type of service that is currently prohibited.
7. There are no existing operators in part 121 that would be eligible for a move to part 135.

II. Discussion/Arguments Related to Single Pilot Operations in Turbojets

Under the current rules, if the aircraft certification requires two-pilots, that is the operational standard, otherwise,

Two pilots are required when:

- 10 or more passenger seats are installed,

- When required by operational rule. For example, IFR operations (subject to autopilot exception under FAR 135.105).

FAR 135.105 has provided a valuable level of convenience to part 135 passengers and an economic savings to part 135 operators. The ability to conduct single-pilot part 135 charter operations has allowed part 135 operators to furnish a greater number of flight operations to the public, while at the same time lessening the personnel costs that are inherent to two-pilot operations. This has occurred without a compromise to the safety of charter passengers.

Considering the fact that FAR 135.105 permits the carriage of passengers under part 135 by a single pilot in piston twins that have been out of production for three decades or more, it is inconsistent to deny these same passengers the opportunity to travel in state of the art turbine equipment with a pilot who is operating the aircraft possessing the advantage of a level of situational awareness that traditionally was only available in the highest range of corporate or transport category aircraft.

In reviewing the advancements inherent in the various light jet aircraft that will be entering the marketplace during this decade, single-pilot operations under FAR 135.105 will be able to be conducted not only at an equivalent, but at an enhanced level of safety under this regulation. Specifically, the certification of light jet aircraft that incorporate EFIS displays, flight management systems, weather radar, reduced vertical separation minimums equipment, and three-axis autopilots, will offer a level of situational awareness that will provide a higher level of safety than what was envisioned when FAR 135.105 was enacted. However, it is acknowledged that these technology enhancements are not required in part 135 in order to obtain single pilot operational authority under the existing rules.

Further, advances in airframe development will allow light jet aircraft to conduct operations at slower approach speeds, and at airports that were not even accessible, by the former generation of jet aircraft with 9 passenger seats or fewer. Just as the advances in aircraft technology provided the FAA with an adequate safety basis to support its earlier decision to allow two-person crews in transport category aircraft, the additional technological advances found in the new generation of light jets supports the continuation of single-pilot operations in appropriately equipped light jets operating under FAR 135.105.

The group has discussed how replacing piston aircraft flown by an existing operator which holds single pilot authority with a turbojet aircraft would alter the operational environment. In general, it was agreed that in many ways the turbojet would provide equivalent or improved safety margins. For example, a two-engine turbojet aircraft which loses an engine shortly after take off would have better performance than a piston aircraft in the same situation. However, the turbojets may permit more frequent operations at higher altitudes over longer ranges. This may place the pilot in a new operating environment, where factors such as decreased response time for loss of pressurization, and RVSM could be encountered. The group discussed whether these new environments should impact single pilot authority.

Specific areas discussed by the group included:

- Pilot communications with passengers
- Pilot workload
- Should operations be permitted with key MEL-listed equipment inoperative
- Minimum pilot experience in aircraft type

- Minimum operator experience with type in scheduled operations
- Training for pilots

The ARC's recommendations are based on a thorough evaluation of each of these areas.

Review of Current Part 23 Certification Process

In evaluating the above items, it is important to note that many of these various issues are addressed during the aircraft certification process.

"Single pilot approval" is accomplished when the minimum flight crew evaluation is performed as part of the Type Design approval under FARs 23.1523 or 25.1523. Once established by Type Design, then operational approval under FAR 135.105 is merely a matter of meeting any specific requirements for equipment or training that part 135 addresses (i.e., approved autopilot system; if used in commuter operation, PIC is required to have 100 hours PIC flight time).

FAR parts 23 and 25 have been in place for a number of years, having previously existed in the Civil Air Regulations (CARs) that were re-codified and replaced by the FARs in the 1960s. The initial requirement for part 23 at re-codification was to address operation under VFR; however, in 1978 Amendment 23-21 revised part 23, requiring evaluation for all operations authorized by Type Design (same as part 25 requirement at re-codification).

Minimum flight crew evaluation is based upon a workload assessment of the aircraft considering flight path control, collision avoidance, navigation, communications, operation and monitoring of aircraft engines and systems, command decisions, and accessibility and ease of operation of necessary controls. In this evaluation, there are a number of workload factors that are considered significant:

- Impact of basic airplane flight characteristics on stability and ease of flight path control
- Accessibility, ease, and simplicity of operation of all necessary flight, power, and equipment controls
- Accessibility and conspicuity of all necessary instruments and warning devices
- Degree and duration of concentrated mental and physical effort involved in normal operation and in diagnosing and coping with malfunctions and emergencies, including accomplishment of checklist, and location and accessibility of switches and valves
- Extent of required monitoring of the fuel, hydraulic, pressurization, electrical, electronic, deicing, and other systems while en route
- Degree of automation provided in the event of a failure or malfunction in any aircraft systems
- Communications and navigation workload
- Possibility of increased workload associated with any emergency that may lead to other emergencies
- Passenger problems
- Number, urgency, and complexity of operating procedures with particular consideration given to the specific fuel management schedule

It should be noted that the preceding requirements are the same as those codified into FAR part 25 aircraft, Appendix D (and harmonized with JAR-25). They are also contained in AC 23-8B (Flight Test Guide for Certification of Part 23 Airplanes) and is harmonized with the Flight Test Guide for Certification of JAR-23 Aeroplanes.

Obtaining a type certificate authorizing single pilot operations for a particular aircraft involves, among other things, the development of is a systematic test plan that is then flown by a panel of pilots. For a single pilot approval, the evaluation pilots should be experienced and

proficient in single pilot operations (i.e., representative pilot population). The flight test program is structured to address route (simulates a typical area that is likely to provide adverse weather and IMC, as well as mix of navigation aids and ATC services), turbulence, day and night conditions, crew work schedule (evaluation crew is assigned a daily work schedule representative of the type of operations intended, including attention to possible passenger problems), minimum equipment, traffic density (evaluation is conducted over routes representative of high density areas and includes precision and non-precision approaches, holdings, missed approaches, and diversions), system failures (consequences of changes from normal to failed modes of operation, including inducing failures such as failed displays), and emergency procedures (a sampling of various emergencies).

In determining compliance, judgments by the evaluation team members are performed against pre-established workload standards. The intent is to provide a holistic pilot evaluation rationale in view of the wide variety of possible crew configurations.

Single Pilot Certification – Historical Aircraft Standards

Recognizing that the FAA has long-standing historical precedent to permit single pilot operations in part 135, an analysis of the certification basis of the many single-pilot operated aircraft within part 135 today is appropriate. Such analysis would assist in determining whether aircraft certification standards have evolved to a point where newly certificated aircraft offers equipment or design elements that further enhance the safety of single pilot operations.

Three aircraft were compared in this review, Cessna 501 and 525, and Piaggio P-180.

The current amendment level of part 23 is 23-55. Specific amendment levels of part 23 of note for evaluation purposes are:

- Amendment 23-21 from 1978: incorporated the basic minimum flight crew standards into 23.1523 used today (was amended again in 1987, but basic regulatory requirements are the same).
- Amendment 23-41 from 1990: incorporated the current systems and equipment installations safety standards into 23.1309 that dictate systems reliability and redundancy (was amended again in 1996, but basic regulatory requirements are the same).

- Cessna 501: approved for single pilot with specified equipment. Certification basis of Amendment 23-16.
- Cessna 525: approved for single pilot with specified equipment. Certification basis of Amendment 23-38.
- Piaggio P-180: approved for single pilot. Certification basis of Amendment 23-33.

Therefore, none of the three airplanes evaluated meet the current standards for systems safety put into effect by Amendment 23-43 for system reliability and redundancy. Therefore, new aircraft like the VLJs entering the marketplace should provide enhanced systems reliability.

Exemption History

FAA has issued exemptions to allow single pilot operations in part 25 aircraft. The most prevalent exemption related to single-pilot operation is for the part 25 Cessna Model 550, 552, 560 (Citation II/V/Ultra) series of airplanes. The initial exemption No. 4050 was obtained by Cessna and has since been used as justification for a large number of exemptions issued to individual operators. This primarily exempts the operator from the 91.531(a)(1)&(2) Second in Command Requirement for large airplanes and turbojet-powered multiengine airplanes and modifies the type certificated 2-person minimum crew to allow for single-pilot. Review of an exemption showed the following requirements:

Operational Limitations

- Part 91
- No circling instrument approaches to minimums less than 200ft and 1mi above until 100 hours single pilot experience
- No straight-in instrument approach to minimums less than 100ft and 1/2mi above until 100 hrs single pilot experience

Pilot Training

- Single-pilot initial authorization training program approved by AFS-800
- Single-pilot authorization renewal training program approved by AFS-800
- Hold ATP/Commercial with C-500 type rating
- At least 1,000 hrs pilot flight time

Equipage

- 3-Axes Autopilot with approach coupling
- Flight director system
- Boom microphone
- Transponder "ident" switch on pilot's control wheel

The Current Process for Obtaining Operator Single Pilot Authority.

A number of actions must be taken by an operator in order for it to obtain the necessary authorization to engage in single pilot part 135 operations. These actions, which are described below, are in addition to the requirement that the selected aircraft be approved for single pilot operations either by its Type Certificate or pursuant to an FAA exemption.

Under current guidance the FAA does not allow part 135 single pilot operations with aircraft Type Certificated for more than 9 seats. In addition CAT II/III and some international flights (i.e., long range) are not authorized.

Normally a meeting with the FSDO would be necessary to inform the FAA of the operator's intent to operate Single Pilot.

During this meeting, the FSDO should provide the operator the necessary guidance to assist the operator.

If the operator's operation is neither large nor complex, the FAA generally does not require extensive manuals, training programs, and management personnel. However, operators with complex or large scale operations generally would be required to have those items in place due to the size and capabilities of their organization (as opposed to simply because it is a single pilot operation).

One area that will be addressed by the FAA is pilot training. The operator's training program must be revised to include the new aircraft's (Single Pilot) capabilities. Most turbine powered operators will send their pilots to an FAA approved Part 142 Training Center for their pilot training. These training centers are not only overseen by the FAA, but the operator also has a responsibility as well to perform audits on the center.

The operator's aircraft maintenance program will have to have the aircraft's inspection program added, and approved by the FSDO.

The operator will also perform a conformity inspection on each of the aircraft that will be used on the operator's certificate. The conformity package consists of work items which detail the aircraft history, maintenance squawks, AD compliance, damage history, approved parts, part 135 Requirements, Emergency equipment, and placards. The operator performs the conformity and the FAA will inspect the aircraft prior to being placed into the ops specs.

Proving runs will be required for a new operator. For single pilot operations, the proving runs are significant because they provide the FAA with the ability to evaluate in real time the workload issues that the pilot will face and the manner in which the pilot handles such issues.

Line checks for the pilots can be accomplished during the proving runs by the FAA.

Once the operator has been advised of acceptance of the manual revisions, training program approvals, aircraft conformity, approval of the maintenance inspection program, and has completed the proving runs or validation, the FAA principal inspectors will issue the appropriate operations specifications, and the operator may begin operations.

Guidance for Air Carrier Single Pilot operations addressing many of these issues is already contained in FAA Order 8400.10 and applicable provisions of part 135.

Review of Safety Record.

Prior to making any recommendation for or against single pilot authority for part 135, the ARC conducted a review of available safety data. The group agreed that any decision for additional requirements for or restrictions on single pilot operations must have some basis in safety. That is, the recommended actions must be intended to improve safety by addressing identified safety failures, rather than arbitrarily or randomly picking rules that "sound good." The group therefore considered the accident history of single pilot part 135 accidents (using NTSB source data compiled by FAA) and accident history for single pilot turbojet accidents (provided by Breiling Associates). Due to the relative lack of single pilot 135 operations in turbojets, the turbojet information included predominately part 91 operated airplanes. This makes a direct correlation to part 135 difficult as part 135 has substantially different operator, operations, and maintenance requirements than those of part 91.

There was some interesting information in the turbojet accident summaries. Many of the accidents involved situations that could be addressed with proper training and adherence to regulations (such as below minimums takeoffs/approaches) and possibly use of single pilot resource management training.

While the FAA accident data for part 135 showed the majority of accidents occurred in single pilot operations, this is not unexpected, as single pilot piston aircraft comprise a large portion of the entire part 135 fleet.

- Of 787 accidents identified, 193 had fatalities.
- 605 of the 787 accidents involved reciprocating engine airplanes

The data showed that the first occurrence in serious or fatal accidents was In Flight Collision with Terrain (or Water) and Loss of Control – In Flight.

Based upon this information, the group feels that recommendations to impose additional requirements for commuter and on-demand single pilot operations should target:

Training

- Single-Pilot Resource Management
- Regular training and checking specific to single pilot operations
- Specialized aircraft training (this will be required by default as the turbojets will require a pilot type rating)

Equipment

- Examine the benefit of TAWS equipment. This was completed by the AWG and Equip/Tech. Group.
- Autopilot enhancements

Operations

- Minimum pilot experience in type
- Minimum operator experience with aircraft

- Operations with MEL-deferred items (such as TAWS, if installed). MELs should specify that single pilot operations are prohibited even if item is properly MEL deferred (i.e., can fly 2 pilots but not one). Operating with an MEL cannot relieve you of equipment required for single pilot operations – there is no deferment of autopilot (autopilot can be MEL'd but a second pilot would be required), passenger/crew oxygen or passenger communication equipment items.

Conclusions

The group does not doubt that these airplanes ***can*** be operated safely by one pilot. If it could not, the FAA would not have permitted it to be certificated as a single pilot airplane. However, because these airplanes will be operated in commercial service, consideration of additional, safety-based, requirements is appropriate. It is important that any such restrictions not be so burdensome as to be an obstacle to obtaining single pilot authority.

After much debate, a **general consensus** was reached on the single pilot issue for on-demand operations.

On-Demand Part 135 Single Pilot

- Agree that Single-Pilot Operations for all aircraft categories (piston, turboprop, jet) should be approved.

The group was **unable to reach a consensus** on whether single pilot operations in turbojets should be permitted in commuter service.

Commuter Part 135 Single Pilot

- **Consensus** that existing (piston/turboprop) authority to conduct single pilot operations should remain.

- **Majority opinion** that single pilot commuter operations in turbojets are acceptable subject to specific requirements/standards, including dispatch requirements. The **minority opinion** was that single pilot commuter operations in turbojets are not acceptable.
- Consensus that recommended changes are intended to incorporate a mandatory dispatch function for Commuter Operations based upon the following agreement of the group.

Commuter with turbojets – Dispatch would meet the 121 flag/domestic standard (except for Alaskan operators, see discussion below).

Commuter non-turbojets –Require an FAA-approved dispatch function appropriate to the size and number of aircraft and the scope and frequency of operations. There is an argument to implement a 121 Flag & Domestic type of dispatch requirement within this community. However, there could be substantial cost burden imposed by a full dispatch requirement on many of these businesses that are very small in size and scope. These operators have successfully shown the FAA that their existing dispatch functions fulfill the safety needs of their operations. We are requiring a thoughtful review of existing dispatch functions between the operator and FAA to ensure safety needs for flight planning, dispatch and operational control are met. (includes Alaskan operators)

On-demand – no change to current rules proposed with regard to the dispatch function

Alaskan Operations:

There was significant discussion regarding the unique operational environment and challenges faced by operators within the State of Alaska. Based on the evaluation conducted, it is firmly believed that the challenges of implementing the part 121 dispatch function in this region will not present the same benefits as may be experienced elsewhere. Among the unique challenges faced by Alaska is the inability to attract and retain qualified employees. The ability to have a locally trained staff, on “Alaskan time” does seem to mitigate accidents

but often this would be best accomplished by a company employee performing other functions in addition to dispatching. A separate position as a dispatcher, or even a company contracted to perform the dispatch function presents dramatic concerns for these operators. Importantly, the vast majority of existing commuter operators exist within Alaska. These carriers serve a vital need and the public interest is best served by having them available to serve the most remote villages and regions of the state. The potential negative impact of instituting a full 121 dispatch function may well negate the potential safety and service benefits that could be achieved should an existing operator 'upgrade' to turbojet service in the future. To encourage such a transition where feasible, the ARC proposes to exclude Alaskan operations from the proposed Subpart K requirements.

Further, aside from the economics of the added cost, several of the Subpart K requirements would be impractical within Alaska. For instance, the ability to communicate between a crew in flight and a ground base station does not exist and would be very costly to implement. With regard to weather requirements, airports with scheduled air service have an "all weather" approach and landing capability. There are 176 public use Alaska airports that do not have basic instrument approach capability. Most do not even have GPS approaches established. Compliance with the 121 dispatch requirements would therefore have a drastic negative impact on scheduled service within the state. Weather information, communications capability, and approach procedures are required to support commercial transport of people, property, and mail. Weather for VFR operations, weather cameras, expansion of the program to include all AWOS sites and select remote passes or choke points, and finally, a plan to maintain current and future systems are considered necessary.

Finally, only 70 runways are lit out of over 81 airports—21 of which cannot be lit safely for fixed wing operations due to minimal length, terrain, and obstructions. More than half of rural airports are without minimal passenger shelter.

Importantly, there are alternative communication and surveillance technologies emerging within Alaska that would benefit all operations. Communications, navigation and surveillance (CNS) capability should be available state-wide to support efficient routing, traffic and terrain avoidance, real time flight locating, and enhanced search and rescue. Existing communication capabilities are not continuous throughout the state, due to terrain, distance, and altitude constraints. A need for data-link ground stations to provide CNS capability has been identified at 194 locations in Alaska. Statewide aircraft CNS can be enabled with Automated Dependent Surveillance Broadcast (ADS-B) data link technology, which is also critical for flight track monitoring and security.

Therefore, due to the significant obstacles to compliance with the 121 dispatch function, the proposal forwarded is that any Alaskan commuter operator seeking to operate turbojet aircraft would need to have in place an approved dispatch function satisfactory to the Administrator in lieu of the part 121 standard.

Economic Impact

Overall, there is expected to be a neutral to positive economic impact from the proposed regulations related to single pilot operational authority. Because single pilot operations in turbojets are not prevalent today in on-demand operations, and importantly no turbojet commuter operations are permitted within today's regulatory structure, these regulations create an opportunity for service that was not previously possible. For those single pilot on-demand operations in turbojets today there will be some economic impact to comply with requirements (notably the passenger communication and auto pilot requirements and revisions to training

programs). The working group anticipates that the FAA will provide a sufficient time to meet new requirements and, if necessary due to the unique design capabilities of a particular aircraft, issue a deviation or exemption from any specific requirement if justified. Further, it is expected that existing pilots conducting single pilot operations in turbojets would already meet experience requirements. An appropriate implementation schedule will minimize the financial impact of these changes, particularly for small businesses.

Summary Table of Proposed Changes for Single Pilot Turbojet Operations

	Autopilot w/coupled approaches & track/hold?	Communications capability while wearing O2?	IOE under 135.244? (25 hours for Turbojets)	Single Pilot specific training and proficiency check?	Addt'l pilot general experience requirements for single pilot eligibility.	PIC need 10 hours under observation with check pilot before Single Pilot authorized?	Certificate holder needs 6 months experience with turbojets in commuter service?	Meet 121 Flag/Domestic Dispatch requirements?
Commuter 2 pilot turbojet	No	Nothing additional proposed	Yes	n/a	n/a	n/a	n/a	Yes (except Alaska)
Commuter 1 pilot turbojet	Yes	Yes	Yes	Yes	Yes, 100 hours in make/model/type	Yes	Yes	Yes (except Alaska)
On-demand 2 pilot turbojet	No	Nothing additional proposed	No	n/a	n/a	n/a	n/a	No
On-demand 1 pilot turbojet	Yes	Yes	Yes	Yes	Yes, 100 in make/model/type	Yes	n/a	No

SECTION BY SECTION ANALYSIS OF PROPOSED CHANGES

(Note: Hyperlinks below will take you to the proposed regulation.)

***§ 119.3 Definitions*.**

All changes are to reflect the ability of turbojets to operate in scheduled operations under part 135 regulations so long as they have a maximum passenger seating configuration of 9 or fewer seats and a maximum payload capacity of 7,500 pounds or less.

The changes do not establish an aircraft certification-basis for eligibility under part 135 (meaning the aircraft could be either part 23 or 25), rather the regulatory changes authorize the use, in **scheduled service**, of:

1. A turbojet aircraft in part 135 commuter operations when the aircraft is configured in accordance with maximum passenger and payload limits. (Today's limit is 9 or fewer passenger seats and 7,500 pounds payload or less)
2. A turbojet aircraft in part 135 scheduled on-demand operations (i.e., less than 5 round trips per week over a published route) when airplane is configured in accordance with maximum passenger and payload limits. (Today's limit is 9 or fewer passenger seats and 7,500 pounds payload or less)

Part 135 on-demand operations (other than scheduled) would maintain authorizations of:

Part 23 or part 25 aircraft, configured with 30 passenger seats or 7,500 pounds payload

Definitions amended are:

Commuter operation

Domestic operation

Flag operation

On-demand operations

§ 119.21 (a) (4) Commercial operators engaged in intrastate common carriage and direct air carriers.

The proposed change will require commuter operations utilizing turbojets to establish dispatch and operational control functions generally meeting the standard for part 121 domestic and flag carriers. These requirements are specified in proposed 135 Subpart K. Commuter operations utilizing turbojet aircraft conducted within the State of Alaska and those utilizing other than turbojet aircraft would be required to develop a formalized dispatch function that in the determination of the FAA is appropriate to the size and number of aircraft operated and the scope and frequency of those operations. As articulated by the FAA in the 1997 so-called "Commuter Rule" one of the primary reasons for transitioning many scheduled operations from 135 to 121 was the requirement within 121 for dispatch and operational control functions. The ARC believes that because the use of turbojets in scheduled operations today is required to be under part 121 and our proposal will permit such use under 135 that introduction of the dispatch requirement satisfies the necessity to maintain an equivalent level of safety.

§ 135.5 Special Rule for commuter operations in turbojet aircraft.

The proposed change will require commuter operators utilizing turbojet aircraft to comply with provisions for pilot operating limitations and crew pairing requirements found in § 135.4. That section was created to define the qualities of "eligible on-demand operations." Crew pairing requirements are also found within part 121. Because turbojet operations are now being permitted under part 135 commuter rules where they would have previously been under part 121, the working group felt it was appropriate to recognize the benefit such rules have previously demonstrated in the scheduled environment and adopt such a requirement for commuter turbojet operations. Further, to adequately address unique circumstances and issues encountered with initial cadre pilots and other events, the regulation proposes to permit commuter operators subject to this part the opportunity to apply for limited deviations from those crew limitations and pairing standards that are detailed within § 135.4.

§ 135.19 Emergency Operations

§ 135.21 Manual requirements

§ 135.23 Manual contents

135.69 ***Restriction or suspension of operations: Continuation of flight in an emergency.***

§ 135.77 Responsibility for operational control.

The proposed changes are intended to reflect the new dispatch and operational control requirements for commuter operations in turbojet aircraft.

§ 135.99 Composition of flight crew.

(a) no changes

(b) no changes

(c) This section is intended to establish the minimum aircraft, certificate holder and pilot qualifications for operations in a turbojet with a single pilot.

(1) Establishes additional functional requirements for an autopilot. Specifically, the autopilot, in addition to the existing criteria of § 135.105, must be capable of coupled approaches and have “track and hold” functionality.

(2) This requirement recognizes that a single pilot environment complicates the pilot’s ability to communicate with passengers above certain altitudes. In a two pilot environment one pilot will, under most all circumstances, be able to casually communicate with passengers without electronic aid due to the relatively small cabin interior. This would continue to be possible when one crewmember is required to be continuously wearing the mask. Typical communications during this time would include updates regarding arrival time, ATC delays, potential turbulence ahead, etc. In the single pilot

environment, once the aircraft is above FL250 the oxygen mask must be worn by the pilot continuously. Absent the proposed communications equipment, those casual communications would be nearly impossible and could pose a threat to passenger safety, especially in the case of warnings to fasten seatbelts in preparation for turbulence. Therefore, a means of pilot communication to the passengers while wearing the oxygen mask is proposed for any single pilot operation utilizing a turbojet aircraft.

Under existing regulations (see 135.105 and 135.99(d) below) the FAA requires that any commuter pilot seeking authority to conduct single pilot operations posses at least 100 flight hours as pilot in command in the make and model of aircraft to be flown. The working group believes that this standard is appropriate and should be required for both on-demand and commuter operations in turbojets utilizing a single pilot. This standard ensures that the pilot has a minimum amount of direct, applicable experience with the aircraft prior to conducting commercial operations. With regard to turbojets, the working group intends to make it clear that operations must be in the specific aircraft type when a type rating is required for the aircraft the pilot intends to operate.

(3) The working group believes that ensuring a pilot is properly equipped to handle the workload and unique aspects of a turbojet flown with a single pilot necessitates a specific training program and proficiency check. Regardless of prior pilot experience with turbojets in general or a specific aircraft type the proposed regulation requires completion of

an FAA approved training program and pilot check ride.

(4) Following the successful completion of the training and checking in (4) above, the pilot would assume pilot in command duties for a minimum of 10 hours under the supervision of a qualified check airman. After completion of this "observation period" the check airman may authorize the pilot to conduct single pilot operations for the certificate holder. This supervision time would not be transferable between certificate holders. That is, a pilot would need to complete this requirement for each certificate holder that he may work for.

(5) This regulation is intended to clarify that the pilot experience requirements for a commuter pilot are in addition to, not in lieu of, the operating experience requirements (25 hours for turbojets) detailed in § 135.244.

(6) The working group believes that requiring the certificate holder to have a minimal level of operational experience is necessary prior to conducting single pilot operations in turbojets. The proposed six months of operating experience will allow the certificate holder's processes and procedures to mature while permitting their pilots time to gain the experience necessary to obtain single pilot authorization. Safety will be enhanced when prior to conducting single pilot commuter operations the certificate holder gains experience in the

operation of the aircraft over those routes and to those airports where the certificate holder will conduct scheduled operations.

(7) The working group believes that the large scale introduction of very light jets will also impact the crewmember needs within the on-demand operational environment as well and further believes the operating experience requirements for commuter operations under § 135.244 would benefit such pilots. Therefore, the proposal requires compliance with the applicable portions of that section for on-demand operations in turbojet aircraft with a single pilot. Specifically, pilots would need operating experience totaling 25 hours and that those hours must be flown in on-demand operations.

(d) Under today's regulations, a commuter pilot must have at least 100 hours as pilot in command in the make and model of aircraft to be flown in order to operate that aircraft as a single pilot. This requirement is today located within § 135.105 (a). Because § 135.99 now stipulates the requirements for single pilot operational authority, the group has moved this requirement to this location. It applies to aircraft other than turbojet aircraft, as it does today.

§ 135.101 Second in command required under IFR.

No significant changes are proposed other than to reference § 135.99.

§ 135.105 Exception to second in command requirement: Approval for use of autopilot system.

The only proposed change is the removal of the commuter pilot experience requirement (100 hours in make and model) for single pilot operations, that was moved to § 135.99 (d).

§ 135.244 Operating Experience.

Altering the "make and model" language to reflect type where applicable now that turbojets with type ratings will be permitted in 135 commuter operations.

135 Subpart K – Dispatch and Operational Control Requirements for Commuter Service Operators Using Turbojet Airplanes

For commuter operations in turbojets (exclusive of Alaskan operations) the proposal requires a dispatch and operational control function based upon the existing requirements for part 121 Flag and Domestic operations. Following an evaluation of part 121 requirements, those applicable to commuter operations under part 135 are detailed.

§ 135.551 Applicability.

This regulation states that any commuter operation utilizing turbojets is subject to Subpart K. Operations within the state of Alaska are exempt from this subpart. Finally, the rule stipulates that when operations are conducted within the 48 contiguous United States that rules related to Domestic operations are followed. For operations outside or to/from the 48 contiguous United States the rules related to Flag operations should be followed. As occurs in the part 121 environment today, operators my petition the Administrator for a deviation from certain

requirements and the working group feels it is prudent to grant deviation authority for commuter operations as well.

§ 135.553 References.

The purpose of this regulation is to ensure operators understand that the references within Subpart K are intended to reflect the current regulations under part 121. It is expected, however, that the FAA when revising/ renumbering those part 121 regulations will also revise the Subpart K references.

§ 135.555 Compliance with other regulations under this part.

This regulation is to clarify that were corollary or conflicting regulations exist within part 135, that the Commuter operator shall comply with the part 121 regulations listed in § 135.559. Part 135 contains many regulations for computation of fuel supply, destination and alternate weather minimums and others. To avoid confusion, operators must be aware that they need not comply with those regulations, but the rules part 121 rules detailed in Subpart K instead.

§ 135.557 Compliance with regulations under part 121.

This regulation lists the applicable part 121 regulations with which part 135 commuters utilizing turbojets must comply.

DISSENTING OPINION 1 FROM AIRLINE DISPATCHER FEDERATION:

Minority Opinion on Exempting Alaska from Proposed New Rules

Herein please find the Airline Dispatchers Federation (ADF) objection to exempting Alaska from new rules proposed by the Part 125/135 Aviation Rulemaking Committee, particularly the requirements for Part 121 Domestic and Flag Dispatch and Operational Control for jet aircraft in Part 135 Commuter Service, as expressed at the Steering Committee.

Most of the rule changes proposed by the Part 125/135 ARC deal with forward-looking future operations under Part 125 or Part 135. This is particularly true of the provisions allowing jet aircraft to be operated in scheduled commuter service. ADF believes it is an affront to the air travelers of Alaska to mandate by rule of law a lesser level of compliance and safety for them than for other United States citizens. It also serves to unnecessarily jeopardize the effort to achieve a true single level of safety.

ADF acknowledges that infrastructure and geography is different in Alaska than in other U.S. states. This, in itself, does not prevent compliance with current or proposed regulations. Costs may be greater and procedures may be different but almost universally compliance is possible. Additionally the Alaskan representatives themselves presented information that improvements are well under way in Alaska that would facilitate more traditional compliance at costs similar to those incurred in the lower 48. Specifically, the Alaskan presentation seems to say a non-Alaskan dispatcher, who would be an additional employee presents a potential

negative impact. There is no requirement for an additional employee or that the dispatcher be located outside Alaska. If the operation is appropriately staffed, a currently employed individual performing any or all of a wide variety of other functions could well be the required, trained and certificated dispatcher along with other duties based on the size and complexity of the operation. This would present a clear positive impact.

The Alaskan presentation also sets forth a number of "impractical" requirements. These may be requirements for a Part 121 certificate operation, but for the most part they would NOT necessarily be required by the proposal to require Part 121 Domestic and Flag Dispatch. The following paragraph in the Alaskan presentation notes several future improvements that would allow a more standard application of Part 121 Dispatch and Operational Control requirements.

Part 135, with the proposed changes, including Part 121 Domestic or Flag Dispatch and Operational Control provides an equivalent level of safety for small jet aircraft as exists under Part 121. If, at some point in the future, an operator wishes to conduct a specific operation that cannot comply with the full proposed rule, then that operator may apply for the appropriate deviation or exemption including specific alternate procedures to insure the appropriate level of safety. To require less, in advance by permanently exempting Alaska by rule is a disservice to the aviation industry and to the traveling public.

Respectfully submitted.

Norm Joseph

Director

DISSENTING OPINION 2 FROM THE AIRLINE DISPATCHER FEDERATION:

Minority Opinion on Single Pilot Jet Operations in Commuter Service Herein please find the Airline Dispatchers Federation (ADF) objection to allowing jet aircraft to be flown by a single pilot in commuter service under the new rules proposed by the Part 125/135 Aviation Rulemaking Committee (ARC).

Most of the rule changes proposed by the Part 125/135 ARC deal with forward-looking future operations under Part 125 or Part 135. This is particularly true of the provisions allowing jet aircraft to be operated in scheduled commuter service. Prior to these proposed rules jet aircraft with any number of seats in scheduled service would be required to comply with Part 25 certification requirements and to be operated under a Part 121 Domestic or Flag rules. Part 135, with the proposed changes, including Part 121 Domestic or Flag Dispatch And Operational Control provides an equivalent level of safety for small jet aircraft as exists under Part 121. Under Part 121 scheduled service two pilots would be required without question.

ADF believes the 2 pilot mandate for commuter or scheduled service with jet aircraft should be maintained for a number of reasons.

-We have a different traveling public today. Terrorist and hijackers are more likely to be among the passengers. No secure cockpits or flight attendants planed for these aircraft.

-We have a different National Airspace System today. More congestion on the ground and in the sky. RVSM and RNP will allow much less separation and room for error today. The VLJ will operate at high altitude and for long distances.

-The ATC system and the FAA are becoming more automated with less human assistance available.

-The ultimate value of an aircraft dispatcher is to be the trained and qualified jointly responsible point of contact and coordination for the pilot while enroute. In a single pilot environment, any non-routine issue or emergency results in the pilot immediately losing all cockpit resources except ATC, as the pilot must fly the airplane and deal with the issue while listening to ATC. The dispatcher can not communicate with and is no longer available to assist the pilot in command.

-The publics trust and a single level of safety will be maintained. The public expects jet aircraft to be operated by 2 pilots in scheduled service, just as they are today.

An equivalent level of safety for jet aircraft in scheduled service under Part 135 is only possible with a minimum crew of two pilots.

Respectfully submitted.

Norm Joseph

Director

DISSENTING NOTE 3 FROM ALPA REGARDING SINGLE PILOT COMMUTER OPERATIONS

APP-20 Single Pilot Jet Operations in Commuter Service

Minority Opinion

Air Line Pilots Association, International (ALPA)

ALPA is strongly opposed to the use of single pilot jet operations for scheduled, commuter service in Part 135 as proposed in this Recommendation Document being submitted by the 125/135 Aviation Rulemaking Committee (ARC). We understand that the certification criteria (Part 23) for the very light jets in question does not, by design, allow them to operate in Part 121 where two pilot crews are required for turbojet airplane scheduled, passenger operations.

This proposal contains beneficial pilot training and experience criteria for operators and their pilots new to these airplanes and unfamiliar with the operating environment. This allows them to gain valuable knowledge and experience for operating a turbojet airplane in on-demand Part 135 operations. However, we continue to maintain a single pilot crew does not meet the equivalent level of safety afforded by a two pilot crew in Part 121 operations.

To maintain the FAA's One Level of Safety program, ALPA strongly believes a two pilot crew must be required for scheduled, commuter service with jet aircraft. An equivalent level of safety for jet aircraft in this type of operation under Part 135 is only possible with a minimum crew of two pilots.

Additionally, in a single pilot environment, the routine workload of the sole pilot is well above the workload of either pilot in a two-pilot operation. In the event of a non-routine

situation, such as an emergency or other abnormal event, that single pilot's workload level is further increased and other cockpit resources are either limited or non-existent. Since the pilot must fly the airplane and deal with the emergency or abnormal event, the satisfactory outcome may be in question thus placing the safety of the flight in jeopardy.

The traveling public insists that two pilots operate jet aircraft in scheduled service. They are not concerned with, or may not be aware of, which Part of the regulations the aircraft is operated under.

RICK KESSEL

(APP 21) Charter Brokers

Discussion

An initial recommendation was made to examine whether air charter brokers who act as unauthorized indirect air carriers are subject to FAA enforcement jurisdiction under Part 135 or 14 CFR 121.4 and, if so, whether existing regulations have to be amended to cover concerns over air charter brokers' conduct. The issue stems from concerns over air charter brokers who arrange with a customer for air transportation; for example, on an empty return leg of a charter arranged by the air charter broker, without involvement of the airline operating the flight. The airline may not know who its true passengers are and the air charter broker may be passing itself off as the operator of the flight through service requirements contractually imposed on the airline, or otherwise.

It was determined that the FAA's statutory jurisdiction to regulate air charter brokers is limited to situations where an air charter broker may be in actual operational control of an

aircraft (49 U.S.C. § 44711.) This situation is not likely to arise, but when it does, existing FAA regulations are sufficient to cover the situation. Moreover, service requirements, to the extent they do not impinge on actual operational control of an aircraft or deceive consumers, are in contractual matters between the airline and the air charter broker and/or customer. The Department's Office of the Secretary (OST), however, does have broader jurisdiction over air charter brokers that engage in (hold out and/or operate) air transportation.

In order to hold out or operate air transportation for hire as a common carrier, a person is required to hold economic authority from OST pursuant to 49 U.S.C. § 41101 or an exemption from that provision, such as that provided to air taxis under 14 CFR Part 298, or to indirect air carriers such as provided to charter operators pursuant to 14 CFR Part 380 or to air freight forwarders pursuant to 14 CFR Part 296. This economic authority is in addition to any safety authority necessary under applicable Federal Aviation Administration requirements. Accordingly, air charter brokers without economic authority may not hold out air transportation in their own right or, as a principal, enter into contracts with customers to provide air transportation. Rather, in entering into contracts to provide air transportation, air charter brokers must act as either an agent of the direct air carrier or of the customer.

With regard to passenger air service, there are situations in which air charter brokers contract directly with the charter customer for air transportation and separately solicit and contract with a direct carrier to operate the charter flight. In most if not all of these situations, the air charter broker collects and holds all of the monies paid by the chartering entities that ultimately are provided air transportation, turning over the funds to the operating carrier pursuant to whatever terms are required under the contract between the air charter broker and the operating carrier. In such instances the air charter broker is not acting as an agent for the operating carrier or for the ultimate charter customers that is transported. Accordingly, the air

charter broker is the principal in such transactions and, at a minimum, is engaged in air transportation as an indirect air carrier, doing so without required Departmental economic authority in violation of 49 U.S.C. § 41101. Under OST precedent, violations of section 41101 also constitute unfair and deceptive practices and unfair methods of competition in violation of 49 U.S.C. § 41712, which is also enforced by OST. (To the extent the airline is facilitating the unlawful conduct of the air charter broker, it, too, may be in violation of section 41712.)

Such conduct by air charter brokers can also violate specific OST regulations designed to protect the public from unfair and deceptive practices and unfair methods of competition in violation of 49 U.S.C. § 41712. In this regard, air charter brokers can be ticket agents pursuant to 49 U.S. C. § 40102(a)(40), which defines a ticket agent as a person (other than a carrier or its employee) who, "as a principal or agent sells, offers for sale, negotiates for, or holds itself out as selling, providing, or arranging for air transportation." Pursuant to 14 CFR 399.80, it is an unfair and deceptive practice or unfair method of competition for a ticket agent to, among other things, pass itself off as an airline (§ 399.80(a)) or to enter into a contract with a customer without a binding commitment with an airline to perform the air transportation (§ 399.80(j).

While the general prohibitions of section 41712 against a person falsely passing oneself off as an airline, or otherwise engaging in unfair and deceptive practices or unfair methods of competition, apply to air charter brokers involved in the all-cargo business, it must be recognized that the deregulation of all-cargo air service, including all-cargo indirect air carriers, otherwise known as air freight forwarders, renders the all-cargo air service industry less subject to regulatory obligations and protections.

Although the ARC is not the place to solve the problem of air charter brokers, but I disagree that the Part 135 industry should be the ones educated. The broker problem will continue and become a larger problem for OST, as the fractional programs did for the FAA. OST needs to

develop some method of regulating the non-certificated brokers for the protection of the public, or this issue will blossom into a major problem for OST.

Recommendation

Since OST is primarily responsible for protecting the public regarding the practices of brokers and the FAA's jurisdiction over brokers is limited to matters involving unlawful operational control, we recommend that no action be taken through this ARC to amend FAA rules as they concern brokers. Nevertheless, the ARC should consider recommending to a well-respected organization, such as NATA, that it strive to educate the on-demand air transportation industry about the need to refrain from practices meant to confuse the charter passenger as to the identity of the carrier operating the flight.

This should be addressed by OST. The FAA should make a formal request to OST.

FAA Note: DOT issued Charter Broker Notice—reference notice in this preamble

(APP 32) Increased Payload for All-cargo

FAA Note: Need to develop regulatory language to support this proposal – See also APP 39 A and B. Corresponding safety standards recommendations made by other workgroup support this rec doc. As a minimum, changes need to be made to part 119.

Discussion:

STATUS OF CURRENT APPLICABLE RULES

At present, FAR 135 operators are limited to a maximum cargo payload of 7,500 lb by FAR 119. FAR 125 operators are caught between public demand for their services by a wide variety of entities, limitations in FAR 125 on their ability to hold out to the public, ambiguities in the definition of "holding out," and increasingly vigorous enforcement action by the Department of Transportation – which has driven some operators out of business, and continues to do so.

SUMMARY OF THIS PROPOSAL

Increase the maximum allowable payload for FAR 135 cargo operators to 18,000 lb. Incorporate into this recommendation the limited 30,000 lb payload limit proposed by the FAR 125 working group for certain all-cargo airplanes currently operating under Part 125 (with the expectation that these larger all-cargo aircraft will be phased out over time). Provide a means for current FAR 125 operators who are willing to accept the additional regulatory requirements to transition to FAR 135 operation. This proposal recognizes that details of the operational and safety standards will be reviewed in this proposal may be further developed and modified as a joint task of the Operations, Airworthiness, and other Working Groups for final Steering Committee action.

The principal justifications for this proposal are:

1. To provide a regulatory alternative for certain Part 125 all-cargo certificate holders who no longer wish to operate, or cannot operate, under Part 125 (as it may be amended through the current Aviation Rulemaking Committee process), and are willing to accept the additional regulatory burdens of FAR 135 that will enable them to hold out their all-cargo transportation services to the shipping public, and

2. To permit FAR 135 operators to respond to market demands for larger, available, more modern, and inherently safer aircraft in all-cargo service.

Because of evident public interest in these operations, and economic pressure on current operators arising from artificial limits on payload, it requested that the FAA consider expedited relief by whatever means the agency deems appropriate, presuming that general consensus of this proposal by the ARC Steering Committee is expressed. The need for immediate relief is twofold:

1. To provide an immediate regulatory alternative for certain FAR 125 all-cargo operators facing pending or potential enforcement action by the Department of Transportation (DOT) for allegedly exceeding the limits of private carriage for hire, and those whose revenue has been so diminished by current "holding out" limitations that they can no longer stay in business; and

2. In the case of FAR 135 cargo operators, to address the current need and immediate availability of aircraft technologically, operationally, and economically suitable for FAR 135 all cargo operation – recognizing that economically viable operation of these aircraft under FAR 135 with the artificial 7,500 payload limit in place is not possible.

Both the FAR 125 and 135 groups face significant public demand for their services, which cannot be effectively addressed within the current regulatory framework.

PROBLEMS WITH THE CURRENT RULES

FAR 125 AND 135

FAR 125: The dividing line between "private carriage for hire" and "common carriage is ambiguous in FAR 125 as currently written – as explained more fully in Recommendation Document "Applicability 39" currently being processed by the Aviation Rulemaking Committee. In addition, there are certain Part 125 all-cargo operators who would find it difficult (or in a limited number of cases, impossible) to conduct economically viable operations based upon the standards proposed in the ARC Part 125 Work Group's paper (including the four-contract/300 hour limitation). These operators require a regulatory alternative, and are willing to accept the additional regulatory burdens associated with a revised Part 135.

FAR 135: The rule's current language (via definitions in FAR 119.3) limits all-cargo operators to a maximum payload of 7,500 lb. While that restriction was appropriate in the days when the rule was written (and the airplane being addressed was the Douglas DC-3), former regional

airliners such as the Embraer EMB-120 Brasilia, SAAB 340, and various versions of the ATR-42/72, available in today's market to the same classes of operators, are capable of lifting significantly greater payloads – as high as 18,000 lb – while offering improved safety, performance, and operating flexibility due to their more modern design, equipment, and requirement for two-pilot crews. These newer airplanes are, however, economically unfeasible to operate with artificial limits on their useable payloads.

WHY OPERATE UNDER FAR 135 INSTEAD OF 121?

There has been some discussion as to whether a “FAR 121 light” as opposed to an “augmented FAR 135” approach would be best. It is believed that the FAR 135 approach is preferable for several reasons:

1. The market for services provided by these aircraft imposes economic strictures that would render them unprofitable if operators were required to absorb the initial certification, and particularly the long-term administrative costs of FAR 121 operation. The paucity of FAR 121 operators in this part of the market at present confirms this position.

2. The majority of experience in the specific markets that will be served by the ex-regional turboprop aircraft resides with current FAR 135 operators.

3. Part 121 was written for large airline operations, with large, extraordinarily complex aircraft, whose procedures and requirements are appropriate to that type and size of operation and its associated infrastructure. Part 135 was written for the smaller operations with smaller, less-complex aircraft, in which the operators of aircraft that will fall under this subpart more logically fit.

4. By imposing the FAR 135.411(a)(2) (ten-or-more) maintenance standards (which parallel those of FAR 121 Supplemental in virtually every respect as shown below), the airworthiness standards of aircraft moving into this new proposed subpart from Part 125 and Part 135 (nine-or-less) are raised to a level equivalent to that of Part 121.

5. In the case of large Part 125 aircraft transitioning to Part 135, the more stringent regulatory standards of Part 135 clearly promote safety and are in the public interest.

AIRCRAFT IN THE EX-REGIONAL TURBOPROP CLASS

The table below sets forth aircraft that would be subject to the allowable payload increase, with their estimated payload capability as straight freighters.

REGIONAL TURBOPROP PAYLOADS

Embraer EMB-120ER Brasilia	8,100 lb
Shorts SD-360	8,300
SAAB 340	8,500
de Havilland DHC-8-100	10,000
de Havilland DHC-8-200	11,000
de Havilland DHC-8-300	12,000
Avions de Transport Regional ATR-42	12,250
Avions de Transport Regional ATR-72	17,800

Estimated payloads based upon typical results when passenger interiors are removed and a dedicated cargo interior with restraint system is installed. Maximum payload is assumed: MZFW – BOW = Payload.

Prepared by Regional Air Cargo Carriers Association

PROPOSED CHANGE TO CURRENT RULES

The proposed rule will permit:

1. Aircraft whose maximum cargo payload is between 7,500 lb and 18,000 lb, to carry that payload in FAR 135 cargo-only operations;[i] and

2. Certain FAR 125 all-cargo aircraft with a maximum payload of 30,000 lb or less (as configured, and listed on the respective operators' Operations Specifications as of 24 June 2004), to operate under a revised FAR 135.[ii]

The proposed change to the 7,500 lb payload limit echoes the rationale employed by the FAA in 1978 when the existing maximum payload standard was adopted in lieu of the 12,500 lb maximum takeoff weight limit: Namely, the need for greater operating flexibility in aircraft size, recognition of advancements in technological and operating state of the art, and responsiveness to marketplace demand for larger aircraft.

Accompanying the increase in payload are changes to Part 135 to incorporate more stringent safety standards including provisions paralleling Part 121 as described more fully below.

FLIGHT-DUTY-REST: In this particular instance, the current rules in FAR 135 regulating crew flight, duty, and rest time are actually more stringent – and inherently safer – than equivalent FAR 121 rules.

FLIGHT FOLLOWING: It is believed that the provisions of FAR 135.77, .79, and .81, although slightly less stringent than Supplemental rules in §121.125 and .597, provide an equivalent or better level of safety in the context of other requirements imposed herein, particularly in view of the fact that most of the aircraft affected by this proposal will be propeller driven, as opposed to jet powered. Operational control requirements already present in §135.77 through .83 have been demonstrated to be safe in the context of these types of operations, which often involve rural

airports with limited facilities — but adequate for the types of aircraft involved in view of restrictions already imposed by §135 Subpart I.

FLIGHT TRAINING/TESTING: The training and testing requirements of FAR 135 Subparts G and H are comprehensive (in some respects, more strict than FAR 121 Subpart N), and believed to be adequate for operations under this proposal. Certain FAR 121 provisions are more thoroughly defined, but largely inapplicable to cargo operations in (chiefly) propeller-driven aircraft. However, considering the availability (and training benefits) of advanced flight simulators for many of the newer turboprop airplanes involved, the proposed rule language requires that operators incorporate the use of advanced simulation for initial flight crew training in those aircraft when such simulators are available within the U.S. Guidance should recommend incorporation of advanced simulation for recurrent training on at least a yearly basis in their training programs when it is practicable to do so (in view of location of operations vs. location of simulator training facilities).

MAINTENANCE REGULATIONS: Considerable concern has been focused upon maintenance requirements for these aircraft if operated at increased weights under FAR 135. FAR 135 “10 or more passenger seats” requirements were compared to those of FAR 121 (Supplemental); it was determined that the FAR 135 rules were more appropriate to this type of operation. Based upon recommendations of the Airworthiness work group, maintenance generally will be required to meet FAR 135.411(a)(2) [commonly called "10 or more"] requirements as follows:

- 135.415 Mechanical reliability reports [currently suspended until Dec06] [parallels §121.703]
- 135.416 Service difficulty reports (structural) [currently suspended until Dec06] [parallels §121.704]

- 135.417 Mechanical interruption summary report [currently suspended until Dec06] [parallels §121.705]
- 135.422 Aging airplane inspections [Aging “10-or-more-pax” aircraft; no direct equivalent in FAR 121]
- 135.424 Maintenance, preventive maintenance, and alteration organization [parallels §121.365]
- 135.425 Maintenance, preventive maintenance, and alteration programs [parallels §121.367]
- 135.427 Manual requirements [parallels §121.369]
- 135.429 Required inspection personnel [parallels §121.371]
- 135.431 Continuing analysis and surveillance [parallels §121.373]. Recognizing the limited capability of small operators to conduct on-site audits of distant vendors, for operators with 10 or fewer aircraft subject to this PROPOSED RULE guidance should state that a telephone audit program acceptable to the Administrator, augmented by requests for audit assistance by FAA Flight Standards District or other appropriate FAA offices near the vendor in the event of problems with specific vendors, will be deemed to satisfy CAS external audit requirements.
- 135.433 Maintenance and preventive maintenance training program [parallels §121.375]
- 135.435 Certificate requirements [parallels §121.378]
- 135.437 Authority to perform and approve maintenance, preventive maintenance, and alterations [parallels §121.379]
- 135.439 Maintenance recording requirements [parallels §121.380]
- 135.441 Transfer of maintenance records [parallels 21.380a]
- 135.443 Airworthiness release or aircraft maintenance log entry [parallels §121.709]

- MRB Report: In aircraft for which a Maintenance Review Board Report is available, the proposed rule language requires that maintenance and inspections comply with that document. This alone represents a significant “raising of the bar” compared to the Approved Aircraft Inspection Programs [per FAR 135.411(a)(1) and .419] used by most cargo-only operators.

NOTE: Guidance should state that FAR 21.217(c) will be considered to have been satisfied by the above with respect to operators’ continuing authorization to self-issue Special Flight Permits (ferry permits).

The Maintenance Review Board Report mentioned above is prepared jointly by the manufacturer, operators, and the FAA for aircraft intended to be operated under FAR 121, contains the guidelines for comprehensive inspection and maintenance of a specific make and model of large aircraft, and represents a significant "raising of the bar" for FAR 135 operators.

TRANSITION AND INITIAL CADRE CONSIDERATIONS: Guidance should state that for FAR 135 operators currently operating the same airplane types that will be used under this proposed rule, flight crewmembers, flight instructors, check airmen, flight following personnel, mechanics, and inspectors qualified under the operator’s previous authorizations in the same type(s) of aircraft will be considered qualified under this proposed rule provided they satisfactorily complete a training program acceptable to the Administrator addressing the differences between the previous FAR 135 operation and operations conducted under this proposed rule. Other testing and training due dates, grace periods, etc., will flow through into the proposed rule unchanged except where a change is mandated by a difference between the previous regulation and this proposed rule.

JUSTIFICATION FOR CHANGE

Four primary factors justify the proposed change:

1. Limited expansion and updating of Part 135's payload limitation to reflect the actual payload capability of certain aircraft *already operating* under FAR 135, but whose payloads are artificially restricted by current rules.

2. Additional expansion of Part 135 to capture modern, Part-25-certificated former regional airliners with design payloads up to 18,000 lb which are currently available (in many cases, facing continued deterioration in "dead storage" at various locations), at attractive prices.

3. Providing a "home" for those Part 125 operators using airplanes up to an 18,000 lb payload limit, who may not be able to comply with restrictions on operations under Part 125 as proposed in the ARC Work Group paper, and/or wish to "hold out" their services as common carriers as would be permitted under the revised Part 135; and for a limited (and steadily decreasing) number of current FAR 125 operators and aircraft with payloads from 18,000 to 30,000 lb.

4. Harmonizing the FAA Part 135/Part 121 dividing line with DOT's Part 298 certification limit: 18,000 lb as designed.

A number of additional factors militate in favor of this change:

A. INDUSTRY DEMAND/PUBLIC INTEREST

- Accommodating certain all-cargo Part 125 operators, a demand for whose services clearly exists, who currently operate in the gray area between “private carriage for hire” and “common carriage”

- As elaborated upon in the Part 125 Work Group position paper, the definition of “private carriage for hire” versus “common carriage” (or “holding out”) has been, and still is, one of the more confusing and misunderstood concepts in aviation law. There is no bright line test for making this distinction, which has made it especially difficult for Part 125

operators to determine whether they are "holding out by reputation." Part 121 operators disagree with Part 125 operators on whether the latter are "holding out" and thereby encroaching upon the 121 operator's domain. In fact, the confusion within the industry has, at times, been shared by the FAA and DOT.

- Certain Part 125 all cargo operators *cannot* operate within the proposed Part 125 limits (4 contracts/300 hours, for example) or transition to Part 121. These operators are relatively few in number; moreover the numbers of aircraft operated by these operators are also few in number (approximately 30) and fall within the payload range of 18,000 to 30,000 lbs., as configured (e.g. certain DC-6 freighters). Allowing these few operators to continue to operate under Part 135 – only those all-cargo airplanes listed on their Part 125 operations specifications as of June 24, 2004(see footnote 2 below) – will avoid their having to cease operations as well as avoid potential enforcement action over the issue of "private" vs. "common" carriage by DOT or FAA (which several of these operators are already facing or have faced). The expectation is that the remaining economic life of these aircraft is relatively short, and that they be phased out over time through attrition. Several have been withdrawn from service during the time this ARC was active. In these circumstances, the public interest does not favor a shutdown, but it does favor the continuation of service with these airplanes under a more clearly defined regulatory structure. This element of the public interest is also addressed in the Part 125 Work Group position paper.

- Additionally, there are Part 125 all-cargo operators currently operating aircraft in the 7,500 to 18,000 lb payload range (e.g. CV-5800[iii]) operators which no longer wish to operate under the private carriage for hire restriction in Part 125, as stated in the

Applicability Work Group position paper. These operators who elect common carrier status under Part 135 are willing to absorb the increased regulatory burden, certification and operating costs of Part 135 in return for the opportunities to serve the general shipping public. These transitioning Part 125 operators will be able to "hold out" their services to the shipping public without fear of enforcement action; the shipping public, in turn, will benefit from having additional carriers, with additional capabilities, in the marketplace from which to choose.

B. OTHER BENEFITS:

Aside from transitioning FAR 125 operators, the proposal to increase the payload limit from 7,500 lb to 18,000 lb, will benefit the small package express industry, as well as other shippers (couriers that support transportation of business documents, U.S. Postal Service contract flying, financial institutions, carriers that specialize in transportation of short-inventory auto manufacturing parts, etc.). All are experiencing significant growth, which in turn drives the requirement for increased payload capacity proposed in this proposed rule. There are two types of airplanes that fall into this category:

1. Those airplanes currently operating under Part 135 such as the Embraer Brasilia, capable of 8,500 lb payload but artificially restrained to 7,500 lbs. due to existing Part 135 limitations. In fact, these airplanes can now "legally" carry the weight as fuel – but not as payload. There are no sound safety or public interest reasons for these artificial restrictions.

2. Those Part 25-certificated former regional passenger airliners with design payloads up to 18,000 lb which are readily available for all-cargo service at attractive prices, such as the ATR-42 and -72 series.

- SAFETY: The operations and types of airplanes that drive this proposed rule embody some or all of the following features –

1. All operations included in this proposal will be conducted under the increased safety standards of FAR 135 as augmented by specific provisions of this proposal.

2. Two-pilot crews required by their type certification – a major safety "plus," considering that most airplanes in the current FAR 135 cargo fleet are operated single-pilot, including former 19-passenger turboprop "commuters" such as the Fairchild Metro and Beech 1900.

3. FAR 25-certificated systems and fail-safe damage-tolerant structures, or aircraft designed for transport service.

4. Thoroughly developed Maintenance and Structural Repair manuals.

5. Many aircraft in this proposal (including the EMB-120, SAAB 340, ATR series, Convair 5800, etc.) incorporate cockpit design and ergonomic benefits not available or practicable to retrofit in older aircraft, such as: Modern, extensively redundant instrumentation, including electronic flight instrument systems (EFIS) and autopilot/integrated flight control systems (IFCS); cockpit voice recorders (CVR) and flight data recorders (FDR); traffic collision avoidance systems (TCAS); modern, reliable, efficient powerplants; and cargo restraint systems based upon Supplemental Type Certificates compliant with recent standards. Although retaining this equipment for aircraft in cargo service "raises the bar" significantly, it is justified in the interest of safety.

6. For certain aircraft types, availability of advanced flight simulators for pilot training.

7. For newer aircraft types and certain older transport airplanes, significantly better parts availability and support from manufacturers than is provided for many aircraft currently in FAR 135 cargo service.

8. Aircraft certificated in the 7,500 to 18,000 lb design payload category may replace two smaller aircraft in package-express and financial document cargo operations – with clear safety benefits due to reduced number of takeoffs and landings, and less traffic in congested hub areas.

9. This proposed rule does not involve any changes to maximum takeoff or landing weights available to FAR 135 operators, or to certificated weights and performance for the airplane involved. The only change will be to the regulatory limit on maximum payload. FAR 135 operators now legally fly with a 7,500 lb maximum payload plus fuel or other non-payload items up to the certificated maximum takeoff weight – but they cannot take off with more payload (up to the certificated maximum zero-fuel weight) and less fuel, at the same total maximum weight. This artificial restriction on payload does not serve the public interest, nor does it improve safety.

Accompanying the increase in payload are changes in the proposed rule language to incorporate more stringent safety standards, paralleling provisions of Part 121, as described elsewhere in this proposal.

Together, these factors will not only produce an equivalent level of safety; they represent a proactive move to improve the level of safety.

- EVOLUTION OF THE AIRPLANE FLEET: Large numbers of 30- to 60-plus-seat former regional airliners – including modern turboprops – certificated to FAR 25 standards and incorporating recent avionics, instrumentation, and ergonomic technology, are now (and continue to become) available to the cargo-only market. Approximate payloads of these airplanes are shown above in this proposal. As to airplanes in the 18,000 to 30,000 lb FAR 125 group, there are only a limited number of aircraft (fewer than 30) eligible for operation under this proposal. However, it is essential that these airplanes be accommodated under FAR 135 (revised) for the reasons stated above and in the FAR 125 Applicability Working Group paper.

Nature of air operations currently being conducted under FAR 135: Twenty years ago, the current small package express market was virtually nonexistent. Today, major integrated air carriers, who also act as charterers and forwarders such as Federal Express, UPS, DHL, and others ship millions of packages for next- and second-day delivery all over the U.S. This has generated a major (and continuing) demand for "air feeder" service, in airplanes that transport packages delivered to major hubs by the parent carriers' large jet freighters, to smaller outlying communities in the morning. These same airplanes then carry packages shipped from the smaller communities back to the hubs in the evening, where they are loaded aboard the large jet freighters, flown to sort centers such as Memphis (FedEx), Louisville (UPS), and Cincinnati (DHL) for overnight sorting and redistribution. Similar growth has been experienced in U.S. Postal Service, air courier, and financial document transportation requirements.

FAR 125 interests: "Just in time" manufacturers' inventory practices (especially in the auto industry) have created a requirement for various sizes of aircraft to be available on a moment's

notice. These operators should be able to freely hold out to the public and not be constrained by the proposed four-contract/300 hour FAR 125 limitation.

Additional factors favoring the change:

- For airplanes in the 7,500 to 18,000 lb design weight category, the proposed rule will harmonize applicable FAA regulations with Department of Transportation's Part 298 standard by applying an 18,000 lb maximum payload design criterion to all-cargo operations under FAR 135. It is recognized that operations with airplanes exceeding this design weight limit will, under current DOT regulations, require a Certificate of Public Convenience and Necessity.

- Plentiful and continuing supply of airplanes in the 7,500 to 18,000 lb design payload category: EMB-120, ATR-42 and -72, SAAB 340, etc. airplanes are currently available at attractive prices, having been removed from service and stored as regional passenger carriers move to jets. Although specific numbers vary from day to day as airplanes are bought, sold, and leased, as of this writing more than 70 EMB-120s, 40 ATR-42 and -72 airplanes (which, along with the DHC-8 series are still in production), and 70 SAAB 340s are parked and available for conversion into freighters. A continuing supply of these airplanes over the next few years is assured by the ongoing trend toward jet equipment by regional airlines.[iv] Because of their popularity (and certain unique capabilities) significant numbers of DHC-8-series aircraft have not yet appeared on the used market at prices compatible with all-cargo conversion – although they too will eventually become available. These modern turboprop airplanes will remain in storage or be placed in storage if prospective operators are required to absorb Part 121 certification and increased operational costs. The longer these airplanes sit in storage, the more they will

deteriorate—and the more costly (and impracticable) they will be to recommission. Thus, this fleet of aircraft represents a finite source that will not be endlessly available.

- To take advantage of this valuable resource, Part 135 as revised to include an 18,000 pound payload standard and incorporate more stringent safety standards, can provide benefits outlined herein which are commensurate with the cost of adding these aircraft to a Part 135 certificate and operating them. The number of airplanes in the FAR 125 18,000 to 30,000 lb-configured payload group in this proposal is limited and will continue to decrease over time.

- The cost-benefit balance of the limited increase in payload capacity proposed by this proposed rule, weighed against the current cost of initial certification and ongoing operation under FAR 121 clearly favors the proposed rule language. The economics of markets served by these aircraft will not bear the initial certification and continuing infrastructure costs of FAR 121 (five versus three FAR 119-mandated high-salary managers, to cite only one example). If FAR 121 is the only option, the shipping public will never see the economic benefits associated with use of the more modern airplanes in the 7,500 to 18,000 lb design payload category . . . and most airplanes in the 18,000 to 30,000 lb payload configuration group are ineligible for operation under current FAR 121.

- There is a need to provide a home for (and avoid shutdown arising from current and pending enforcement actions against) the limited number of Part 125 operators and their fewer than 30 all-cargo airplanes in the 18,000 to 30,000 lb payload capacity range (as configured). These operators cannot economically operate under the "four contract" standard being imposed by DOT, will not be able to do so under Part 125 with revisions

currently envisioned, cannot comply with existing Part 135 (or an amended Part 135 incorporating an 18,000 lb payload design standard), and cannot transition to Part 121. The few airplanes in the FAR 125 18,000 to 30,000 lb-configured payload group in this proposal is limited and will be phased out over time by attrition.

- Cargo-only operations under FAR 135 are uniquely different from passenger service, or from cargo FAR 121 operations: Many of the flights occur at relatively low-traffic times of the day; service is provided to smaller communities with smaller airports, flying shorter airborne legs.

- Current FAR 125 operators coming into FAR 135 become subject to drug and alcohol testing requirements, which further enhances safety.

- There are already several operators who have demonstrated their ability to conduct safe, reliable operations under FAR 135 with large ex-regional-airline turboprops, at their full maximum takeoff and zero-fuel weight limits, carrying fuel instead of payload. However, their inability to use their airplanes' maximum payload capability (on routes where fuel requirements permit it) damages the economic viability of those aircraft, does not serve the public interest, and does not enhance safety

In short, this proposed rule will grant the air cargo industry access to more modern, reliable, inherently safer airplanes, and provide a regulatory alternative for a limited number of larger capacity airplanes currently operating under FAR 125. It will help address capacity issues currently troubling overnight package express and air courier companies, which in turn touch business, industry, health care, individual citizens, and the economy as a whole. Fewer, larger airplanes, lighten burdens on the airspace system. More modern, fuel-efficient engines move a given amount of freight with fewer noise and pollution consequences.

TIMETABLE

If relief were available now to increase payloads for current FAR 135 operators from 7,500 to 18,000 lb, industry would go to work immediately to use it. A number of aircraft that would be eligible for relief under this proposed rule are currently in operation but economically hobbled by the 7,500-lb payload restriction. This group is known to include at least 21 Shorts SD-360s, seven Embraer EMB-120s, and three SAAB 340s as of this writing. Each of these aircraft types is penalized by 500 to 1,000 lb of payload under the current rules. A number of operators would expand their fleets to include ATR-42 and -72 aircraft, if the relief in this proposed rule became available. A few FAR 121 operators of these aircraft would have the option of changing to FAR 135 in accordance with this proposed rule.

FAR 135 operators intending to operate airplanes in the 7,500 to 18,000 lb payload category regard this issue to be urgent – and more so for current operators of these aircraft – for practical and economic reasons. This prompts the need for an interim recommendation to proceed by the most expeditious practicable means to provide the relief contained in this proposal, prior to completion of final action by the ARC.

For the Part 125 operators this issue is also extremely urgent, as many of these operators have had to limit their revenue flying due to imposition of "four customer" limits by DOT. In several cases, the companies have ceased operations entirely because this limitation has made their operation economically unviable. In one case financial pressure forced an operator to park his newer transport category airplane and return to a 60-plus-year old Aero Bulletin 7A-certificated DC-3. Several operators will soon be grounded by the December 31 TCAS rule, because they

are uncertain that they will be allowed to continue to operate if they make the investment in the new equipment.

If the expedited relief proposed by this subpart is not made available, these operators, too, will disappear – displacing hundreds of employees. Their airplanes are not eligible for operation under FAR 121. There is a definite demand for their unique services, but timely implementation of this proposed rule is needed.

In short, time is of the essence for both practical and economic reasons, for both the FAR 135 and 125 operators. Expedited relief, available more quickly than will occur in the course of the normal rulemaking process, is vital.

ADDITIONAL CONSIDERATIONS

An important benefit of a payload increase for FAR 135 is that it would encourage a number of current FAR 125 commercial operators of large airplanes to convert to FAR 135, and in the process eliminate issues as to whether their services are properly characterized as "private carriage for hire" or "common carrier" operations – a distinction which turns upon whether the operator is holding out to the public (common carrier) or not (private carrier for hire). The regulatory agencies with jurisdiction (FAA and DOT) may not agree in all cases as to the proper application of these concepts. Current Part 125 operators deserve to be able to understand the rules, to facilitate their compliance with them.

It is worth repeating that in a separate recommendation, Part 125 is being revised to clarify what is (or what is not) "holding out to the public"; however, that recommendation recognizes that some operators may not be able to operate within its "safe harbor" standards – or those operators' aircraft, although falling within the 7,500 to 18,000 lb design payload criterion,

may not be suited to operation under FAR 121 from an economic, technological, and operational standpoint.

As to airplanes in the 18,000 to 30,000 lb configured payload limit, the Part 125 Applicability Work Group has recognized that these operators cannot effectively continue within the limits proposed for all-cargo private carriage for hire in Part 125 (revised) – and their (approximately 30) airplanes are ineligible to operate under FAR 121. Accommodating these all-cargo operators under revised Part 135 preserves a class of operator whose services are in demand, and at the same time enhances safety by subjecting their operations to the increased safety standards and surveillance of FAR 135 (revised). In all cases, responding to the shipping public's demands by providing transportation alternatives furthers the public interest.

Effects on industry and operators have been stated above. Although some training burden would devolve upon the FAA, passenger or cargo operators are currently using each of the aircraft types (including regional turboprops already mentioned) addressed by this paper; a cadre of inspectors capable of supporting and providing effective surveillance of these operators is thus already available, and training facilities are available to the FAA as well as the operators. The net effect, for both the Agency and the operators, involved will be an equivalent (or better) level of safety, improved service, growth opportunities, and significantly reduced long-term administrative responsibilities compared to similar operations conducted under FAR 121. These benefits will ultimately accrue to the shipping public.

Transportation Security Administration (TSA) ramifications will be minimal, as most operators who will utilize this proposed rule are already subject to TSA Twelve Five Standard Security Program (TFSSP) requirements, or are not required to have a program.

In the case of the 7,500 to 18,000 design payload airplanes, this proposed rule will also harmonize “large aircraft” cargo payload limits with DOT's Part 298 definition.

ANCILLARY EFFECTS OF THIS PROPOSED RULE

The main effects of this proposed rule have been stated above: The public and U.S. business impact will be improved air cargo capacity, service levels, and pricing. After relatively simple administrative activity to implement the proposed rule for operators requesting it at the district office level, little change in FAA workload (compared to the same operations under FAR 121) is to be expected. Since these operations are chiefly within the U.S., no international consequences should arise.

An important public policy benefit is that virtually every cargo operator under FAR 135, and current 125 operators eligible for the FAR 125-to-135 transition, qualifies as small businesses, so this proposed rule has the effect of fostering small business.

ECONOMICS

The economic investment required to implement the limited increase from 7,500 to 18,000 lb design payload capacity proposed in this proposed rule will be significantly less than that required to accomplish the same result via FAR 121 certification and operation. For these airplanes, the chief economic impact of this proposed rule will be availability of more modern, more capable aircraft without the initial and ongoing economic burden of FAR 121 certification and operation, which would likely prevent many otherwise-capable operators from acquiring and operating these airplanes.

Additional training requirements for both flight and maintenance personnel will arise from this proposal. In terms of flight crew training, costs will range from as low as $300 per hour to rent simulator time with the operators' own instructors, to more than

$10,000 per pilot for fully-contracted-out ground and simulator training. Maintenance training costs are much more difficult to quantify, but could be estimated at $500 to $2,000 per person for initial qualification.

Some additional costs will be incurred by retaining/maintaining equipment not normally required for FAR 135 cargo operations (TCAS, CVR, FDR, IFCS, etc.); these costs are difficult to estimate and will vary among aircraft types. They are mitigated somewhat by the presence of the equipment in aircraft removed from passenger service, so new installations (with their attendant cost and certification issues) will not be necessary.

Pending and potential enforcement action has already forced some FAR 125 operators out of business, or required them to significantly truncate their activity. The 18,000 to 30,000 lb configured payload category aircraft are looking at an uncertain future; FAR 121 is simply not an option for them. Therefore, this proposed subpart preserves the economic viability of their businesses and avoids disruptive consequences for those using their services (notably the auto industry) that have built their "just-in-time" inventory methods around access to Part 125 operators.

All other economic consequences foreseeable at this time appear positive – long-term reduced costs to operators and the FAA, and improved service to the public.

UNINTENDED CONSEQUENCES

It has been asserted that allowing FAR 135 operators to operate above the current 7,500 lb payload limit would give them an unfair advantage over existing operators who have already made the investment in time and money for FAR 121 certification. The safety, public interest, and economic benefits of this proposed rule proposal clearly outweigh any perception of unfairness by some operators, most of whom have long since discharged their initial costs of

FAR 121 certification – obtained, in most cases, in earlier times when certification costs were much lower.

This proposed rule would not compel current FAR 121 operators to operate airplanes with maximum payloads below 18,000 lb under Part 135; such operators may continue to operate under FAR 121, thus addressing the interests of certain operators in Alaska.

ADDITIONAL NOTES

Aging aircraft inspections not required on FAR 135 aircraft: Aging aircraft inspections are addressed in FAR 135.422 and .423. Compliance is a requirement for FAR 135.411(a)(2) operators and required in this proposed rule.

Duty time limitations for maintenance personnel: Not required by FAR 135; current evidence does not indicate that this is a significant safety issue; this subject may be addressed in the Flight-Duty-Rest subgroup.

Bulletproof [cockpit] doors, separation from cockpit and other "people compartments," other security measures: Operators of aircraft subject to this proposed rule will be required to comply with the TSA's "TFSSP" security program. All personnel aboard cargo aircraft are subject to security screening according to the operators' approved TFSSP – so there is no practical reason to have bulletproof cockpit doors. We believe this is fundamentally a TSA, not an FAA issue.

Fire detection and suppression requirements: Aside from a few FAR 125 aircraft eligible for "grandfather" provisions under this proposed rule, modern aircraft are required to meet fire detection and suppression requirements (or have "Class E" compartments where fire suppression systems are not required by FAR 121).

Requirement for GPWS: Not currently required for freight aircraft. Some operators (of current FAR 135 freighters) have elected to provide it. Future regulations do, or may require it.

Cockpit safety checklist: Currently required by provisions of FAR 135.83.

Personal Breathing Equipment: Smoke masks and walkaround oxygen masks are required by cargo conversion STC or applicable certification regulations.

Reliability program: Continuing Analysis and Surveillance programs are required by FAR 135.431, a requirement of FAR 135.411(a)(2) programs, and required in this proposed rule. If the reference is to "maintenance by reliability" programs, these are optional – not required – for FAR 121 operators.

FAR 119 mandated management personnel:

DIRECTOR OF SAFETY – Not required, but encouraged for FAR 135 operators; some operators currently have directors of safety, or persons with equivalent responsibilities.

CHIEF INSPECTOR – Although not a required position for FAR 135, FAR 135.429 mandates inspection personnel and functional separation between production and inspection activities. FAR 135.429 is a requirement for FAR 135.411(a)(2) operators, and required in this proposed rule.

MINORITY POSITION

Submitted by the Air Line Pilots Association, International (ALPA)

November 12, 2004:

ALPA maintains our strong opposition to any proposed increase above the 7,500 pounds useful payload for cargo-only aircraft operated in FAR Part 135 (APP-32). Furthermore, we oppose an operational restriction that artificially limits the payload on cargo-only aircraft to the 7,500-pound weight for the purpose of avoiding the increased margins of safety afforded by FAR Part 121. These actions result in a reduced level of safety. ALPA’s emphasis is continuing the FAA’s One Level of Safety program established in 1995.

February 22, 2005:

While ALPA applauds the opportunity for significant growth in the all cargo commuter segment of the industry, there are concerns that the proposed changes in this recommendation document encourage a lesser level of safety. The information provided to ARC members during the discussion of proposed rule changes states that the intent is to allow operators the capability to operate and maintain the newer turbo-propeller aircraft that are currently not being used and available to the market. ALPA is not opposed to incorporating these newer aircraft into the fleets of the small cargo operator. However, it is our position that aircraft with a useful payload in excess of 7,500 pounds should continue to comply with Part 121 regulations.

In 1995 "The Commuter Rule" moved passenger commuter aircraft operations for aircraft having a seating capacity of more than nine seats from Part 135 up to Part 121 regulatory standards. (Note: Cargo operations for these aircraft were already required to be operated in Part 121.) Wishing to incorporate the latest in technology and performance, manufacturers designed commuter aircraft with complexity equal to or greater than most of the large transport category aircraft being operated by today's Part 121 major airlines. Recognizing that Part 135 requirements were inadequate to ensure an ongoing margin of safety for these aircraft, the FAA required they be operated under the Part 121 regulations. This change has been highly successful in the pursuit of the FAA's "One Level of Safety" throughout the commercial airline industry and has benefited all parties concerned.

The original certification of these aircraft for passenger service further compelled the FAA to believe that adequate public safety could not be maintained unless operated to Part 121 standards. Now the industry, through the Regional Air Cargo Carrier Association (RACCA) is contending that without passengers these same aircraft should be allowed to default back to Part 135 standards. The suggestion that cargo and passenger aircraft operations are separate and

different is inappropriate. The only fundamental difference is the type of revenue, passengers or cargo, being carried. Most all cargo carriers operate the same type aircraft, in and out of the same airports and airspace as their passenger counterparts. Cargo aircraft operate during a broad range of hours and into more austere and remote environments exposing them to a much higher risk. With the past and projected growth of the all cargo sector, the belief that public safety concerns are minimized, with a reconfiguration to cargo, is out dated.

Since discussions have begun on this issue, there have been at least 5 major all cargo aircraft accidents in North America (one MD10, one B747, and three Convairs).

From 1984 to present, the U.S. National Transportation Safety Board has conducted at least 38 accident investigations involving cargo operators. Those accidents represent **more than 170 deaths** and more than **60 serious injuries** both in the airplane and on the ground. Excluding ramp, turbulence, and runway incursion events, a recent study of aircraft accidents in the United States by the Commercial Aviation Safety Team (CAST) revealed that Cargo Operations maintain an accident rate 5 times greater than Passenger Operations. FAA statistics between 1994 and 2003 show cargo operations accounted for only 6.3% of total flight departures. When considering regulatory changes that solely impact the cargo sector, the high accident rate within relatively low overall system utilization cannot continue to be ignored.

ALPA is committed to safety improvements in the all cargo sector. The Association substantiates this commitment through continued teamwork with agencies and organizations around the world identifying those factors that indicate safety compromises. Over the past few decades, cargo operators have maintained aggressive worldwide expansion. The Boeing World Air Cargo Forecast 2000/2001 report validates this by stating; “During the next 20 years, the freighter fleet is expected to double” and “it is not surprising that forecasts anticipate the addition of more than 2,600 freighter airplanes by 2019." This aggressive growth with the previously

stated accident probability that is 5 times greater than the passenger sector clearly predicts the potential for unsatisfactory safety performance in future cargo operations. ALPA believes until the cause of the higher accident rate among cargo aircraft is identified and rectified, it would be premature to move any aircraft types out the enhanced safety structure of Part 121. Additionally, making ANY changes without due diligence and complete study would further exacerbate an already dismal safety record.

The following considerations need to be reviewed in the Regional Air Cargo Carrier Association's (RACCA) effort to justify their proposed regulatory changes.

- This proposed change would group together Part 125 all cargo operators and these "smaller" former Part 121 aircraft operators in one operating rule.
- RACCA's statement in this proposal's request to voluntarily "increase" these operators is for operational, economic, and regulatory efficiency and flexibility.

RACCA's contention this "increase in burden" only applies to approximately 30 Part 125 aircraft, while ALPA contends over 3000 other Part 121 aircraft would potentially be allowed to significantly decrease the safety criteria stipulated by Part 121. ALPA's assessment of the RACCA proposal to move these aircraft from Part 121 to Part 135 is primarily motivated by their frustration with the Certification, Standardization and Evaluation Team (CSET) in their "quickest path to revenue".

In an effort to justify their proposal, RACCA continues to cite the FAA's CSET process as being financially burdensome and time consuming. If time and cost issues are the real problem with the CSET process, then perhaps it is these issues that need to be corrected. If properly addressed, fixing the problems in the CSET process will allow these aircraft to be safely operated and maintained under Part 121. This would yield a more prudent solution for all, without subjecting the FAA to an unknown prohibitive level of new regulatory supervision, oversight,

and enforcement. Unfortunately, if this rule change is allowed, significant economic and lack of personnel burdens will be placed upon the FAA since they will now be required to implement, supervise, and enforce this new program at the National, Regional and local FSDO level.

To date, we are unaware of any formal studies that have been completed by industry or government regarding the financial impact to the public based on what would be required of the FAA to implement, supervise, and enforce the changes requested in this proposal. While it might be economically advantageous for some certificate holders, it will be very difficult for the FAA to significantly increase their personnel, as they are already operating under budget and manning constraints in the current fiscal state of the Federal government.

The safety gained by operating under Part 121, a proven regulatory structure, should not be compromised by major changes (e.g., economics) that have not been properly studied. Creating this new undefined level of safety in Part 135, without a detailed study of the outcome to industry and government, could result in unsafe consequences. This study is well beyond the scope of the ARC. Research into the accident rates is being addressed at the highest levels of the FAA, the NTSB, Safety Foundations, Aviation Organizations and Industry Associations around the world. These experts need to be allowed to finish their analysis and make their recommendations prior to any consideration or action on unsubstantiated economic arguments.

This proposal continues to be presented as a combining of the proposal to change Part 125 (APP-39) with the RACCA proposal because they state the older aircraft of Part 125 will not be able to operate in Part 121 they should be placed into Part 135. ALPA disagrees these two documents (concepts) should be combined since they involve separate operations. We understand there are some of the airplanes flying today under Part 125 that would not be able to meet Part 121 regulations. However, this does not equate to opening up entire fleets to be moved from Part 121. These older airplanes currently being flown under the current Part 125 could be

operated in Part 135 by assignment until they are either no longer airworthy or change operating certificate. When this occurs, the airplanes would lose their ability to be operated under Part 135.

(APP 39A)

FAA Note: Regulatory changes proposed to part 125. Additional regulatory language may have to be developed in part 119 to support this recommendation and APP 32.

Part 125 Structure and Definition

A. References

1. Proposal to Upgrade Regulation of Certain Large General Aviation Airplanes and replace Commercial Operator and Air Travel Club Regulations, Notice No. 79-10, 44 Fed. Reg. 6324 et seq. (November 19, 1979) (hereinafter the "125 NPRM")

2. Certification and Operations Rules for Certain Large Airplanes; Establishment of Part [125] and Miscellaneous Amendments to Existing Regulations, New Part 125, 45 Fed. Reg. 67214 et seq. (October 9, 1980) (hereinafter the "125 Final Rule")

3. AC 120-12A – Private Carriage vs. Common Carriage of Persons or Property dated April 24, 1986

4. AC 125-1 – Operations of Large Airplanes subject to Federal Aviation Regulation Part 125 dated January 22, 1981

B. Expanded Statement of the Issue: Whether and under what conditions should private carriage for hire passenger and cargo operations be retained under Part 125. A principal

related issue is whether an objective standard can and should be developed to determine that an operator is not "holding out" by gaining a reputation for willingness to serve the traveling public or shipping public indiscriminately.

C. Objective: To retain Part 125 for "non-common carriage" operations as defined in 119.3(a) (to be re-defined per this proposal as "private carriage for hire") and provide an objective standard for a Part 125 certificate holder to determine that it is not "holding out by reputation." A related objective is to provide relief for those Part 125 certificate holders which cannot take advantage of the "safe harbor" recommended herein for private carriage for hire operations, and whose aircraft cannot technically or economically transition to Part 121 and/or Part 135 (as these parts may be amended as a result of this ARC, including a proposal to increase the maximum payload capacity for all cargo operations to 18,000 pounds); this relief is limited to those aircraft having payload capacity not greater than 30,000 lbs, as configured, and listed on the affected 125 certificate holder's Ops Specs (by serial number) as of June 24, 2004. which aircraft shall be operated under the on-demand rules of Part 135 in cargo only operations. From a timing standpoint, the objective is to adopt this recommendation on a fast track basis through an appropriate FAA process.

D. Current Regulations

1. Section 119.23 provides in pertinent part:

"119.23 Operators engaged in passenger-carrying operations, cargo operations or both with airplanes when common carriage is not involved."

"(d) Each person who conducts operations when common carriage is not involved with airplanes having a passenger-seat configuration of 20 seats or more . . .

or a payload capacity of 6,000 pounds or more shall, unless deviation authority is issued—

(1) Comply with the certification and operations specifications requirements of Part 125 of this chapter;

(2) Conduct its operations with those airplanes in accordance with the requirements of Part 125 of this chapter; and

* * * * *

2. §119.3(a) provides in pertinent part:

"§119.3. Definitions. For the purpose of subchapter G of this chapter, the term—

"When common carriage is not involved or operations not involving common carriage means any of the following:

(1) Noncommon carriage:

* * * * *

"*Noncommon* carriage means aircraft operations for compensation or hire that does not involve a holding out to others." (Emphasis supplied)

3. §125.1 provides in pertinent part:

"§125.1 Applicability

"(a) Except as provided in paragraphs (b), (c), and (d) of this section, this part prescribes rules governing the operations of U.S.-registered civil airplanes which have a seating configuration of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more when common carriage is not involved." (Emphasis supplied)

4. Section 125.11 provides in pertinent part that

"§125.11 Certification eligibility and prohibited operations

"(b) No certificate holder may conduct any operation which results directly or indirectly from any person's holding out to the public to furnish transportation"

Recommendation:

Adopt the proposed amendments to Parts 119 and 125 on a fast track basis through an appropriate FAA process to retain Part 125 and eliminate the grey areas governing private carriage for hire operations under Part 125. This recommendation also contemplates (a) enhancing the safety standards in Part 125 by incorporating appropriate provisions of Part 121 (applicable to supplemental air carriers) and Part 135 (currently being considered by the Operations Working Group), (b) conforming FAA guidance materials, including guidance relating to the "safe harbors" created by the proposed amendments to avoid "holding out by reputation," and (c) developing to permit continuation of operations by certain Part 125 all cargo operators under an amended Part 135, limited to aircraft specified in paragraph C which operators cannot comply with either an amended Part 125, as proposed herein, or existing Part 135, or transition to Part 121 rules, as may be amended through the ARC process.

Justification for Recommendation:

Part 125 was adopted over 23 ½ years ago. The FAA's stated purpose was to "establish a uniform set of certification and operation rules for large airplanes having a seating capacity of 20 or more passengers and a maximum payload capacity of 6,000 pounds or more" (125 Final Rule) with safety standards appropriate to the size and complexity of these airplanes. The rule applied to the use and operation of these airplanes "for any purpose other than common carriage" (125 Final Rule). This embraced "private carriage," i.e. passenger and cargo operations where no charge or fee is involved as well as "private carriage for hire" where passengers and cargo are

transported on a commercial basis (i.e. for compensation and hire) without any "holding out" of such service to the general public.

As a general proposition, a Part 125 operator cannot "hold out" its services through advertising, solicitation, and use of brochures or by reputation. In the event of a "holding out" the resulting commercial operations would be considered "common carriage" subject to the certification and operational rules of Part 121 (and, in certain cases Part 135) and subject to the certification requirements of the Department of Transportation which would undertake a fitness review—i.e. an examination of the operator's management, operational and financial qualifications and its compliance disposition.

As the agency gained experience with Part 125, it issued deviations in appropriate cases to authorize "private carriage" operations with Part 125 size airplanes. In fact the FAA's deviation policy for private carriage has now become the rule rather than the exception with no adverse safety consequences. As a result, the ARC is recommending that "private carriage" operations with Part 125 size airplanes be removed from Part 125 and regulated under enhanced safety standards in Part 91.

Private carriage for hire operations have continued to be regulated under Part 125. Moreover, since the adoption of Part 125, the demand for the specialized services of these operators has grown among sports teams and entertainment groups. Also, the distribution system for automotive parts—which are a major source of business for the Part 125 all-cargo operators—has changed. Whereas, in the past, the automobile manufacturers were limited in number and dealt directly with Part 125 operators, today the transportation of auto parts is arranged through intermediaries a/k/a logistics companies acting on behalf of an increased number of automobile manufacturers. These marketplace developments have resulted in a heightened interest among the regulators and the Part 121 common carrier community over the

limits of private carriage for hire and when, if even, an operator crosses the line into common carriage.

What constitutes "private carriage for hire" versus "common carriage" (or "holding out") has been, and still is, one of the more confusing and misunderstood concepts in aviation law. There is no bright line test for making this distinction which has made it especially difficult for Part 125 operators to determine whether they are "holding out by reputation." Within the aviation industry there is a disagreement: Part 121 operators disagree with Part 125 operators on whether the latter are "holding out" thereby encroaching upon the 121 operators' domain. In fact, the confusion within the industry has, at times, been shared by the FAA and DOT.

While the FAA has attempted to clarify the concept of private carriage for hire, its well-intentioned efforts have added to the confusion. For example, AC 120-12A, on page 4, establishes the general principle that "private carriage for hire is carriage for one or several selected customers, generally on a long term basis," where the "number of contracts must not be too great, otherwise it implies a willingness to make a contract with anybody." The AC goes on to state that three (3) contracts is probably permissible which would result in avoiding a "holding out by reputation" whereas 18 to 24 contracts is impermissible and would result in common carrier status. From the operator's standpoint the gap between 3 contracts and 18 contracts is gaping, and it should not have to conduct business in this "grey area."

What has brought this matter to a head is that over the past 2 years, DOT has initiated several investigations of Part 125 operators which DOT believes are "holding out" and have crossed the line between private carriage for hire and common carriage. The principal segments of the Part 125 community that have been the subject of these investigations are the automotive parts operators and the Part 125 operators carrying sports teams and entertainment groups.

As a result of this confusion as well as DOT's enforcement efforts the Applicability Working Group has reached consensus on a proposal that would inject a degree of objectivity into what is a permissible Part 125 private carriage for hire operation as distinguished from a "holding out." The focus has been on (i) avoiding a "holding out by reputation," and (ii) the use of brokers to arrange transportation of auto parts, both of which seem to be the most pressing issues for the Part 125 operators as well as the regulators.[3]

This proposal addresses the "holding out by reputation" dilemma by—

(1) Defining "Private Carriage for Hire" and "holding out by reputation" to provide an appropriate frame of reference for Part 125 certificate holders to conduct business.

(2) Within the above frame of reference, developing "safe harbors" for operations that would not be deemed to have resulted from or considered "holding out by reputation" and, therefore, would constitute lawful private carriage for hire.

(3) The safe harbor would permit up to four (4) written contracts in a calendar year subject to a 300-hour limitation in the aggregate for such contracts.

(4) Another safe harbor would be created for written contracts with up to three (3) affiliates of the Part 125 operator. The affiliate contracts would not be subject to the 300-hour limitation. While "affiliates" has been broadly defined—borrowing from the definition of "Affiliate of a program manager" in the Subpart K fractional ownership rules (§91.1001(b)(1))—the number of affiliates in the Part 125 safe harbor rule has been capped at three (3) per calendar year.

(5) Part 125 operators which intend to limit their operations to a single written contract would not be subject to any hour limitation and could have up to 3 affiliate contracts as defined in (4).

[3] "Holding out" through advertising and/or direct solicitation normally does not fall into a regulatory grey area.

(6) In recognition of Alaska's traditional dependence on air service especially to transport fuel to the outlying villages, those Part 125 operators hauling fuel for third parties within the State of Alaska would not be subject to any hourly limitation on such operations.

(7) Accomplish items (1) through (6) on a fast track basis through an appropriate FAA rulemaking process.

This proposal contemplates all cargo operations under an amended Part 135 of aircraft having a maximum payload capacity, as configured, of 30,000 lbs or less listed on the operator's Part 125 Ops Specs on June 24, 2004. The objective is to provide limited relief through an appropriate SFAR for existing all cargo Part 125 certificate holders as explained above with the expectation that such aircraft will be phased out over time. The applicability working group has identified approximately 30 all cargo aircraft will fall within this SFAR.

This proposal also addresses the "broker" issue which arises mainly in the transportation of automotive cargo where, as previously mentioned, logistics companies arrange the transportation on behalf of the customers, including the auto manufacturers. The proposed amendments permit a Part 125 certificate holder to do business with an intermediary if such intermediary acts as an agent for the customer, and the Part 125 operator contracts directly with the customer or with the agent if it has authority to sign the contract on behalf of the customer. Here, of course, the number of customer contracts would be limited to take advantage of the safe harbor rules discussed above.

The proposed rule also contemplates that the safety standards in existing Part 125 will be enhanced by incorporating appropriate provisions of Part 121 applicable to Supplemental Air

Carriers and Part 135. These standards are the subject of separate papers being generated by the Operations Working Group.

The decision to retain Part 125 for private carriage for hire operations with large (20 seats or more/6,000 pound payload or more) was thoroughly vetted, including a special break-out session of the Applicability Working Group to consider this precise question. This decision recognizes that private carriage for hire, albeit a niche form of commercial air service, has a valuable role in the marketplace, and there is no safety-related reason to do away with Part 125.

Alternatives considered were rescinding Part 125 and regulating the commercial operations permitted by Part 125 under a separate subpart of Part 135. However this alternative was rejected as exalting form over substance, because the main issue of what constitutes "private carriage for hire" and/or "holding out by reputation" would remain. Another alternative considered regulating existing Part 125 operations under Part 121. This alternative was rejected because certain Part 125 operators have a business model based on private carriage for hire operations and do not want—or need—the ability to "hold out" their services to the public as a common carrier with the attendant administrative and cost burdens associated with Part 121 certification and regulation as well as DOT certification. Thus it was determined that these operators should not be compelled to change their business model based solely on regulatory, non safety-related, concerns.

As noted above, it is recognized that some Part 125 operators may not be able to operate within the safe harbors created by this proposal. Moreover from a technological, operational and economic standpoint their aircraft may not be suitable for operations under Part 121. A possible alternative for Part 125 all-cargo operators only may be certification under Part 135 in the event that the maximum payload limit is increased from 7,500 pounds to 18,000 pounds as is being

proposed in this ARC. Another Part 125 alternative is provided through the SFAR process described above for certain all cargo aircraft, which are expected to be phased out over time.

Finally during the deliberations on this proposal the Department's representatives pointed out that, while there is no express U.S. citizenship requirement for Part 125 certificate holders in Parts 119 or 125, the governing statute administered by DOT, 49 U.S.C. §41701(c) and DOT regulation, §375.25, would, inter alia, prohibit private carriage for hire operations with "foreign civil aircraft" between two (2) U.S. points (i.e. cabotage) and require licensing for such operations to/from the U.S. A "foreign civil aircraft" is defined in §375.1 of DOT's regulations to include any "U.S.-registered aircraft owned, controlled or operated by persons who are not citizens or permanent residents of the United States." (Emphasis supplied.) As such the DOT representative cautioned that if a Part 125 certificate holder did not qualify as a U.S. citizen as defined in 49 U.S.C. §40102(a)(15) as amended by Vision 100 – Century of Aviation Reauthorization Act, Pub. L. 108-176, §807, 117 stat. 2490 (Dec. 12, 2003), its U.S.-registered aircraft would be considered a foreign civil aircraft and private carriage for hire operations (as well as common carrier operations) performed with aircraft domestically would be prohibited as cabotage, and such operations to/from the U.S. would require DOT licensing.

Steering Committee Review: ALPA would like it recognized that, while they agree to this concept for Part 125 Private Carriage for Hire operations, that does not mean that they agree to any other changes [specifically the raised cargo payload] indirectly. The Steering Committee recognizes that ALPA has not agree to other changes due to their approval of this document.

(APP 39B) Part 125 Safety Improvements

FAA Note: Regulatory language will need some editing. Recommendations copied into regulatory language section.

Executive Summary

Questions regarding the viability of FAR Part 125 operations were attached to the 135 ARC due to lack of standardization and definition of Private Carriage for Hire. Operators, their customers and regulators have been confused regarding the scope of permissible Private Carriage activity as contrasted with Common Carriage. Typical Private Carriage operations are unique in their mission and aircraft configuration and operate in small niche markets. Since the inception of Part 125 these certificate holders have experienced an exemplary safety record nearly unmatched in aviation history. Developing new regulations in FAR 135 or 121 Supplemental would require duplication of unnecessary efforts. The retention of FAR 125 for the continuation of Private Carriage for Hire activities has provided a logical starting point for operator safe harbors which will now determine permissible scope of these operations as well as defining what is not holding out, either by reputation or course of conduct.

Discussion:

The approval of Recommendation Document "Applicability 39" contemplated "that the safety standards in existing Part 125 will be enhanced by incorporating provisions of Part 121 available to supplemental air carriers and Part 135." The following are the safety enhancements to Part 125, which the Applicability Working Group (AWG) believes are appropriate. It is noteworthy that the safety record for Part 125 operations is exemplary (no fatal accidents have occurred since the inception of Part 125). Moreover these changes reflect a "practice to rule" concept similar to the regulatory approach, which led to the adoption of subpart K and the related amendments to Part 135.

1. Reference: section 125.3, Deviation Authority.

   Section 125.3 has been retained with the understanding that (i) deviations will be limited to "specified sections," as stated in section125.3 (b), and (ii) this provision, as

a matter of policy, will not be used for full deviation from Part 125 in order to operate under Part 91. In furtherance of this expectation, it is recommended that:

"Paragraph (b) (5) of section 125.1 shall be deleted."

Cost Impact: Neutral

2. Reference: Required Management Personnel

Paragraph (a) of section 125.25 shall be amended by inserting "and director of maintenance" between "director of operations" and the ",".

Rationale: Current Part 125 operations require a director of operations who may also serve in the dual role of director of maintenance. The AWG believes that the addition of a director of maintenance-- even for a single aircraft operation-- is appropriate and will enhance safety.

Cost Impact: Addition of Director of Maintenance anticipated to cost $100,000.00 USD including benefit and initial training.

3. Reference "new" section 125.402—Retention of Contracts

Adopt a new 125.402 to read as follows:

"the contracts referred to in section 125.31(b)(6) shall be retained for 12 calendar months after the current calendar year".

Rationale: This will facilitate inspection and enforcement of the "safe harbor" provisions in revised Part 125 relating to the number of contracts and limitations thereon.

Cost Impact: Administrated expenses estimated at $200.00 USD per year.

4. Reference: Oxygen Use Requirements for Crew and Passengers

a. For crewmembers, add a new section 125.335, "Pilot Requirements: Use of Oxygen", which will include the content of section 135.89 and the amendments proposed in Ops 27.

Rationale: FAR Part 125 is silent on this subject. This new requirement is similar to provisions of Parts 121 and/or 135, which the "AWG believes are appropriate and will enhance safety.

Cost Impact: None anticipated since this change is essential a practice to rule.

5. Reference: Oxygen Equipment Requirements

Add new section 125.229 which will incorporate and restate in this new section, the provisions of section 135.157.

Rationale: Same as (4) above.

Cost Impact: None anticipated because in the current operating environment in passenger and cargo operations will represent a practice to rule.

6. Reference: Flight Crewmember Requirements

Adopt a new section 125.309, which will incorporate and restate in this new section the provisions of section 121.542.

NOTE 1: THE FOLLOWING CLARIFICATION WAS PROVIDED BY ALPA TO BETTER CLARIFY THE REGULATORY REFERENCE.:

Subpart M of Part 121 (.381 to .387) deals with the flight crewmember requirements.[…] I'm not sure which of the Para's in this section is being referenced for the text.

Without the details, I would think 121.385 (see below) is what you're looking for.

§ 121.385 Composition of flight crew.

(a) No certificate holder may operate an airplane with less than the minimum flight crew in the airworthiness certificate or the airplane Flight Manual approved for that type airplane and required by this part for the kind of operation being conducted.

(b) In any case in which this part requires the performance of two or more functions for which an airman certificate is necessary, that requirement is not satisfied by the performance of multiple

functions at the same time by one airman.

(c) The minimum pilot crew is two pilots and the certificate holder shall designate one pilot as pilot in command and the other second in command.

(d) On each flight requiring a flight engineer at least one flight crewmember, other than the flight engineer, must be qualified to provide emergency performance of the flight engineer's functions for the safe completion of the flight if the flight engineer becomes ill or is otherwise incapacitated. A pilot need not hold a flight engineer's certificate to perform the flight engineer's functions in such a situation.

[Doc. No. 6258, 29 FR 19212, Dec. 31, 1964, as amended by Amdt. 121-178, 47 FR 13316, Mar. 29, 1982; Amdt. 121-253, 61 FR 2611, Jan. 26, 1996; Amdt. 121-256, 61 FR 30434, June 14, 1996, as corrected at 61 FR 35628, July 8, 1996, was Amdt. 121-259]

END NOTE.

Rationale: Same as (4) above.

Cost Impact: Neutral

7. Reference: Aircraft Security

Adopt a new section 125.55 which will incorporate and restate in this new section, the provisions of section 121.538.

Rationale: Same as (4) above.

Cost Impact: Neutral since TSA has occupied this field and any cost impact will be attributed to TSA, not FAA requirements.

8. Reference: Responsibility for Operational Control

Adopt a new section 125.307, which will incorporate and restate in this new section, the provisions of section 135.77, except change the reference to "section 135.21" to "section 125.73(a)."

Rationale: Same as (4) above.

Cost Impact: Changes to manuals estimated at $500.00 USD and administrated expenses.

9. Reference: Emergency Equipment

Adopt a new section 125.209, which will incorporate and restate in this new section, the provisions of section 121.339.

Rationale: Same as (4) above.

Cost Impact: Cost neutral as such equipment is already required.

10. Reference: New Section—Emergency Flotation Means

Adopt a new section 125.210, entitled "Emergency Floatation Means", which will incorporate and restate in this new section the provisions of section 121.340, except the reference to "section 121.339 (a)(1)" shall read: "section 125.209 (a)(1)."

Cost Impact: Cost neutral

11. Reference: Flight Release Under IFR and Over the Top

Change section 125.361 to enable the initiation of a flight to a destination airport without approved weather reporting, so long as the designated alternate airport has approved weather reporting meeting the appropriate criteria in accordance with section 91.1039.

Amend section 125.361 by striking "Except as provided in section 125.363" and inserting "Except as provided in paragraph (b) below and section 125.363." Add a new paragraph (b) which will incorporate and restate in that paragraph the provisions of paragraph (a) (1) and (b) of 91.1039.

Rationale: Same as (4) above.

Cost Impact: Anticipate requirement for manual changes costing approximately $500.00 USD.

12. Reference: Drug and Alcohol Provisions

The AWG recommends incorporating the drug and alcohol testing provisions of Parts 121 & 135, but recognized there may be a threshold legal issue as to whether the Federal Aviation Administration has the statutory authority to impose the drug and alcohol testing requirements on a Part 125 private carrier for hire. In lieu of drug and alcohol testing, the AWG recommends incorporating and restating in a new section 125.299, the drug and alcohol misuse education program provisions of section 91.1047.

Rationale: Same as (4) above.

Cost Impact: Assuming a statutory change anticipated costs is $2500.00 USD for a typical operation with 15 covered employees.

13. Reference: Operating Experience

Add a new section 125.284 to incorporate and restate in this new section 125.284 the provisions of section 135.244, except that (i) the reference to paragraph (a) to “commuter operations” and “Part 119” and (ii paragraph (b) (2) shall be deleted,

and the reference to “a qualified check pilot” in paragraph (b) (3) shall be changed to “current and qualified pilot in command”.

Rationale: Same as (4) above.

Cost Impact: For a typical passenger or cargo operation with one or two airplanes and 10-15 employees anticipated expense for substituting a none /salaried qualified PIC for an SIC to gain IOE is $3500.00 USD annually.

14. Reference: Flight, Duty and Rest Requirements

Incorporate the provisions of 135.267 & 135.269 as applicable for flight crew members and 135.273 (a), (b) as applicable for flight attendants.

Rationale: Same as (4).

Cost Impact: Defer pending review of flight and duty summit results.

15. Reference: Training

Add a new Subpart M in Part 125 to incorporate and restate the substance of Subpart H of Part 135. The AWG reserves the right to review the recommendations of the Training Work Group in this area.

Rationale: Same as (4) above.

Cost Impact: Passenger: Practice to rule. Cargo: Practice to rule. Training Manual: $2,500.00 USD.

16. Reference: Initial and Recurrent Pilot Testing Requirements

Substitute section 135.293—Initial and Recurrent Pilot Testing Requirements-- for section 125.287; substitute section 135.297 – Pilot in Command Instrument Proficiency Check required-- for section 125.291. Also amend section 125.291 by adding a paragraph (h) to permit acceptance of instrument proficiency checks in the same aircraft type under Parts 135 and 121 as fulfilling instrument proficiency checks under section 125.291.

Rationale: Same as (4) above.

Cost Impact: To be determined.

(APP 41) Flight Department Company Structure

Discussion:

1. Introduction

Section 91.501 currently provides (so long as common carriage is not involved) several different limited cost-sharing exemptions from the general rule that operations involving cost reimbursement must be conducted under one of the commercial parts of the federal aviation regulations. Originally promulgated in the early 1970's, this rule has proven to be extremely beneficial to the appropriate development of business and personal aviation in the United States without negatively affecting the safety of those operations. That being said, significant changes in basic US corporate practices and law over the last thirty years, as well as a great deal of misunderstanding and technical non-compliance with this rule (sometimes purposefully, but by most accounts almost always inadvertent), has lead to the point that it is now appropriate to re-evaluate the rule and create two additional types of permitted but narrowly-confined cost-sharing operations that will more closely align the rule with modern business practices without sacrificing in any way the safety of these aircraft operations.

2. Background

In October of 1971 the FAA issued a notice of proposed rule making seeking to analyze the appropriateness of "amending Part 91 of the Federal Aviation Regulations by adding a new Subpart [F] containing general operating rules and an inspection program for large and turbine-powered multiengine airplanes." 36 F.R. 19507. There were several factors that triggered this analysis, including the FAA's recent rulemaking regarding the definition of a "Commercial Operator" (and the commentary that effort received), as well as a special task force report addressing the fatal accident in the fall of 1970 of a charter flight carrying a college football team. *Id.* Quoting directly from this report, the FAA noted that the task force urged the Administrator to:

promulgate a new Part of the Federal Aviation Regulations governing the operations of all (a) large airplanes, (b) pressurized airplanes, and (c) turbine powered airplanes, engaged in private carriage. This regulation should provide that those airplanes be operated and maintained in the condition for safe operation appropriate for transport category airplanes. The regulations should include requirements for crew proficiency, operations, and continued airworthiness consistent with the terms of original airworthiness certification of transport airplanes. It should be written so as to provide a level of safety comparable to FAR 121, but without the detailed administrative, financial and organizational requirements for the issuance of a commercial operator certificate prescribed in that Part. This new Part should be written in such a way that it provides the flexibility necessary for the operation and maintenance of the individual airplane.

Upon implementing the requirement that all large airplanes, pressurized airplanes, and turbine-powered airplanes be raised to an acceptable level of safety, commercial operator certification should no longer be required. The regulation should then require that only scheduled and supplemental air carriers engaged in common carriage will be governed by FAR 121 and meet the highest possible degree of safety as required by section 601(b) of the Federal Aviation Act of 1958. Operators of large or complex airplanes engaged in private carriage should no longer be burdened with economic requirements, but could continue to meet under the new Part an acceptable level of safety. FAA field inspectors would no longer be required to make an economic determination of what constitutes operation “for compensation or hire.”

36 F.R. 19507-19508.

The rule the FAA then proposed in its notice generally followed the guidelines laid forth in the task force's report, creating several exemptions from the general rule that where cost-sharing was occurring for the ownership and operation of these aircraft, those operations would have to be operated pursuant to one of the commercial operating parts. Specifically, the proposed rule would create exemptions for limited permitted cost sharing related to the use of business aircraft by companies and certain of their affiliates with regard to their business operations, the operation of aircraft by their joint registered owners, demonstration flights in anticipation of the sale or lease of the aircraft, time sharing of the aircraft, and the interchange of aircraft by two separate aircraft owners and operators. The permitted cost sharing was not allowed to exceed the fully allocated costs of owning and operating the aircraft, and reimbursement for time sharing, demonstration and cargo-only flights was further limited to specific expenses listed in the proposed rule (i.e. landing fees, fuel, etc.), in order to help assure that such operations would not be conducted with an underlying profit motive in mind.

When setting forth the FAA's then current policies in order to assist in the commentary the agency was seeking on the new proposed rule, the FAA observed in part that it "has also held that a subsidiary corporation may not lease an aircraft with crew to its parent corporation, even though the actual operating expenses of the flight are the only charges made. With the growth of the conglomerates and the use of various legal artifices to provide transportation for compensation this policy is becoming increasingly difficult to apply. *Safety wise, neither the relationship of the corporations nor the type of compensation received for the services rendered should be relevant or controlling for such operations*." 36 F.R. 19509 (emphasis supplied). With these and similar observations in mind, the FAA then put forth the first version of what it proposed would eventually become the new Subpart F to Part 91 of the FARs. *Id.* At 19509-19515.

By July of 1972 the FAA had received significant commentary on its new proposed rule, and, taking this commentary and its own analysis into account, then issued the final form of the new Subpart [F]. 37 F.R. 14758. This new rule did provide for the cost-sharing exemptions mentioned above, namely those related to affiliated groups, joint registered ownership, demonstration flights, time sharing and interchange agreements. With respect to the affiliated groups exemption, however, and despite observing in its original notice that "[s]afety wise, neither the relationship of the corporations nor the type of compensation received for the services rendered should be relevant or controlling for such operations," the agency specifically noted "that if a corporation is established solely for the purpose of providing transportation to the parent corporation, a subsidiary, or other corporation, the foregoing policy does not apply. In that case, the primary business of the corporation operating the airplane is transportation and the carriage of persons of goods for any other corporation, for a fee or charge of any kind, would require the corporation operating the airplane to hold a commercial operator certificate under Part 121 or 135, as appropriate." 37 F.R. 14759. As time went on, such corporations created to solely own and operate an aircraft for the benefit of their affiliates came to be commonly referred to by the FAA's Chief Counsel's office, and the industry in general, as "flight department companies." Moreover, the FAA did not specifically define what would constitute an "affiliate" for purposes of evaluating which related entities would be included under 91.501(b)(5), such that companies with less than fifty-percent ownership in a subsidiary, for example, could be considered an affiliate for the purposes of the rule. With all of this in mind, under the rule as promulgated, a company that was not a flight department company could take advantage of the full range of other exemptions, e.g., time sharing and interchange, that were created by the new rule, so long as common carriage was not involved.

3. Significant Changes in Corporate Law and Aircraft Ownership Practices

Although the FAA's policy with respect to flight department companies may have been a reasonable position to prevent abuse of the exemptions provided in Subpart F under the circumstances existing at the time of the rule's original promulgation, a strict application of this rule in today's environment is not as appropriate for at least two different reasons—the changes that have occurred in the law and commonly accepted business practices regarding the ownership and operation of corporate assets in the United States, and the increasing ability of individuals and smaller companies to safely own and operate complex aircraft due to their lower relative prices, increased availability and increased technological capabilities.

With respect to the first reason, there has been a significant increase in the development and acceptance of various limited liability shielding devices under general corporate and tax law since Subpart F was promulgated in the 1970s. For example, in 1977 Wyoming passed the first limited liability company legislation. Several states followed, although such entities were rarely adopted by other states or used until 1988, when the IRS issued Revenue Ruling 88-76, classifying a Wyoming limited liability company as a partnership for federal income tax purposes. *See, e.g.* 2 ZOLMAN CAVITCH, BUSINESS ORGANIZATIONS WITH TAX PLANNING § 33.01[3] (1997). This Ruling opened the floodgates to states creating their own limited liability legislation, such that by 1997 every state had its own form of limited liability company entities in place. *Id.* Under typical limited liability entity legislation, these are usually non-corporate entities that provide limited liability to individual members or owners, but still also allow full management rights to all of those owners. *Id.* at § 33.01[1]. The use of these entities has become broadly accepted throughout the United States as an appropriate method to own and operate various businesses and business assets. Further, the various states and the Internal Revenue Service have, over the years, permitted such entities to elect certain tax treatment that has increased their utility for individuals and businesses alike.

With respect to the second reason noted above, since the 1970s there has arguably been a noticeable increase in the range of types and technological capabilities of business aircraft afforded to individuals, along with a reduction in prices for those aircraft. Moreover, on the horizon is the introduction of an even broader range of jet aircraft that will be coming on the market with significantly lower ownership and operational costs yet greater safety features and equipment. In light of this aircraft availability, there have been an increasing number of individuals and smaller businesses that have moved into the business aviation market. In line with current business practices and significant tax rules and regulations, there has been an increase in the methods such individuals use to manage there personal assets. The increased availability and lower costs of business aircraft combined with these tax and asset-management strategies has lead to the situation that the preferred method of ownership for these aircraft is through entities such as limited liability companies rather than owning the aircraft in an individual's own name. This preference has in turn led to the situation in which there is a significant disconnect between the FAA's rules with respect to cost sharing on aircraft used in private carriage, the commonly accepted business practices in today's U.S. market place, and what has become the very common ownership structure for many businesses and individuals, even though this quite often inadvertently leads to technical violations of the current cost sharing rules.

As a final observation, some may argue that one valid reason to maintain the requirement that a company with no assets or business other than owning or operating an aircraft may not take advantage of the cost-sharing exceptions provided in § 91.501 is because of concerns such as civil liability concerns that might be raised with respect to third parties. It is important to note, however, that the mandate of the FAA is to address the safe operation and management of U.S. registered aircraft. Generally speaking, it is not within the purview of the FAA to address

non-safety or economic issues such as the civil liability that could potentially arise from the ownership and operation of aircraft that are not used in common carriage, an issue that has traditionally been left to the individual states. For example, it is for the states to directly decide whether an individual plaintiff should be able to "pierce the corporate veil" of an entity if that entity has been under-capitalized, improperly formed, or otherwise formed in contravention to the statutory, regulatory or common law requirements of that state, not for the FAA to indirectly decide.

For that reason, and keeping in line with the FAA's early recognition and observation that business-entity structures (and now personal asset management structures) are becoming increasingly complex, neither the relationship between these entities nor the type of compensation received for the services rendered between them should be controlling for such aircraft operations from the FAA's safety perspective. That being said, it is also important to recognize that concerns such as civil liability may indirectly have an impact on the ownership and safe operation of aircraft. As such, and keeping in mind that the rule amendments being considered are exceptions to the general rule that the payment of any reimbursement triggers the requirement to conduct the operations under the commercial rules and it is important to not allow these exceptions to "swallow the rule," the two new flight-department-company cost-sharing exceptions discussed below and that are being proposed in this rule are more tightly constrained than the full range of cost sharing exceptions that will continue to be available to § 91.501(b)(5) affiliated groups and aircraft being operated under time sharing, joint ownership or interchange agreements.

4. Amendment to the Rule: Two New Proposed Permitted Flight Department Company Structures

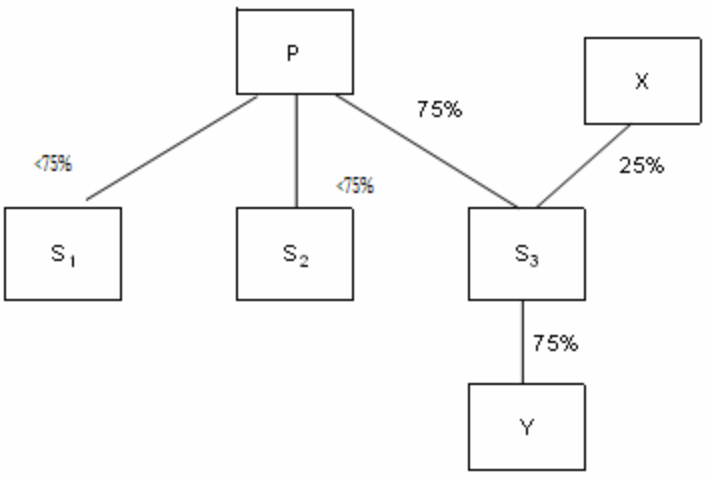
Under Subpart F as currently written, operators of large or multi-engine turbine aircraft may use the cost sharing exceptions contained in § 91.501(b), namely joint ownership, time sharing or interchange operations, and sales and demonstration flights. Moreover, under § 91.501(b)(5), any company that owns and operates an aircraft may conduct operations on a fully cost-allocated basis provided such operations are incidental to and within the scope of its business or the business of its affiliates (other than transportation by air), and may utilize all of the other various costs sharing exemptions under Section 91.501(b) as well. As also already noted above, because there is no specific definition of what constitutes an affiliated company in § 91.501(b)(5), as currently written, it is possible that companies with much less than 50% ownership in another related company could qualify for this exemption, with the only specifically stated restriction being that flight department companies may not use this affiliated group exemption. In light of the current situation as described above, the FAA should consider adopting modifications to § 91.501 that will allow for two new types of permitted costs-sharing structures.

The first would be a business flight department entity, i.e., an entity created solely to own and operate aircraft in a form that does allow for some limited liability shielding and favorable tax treatment for such entities (be it a corporation, limited liability company or some form of partnership) that wishes to use its aircraft in support of business operations. But in light of the concerns discussed above, such a flight department company exception would be in a form that would more tightly constrain the aircraft's availability for use other than what is currently permitted under the § 91.501(b)(5) affiliated group exception to certification. Specifically, this flight department entity would be allowed to receive compensation for the operation of aircraft for its officers, directors, employees and guests and those of its affiliated entity so long as the flight department entity was either at least seventy-five percent owned by, or had at least

seventy-five percent ownership of, the affected affiliate, or where the parent of the flight department entity owns at least seventy-five percent of the business flight department entity and at least seventy-five percent of the affiliate for which the business flight department entity operates (the seventy-five percent ownership requirement striking a balance between sufficient ownership to ensure proper oversight of the entity and limiting the number of companies involved while still allowing for some underlying funding flexibility for the capital costs related to buying or leasing an aircraft). Moreover, to the extent another entity owns at least twenty-five percent of the flight department entity, that other entity would also be allowed to compensate the flight department entity for the use of such aircraft, but only in an amount equal to the second entity's ownership interest in that flight department entity (again striking an appropriate balance between limiting use of the aircraft under this exception with the ability to provide flexibility in the funding of the significant capital costs involved). In all cases, the amount of compensation could not be in excess of the pro rata cost of owning, operating, and maintaining the aircraft. Finally, this new flight department entity would not be permitted to avail itself of several of the other costs sharing exemptions, such as the joint ownership exemption or the interchange exemption, and could only avail itself of the time sharing exemption to the extent it was conducting time sharing with executives or employees or one of its permitted affiliated entities as defined above. (Such an entity would still be able to avail itself of the provisions related to demonstration flights found in § 91.501(b)(3).) This proposed structure strikes an appropriate balance between the desire to properly align aircraft ownership and operations with the current US law and practice with respect to appropriate limited liability shielding of business assets, while at the same time constraining the amount of compensation that may be received by such a flight department entity for these operations such that appropriate safety concerns that the entity not be operating as a commercial operation are met.

The figure below offers a graphic example of what types of entities would or would not constitute an appropriate business flight department entity. In this diagram, assuming that none of S1, S2 or S3 have business activity other than air transportation (i.e., owning and operating an aircraft), none of S1, S2 or S3 can operate an aircraft under the provisions of § 91.501 as currently written. Under the rules as amended by this recommendation, S3 would become the only entity of these three that would be eligible as a business flight department entity to operate an aircraft incidental to the non-air-transportation business activity of P. Moreover, S3 could also conduct flight operations for its affiliated entities X and Y, but only in an amount equal to those affiliates' interest in or held by S3. Finally, in no event would S3 be allowed to avail itself of the joint ownership or interchange exemptions, and could only conduct time sharing operations with the executives or employees of itself and entities P, X and Y.

Figure - Business Flight Department Entities



The second type of flight department entity the FAA should allow would be a personal flight department entity used by one or more individuals that wish to use corporate aircraft solely

for their own benefit and hold the aircraft in an entity such as a limited liability company, once again allowing some limited liability shielding and favorable tax and asset-management treatment. Once again, in order to satisfy safety concerns that such operations not be acting as inappropriate uncertificated commercial operations, such personal flight department entities would also be more tightly constrained in the compensated use of the aircraft than is currently permitted under the affiliated groups exemption. Specifically, under this new exception, up to four natural persons, or up to four entities established for the benefit of natural persons under applicable state law for the management of their personal assets (such as family trusts, family partnerships, etc.), could own or form a separate entity—the personal flight department company—that would in turn own and operate an aircraft for the benefit of those natural persons, and those natural persons or their specific asset-management entities could compensate this new personal flight department entity on a pro rata fully cost-allocated basis for their own flights. The personal flight department company would not be allowed to accept any form of reimbursement for the carriage of any persons or property other than from the natural persons or beneficiaries of the asset-management entities that own that personal flight department company on flights conducted for their benefit, and, as with the business flight department entity described immediately above, such a personal flight department entity, or the underlying owners of that entity or entities, would not be permitted to use the other exemptions of joint ownership or interchange, nor, in this case, would these entities be allowed to time share. (Such an entity would still be able to avail itself of the provisions related to demonstration flights found in § 91.501(b)(3).) Once again, the purpose of creating such a personal flight department entity would be to more appropriately align the FAA's rules on the ownership and operation of aircraft with common and accepted tax and limited liability shielding practices in the United States,

while at the same time more tightly constraining who will be afforded transportation pursuant to this rule in order to again appropriately address any related safety concerns.

5. Additional Considerations

Because the proposed amendments will primarily serve to more closely align business aviation with current U.S. law and practice, and these rules are tightly constrained as to who may take advantage of them and under what circumstances, they should have little to no negative impact on the safety of traveling public or on the aviation industry. Likewise, there should be very little "spillover" effect such as an increase in paperwork or other agency involvement. Finally, there should be little need to harmonize this amendment with other rules, although it would be prudent to draft an appropriate advisor circular or other related guidance materials to assist in the implementation in these rule amendments. Other than the typical costs associated with creating such guidance material, the impact of these amendments should be largely cost neutral.

6. Text of new proposed rule

With all of these considerations in mind, the proposed new version of Section 91.501, applicability, is as follows (with the original rule in normal text and the amendments to the rule underlined):

§ 91.501 Applicability.

* * * * *

(b) Operations that may be conducted under the rules in this subpart instead of those in parts 121, 129, 135, and 137 of this chapter when common carriage is not involved, include -

* * * * *

(5) Except as otherwise permitted by paragraph (b)(11) or paragraph (b)(12) of this section, carriage of officials, employees, guests, and property of a company on an airplane operated by that company, or the parent or a subsidiary of the company or a subsidiary of the parent, when the carriage is within the scope of, and incidental to, the business of the company (other than transportation by air) and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the airplane, except that no charge of any kind may be made for the carriage of a guest of a company, when the carriage is not within the scope of, and incidental to, the business of that company;

(11) Carriage of the officials, employees, guests, and property of a business flight department entity and its affiliated entities when the flight department entity is formed solely or primarily to operate aircraft for itself or for its affiliated entities, and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. Such business flight department entity may not conduct flights under either joint ownership arrangements or interchange agreements under (b)(6) of this section, and may only conduct flights under time sharing agreements under (b)(6) of this section when the person leasing the aircraft is an official, executive or employee of the flight department entity or an affiliated entity. For the purposes of this subsection an affiliated entity means the parent or a subsidiary of the business flight department entity or a subsidiary of the parent where the parent owns at least seventy-five percent of the business flight department entity and each other subsidiary, or the business flight department entity owns at least seventy-five percent of each of its subsidiaries,

and such use is limited to first-tier subsidiaries of either the business flight department entity or its parent; provided, however, that the officials, employees, guests and property of a second entity that is a direct owner of at least twenty-five percent of the business flight department entity ("second owner") and of up to two first-tier entities including any entity which owns at least eighty percent of the second owner or is at least eighty percent owned by the second owner, may be carried by a business flight department entity under this subsection as long as no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft and the percentage of such use does not exceed the equivalent percentage of the second entity's ownership of the business flight department entity; and

(12) Carriage of persons or property by a personal entity when that personal flight department entity is formed solely or primarily to operate aircraft for the benefit of individual family members of the personal flight department entity's owner or owners (or in the case of a trust, for the benefit of the beneficiaries of the trust), and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. For the purposes of this subsection, such personal flight department entities can be formed or owned by up to four natural persons, or up to four entities established for the benefit of natural persons under applicable state law for the management of their personal assets (such as family trusts, family partnerships, etc.). Such personal flight department entities may not conduct flights under joint ownership arrangements, interchange agreements or time sharing agreements under (b)(6) of this section.

* * * * *

Recommendation: Using as much of the discussion above as is appropriate for language to be included in the preamble to the proposed new rule, the proposed new version of Section

91.501, applicability, is as follows (with the original rule in normal text and the amendments to the rule underlined):

§ 91.501 Applicability.

* * * * *

(b) Operations that may be conducted under the rules in this subpart instead of those in parts 121, 129, 135, and 137 of this chapter when common carriage is not involved, include -

* * * * *

(5) Except as otherwise permitted by paragraph (b)(11) or paragraph (b)(12) of this section, carriage of officials, employees, guests, and property of a company on an airplane operated by that company, or the parent or a subsidiary of the company or a subsidiary of the parent, when the carriage is within the scope of, and incidental to, the business of the company (other than transportation by air) and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the airplane, except that no charge of any kind may be made for the carriage of a guest of a company, when the carriage is not within the scope of, and incidental to, the business of that company;

* * * * *

(11) Carriage of the officials, employees, guests, and property of a business flight department entity and its affiliated entities when the flight department entity is formed solely or primarily to operate aircraft for itself or for its affiliated entities, and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. Such business flight department entity may not conduct flights under either joint ownership arrangements or interchange agreements under (b)(6) of this section, and may only conduct flights under time sharing agreements under (b)(6) of this section when the person leasing the aircraft is an official, executive or employee of the flight department entity or an affiliated entity. For the purposes of this subsection an affiliated entity means the parent or a subsidiary of the business flight department entity or a subsidiary of the parent where the parent owns at least seventy-five percent of the business flight department entity and each other subsidiary, or the business flight department entity owns at least seventy-five percent of each of its subsidiaries, and such use is limited to first-tier subsidiaries of either the business flight department entity or its parent; provided, however, that the officials, employees, guests and property of a second entity that is a direct owner of at least twenty-five percent of the business flight department entity, and of up to two first-tier entities in which the second entity is either eighty percent owned by or is the eighty percent owner of said parent or subsidiary, may be carried by a business flight department entity under this subsection as long as no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft and the percentage of such use does not exceed the equivalent percentage of the second entity's ownership of the business flight department entity; and

(12) Carriage of persons or property by a personal entity when that personal flight department entity is formed solely or primarily to operate aircraft for the benefit of individual family members of the personal flight department entity's owner or owners (or in the case of a trust, for

the benefit of the beneficiaries of the trust), and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. For the purposes of this subsection, such personal flight department entities can be formed or owned by up to four natural persons, or up to four entities established for the benefit of natural persons under applicable state law for the management of their personal assets (such as family trusts, family partnerships, etc.). Such personal flight department entities may not conduct flights under joint ownership arrangements, interchange agreements or time sharing agreements under (b)(6) of this section.

Steering Committee Review: When the above recommendation was presented to the Steering Committee in its original form, the Steering Committee asked for additional detail as to what would be permitted as a flight department company. One of the key issues was an understanding of the time sharing of aircraft by such entities. The Steering Committee also had issues with companies being able to create corporate structures under the proposed rule that would permit violations of the intent of the rule, and therefore asked for further specification that would lead to a more conservative approach to the problem. That said, the Steering Committee did strongly believe that this recommendation document raised an important issue that needs to be solved, and the committee did generally agree with the resolution as initially presented.

Therefore, after this initial presentation to the Steering Committee was made, the Applicability Working Group subcommittee that had been assigned to address this issue, along with additional interested individual members of the Steering Committee, met to further discuss the original recommendation. As a result of that process, the recommendation as provided above was re-presented to the Steering Committee. As such, the recommendation now fully incorporates the changes that were suggested by the Steering Committee (such changes

specifically being a raising of the required affiliated ownership of business flight department entities from 66% ownership to 75% ownership, and the inclusion of the graphic now appearing as part of paragraph 4 of the above discussion). Based upon the re-presentation of the recommendation as presented above, the recommendation was made that the Steering Committee approve the proposed rule changes.

(APP 42) Small Airplane and Helicopter Operations in 91.501

Discussion:

1. Introduction

Section 91.501 currently provides (so long as common carriage is not involved) several different limited cost-sharing exemptions from the general rule that operations involving cost reimbursement must be conducted under one of the commercial parts of the federal aviation regulations. Originally promulgated in the early 1970's, this rule has proven to be extremely beneficial to the appropriate development of business and personal aviation in the United States without negatively affecting the safety of those operations. As drafted, this rule specifically applies only to large and multi-engine turbine aircraft. That being said, for over thirty years the FAA has granted an exemption regarding this rule to members of the National Business Aviation Association who fly small and piston-powered aircraft, so long as they comply with certain additional requirements. The original justification for this exemption has remained the same, the exemption itself has not changed, and operations conducted pursuant to this rule have consistently been safe since the exemption was first granted in 1972. As such, it is now appropriate for the FAA to simply build this exemption into the rule itself.

2. Background

In October of 1971 the FAA issued a notice of proposed rule making seeking to analyze the appropriateness of "amending Part 91 of the Federal Aviation Regulations by adding a new Subpart [F] containing general operating rules and an inspection program for large and turbine-powered multiengine airplanes." 36 F.R. 19507. There were several factors that triggered this analysis, including the FAA's recent rulemaking regarding the definition of a "Commercial Operator" (and the commentary that effort received), as well as a special task force report addressing the fatal accident in the fall of 1970 of a charter flight carrying a college football team. *Id.* Quoting directly from this report, the FAA noted that the task force urged the Administrator to:

> Promulgate a new Part of the Federal Aviation Regulations governing the operations of all (a) large airplanes, (b) pressurized airplanes, and (c) turbine powered airplanes, engaged in private carriage. This regulation should provide that those airplanes be operated and maintained in the condition for safe operation appropriate for transport category airplanes. The regulations should include

> requirements for crew proficiency, operations, and continued airworthiness consistent with the terms of original airworthiness certification of transport airplanes. It should be written so as to provide a level of safety comparable to FAR 121, but without the detailed administrative, financial and organizational requirements for the issuance of a commercial operator certificate prescribed in that Part. This new Part should be written in such a way that it provides the flexibility necessary for the operation and maintenance of the individual airplane.
>
> Upon implementing the requirement that all large airplanes, pressurized airplanes, and turbine-powered airplanes be raised to an acceptable level of safety, commercial operator certification should no longer be required. The regulation should then require that only scheduled and supplemental air carriers engaged in common carriage will be governed by FAR 121 and meet the highest possible degree of safety as required by section 601(b) of the Federal Aviation Act of 1958. Operators of large or complex airplanes engaged in private carriage should no longer be burdened with economic requirements, but could continue to meet under the new Part an acceptable level of safety. FAA field inspectors would no longer be required to make an economic determination of what constitutes operation "for compensation or hire."

36 F.R. 19507-19508.

The rule the FAA then proposed in its notice generally followed the guidelines laid forth in the task force's report, creating several exemptions from the general rule that where cost-sharing was occurring for the ownership and operation of these aircraft, those operations would have to be operated pursuant to one of the commercial operating parts. Specifically, the proposed rule would create exemptions for limited permitted cost sharing related to the use of business aircraft by companies and certain of their affiliates with regard to their business operations, the operation of aircraft by their joint registered owners, demonstration flights in anticipation of the sale or lease of the aircraft, time sharing of the aircraft, and the interchange of aircraft by two separate aircraft owners and operators. By July of 1972 the FAA had received significant commentary on its new proposed rule, and, taking this commentary and its own analysis into account, then issued the final form of the new Subpart [F]. 37 F.R. 14758. This new rule did provide for the cost-sharing exemptions mentioned above, namely those related to affiliated groups, joint registered ownership, demonstration flights, time sharing and interchange agreements, all directly applicable to, but only applicable to, large and multi-engine turbine aircraft.

3. Exemption for Small and Piston-Powered Aircraft Operations under Subpart F

Almost immediately upon the promulgation of the new subpart F, the National Business Aviation Association, Inc., petitioned the FAA for an exemption for its members operating small and piston-powered aircraft, allowing those members to be able to utilize certain cost-sharing provisions found in § 91.501 so long as they complied with certain other requirements. Under this proposal, these operators could conduct operations under §§ 91.501(b)(1) through (7) and (9) so long as they: (1) conducted those flights in compliance with §§ 91.505-535 (except that helicopter operators would not have to comply with § 91.515(a) so long as they complied with the minimum safe altitude requirements in § 91.119), and the aircraft used for such operations were maintained under an inspection program approved under § 91.409(f); (2) notified the

appropriate Flight Standards District Office of the operator's use of the exemption and provided to that FSDO copies of any applicable time sharing, interchange or joint ownership agreements used under the rule; (3) made an appropriate log-book entry for the aircraft operated under the exemption showing it was being operated pursuant to Subpart F; and (4) submitted to, and received approval from, the appropriate FSDO a copy of the aircraft inspection program being used for the aircraft being operated under the exemption.

The FAA issued the initial exemption, in the form described above, to the NBAA for use by its members on September 27, 1972, as Exemption No. 1637. Since that time, the agency has re-issued this exemption its same and original form—based upon the original justification—twenty-two times. Regulatory Docket No. FAA-2002-12728. In light of the fact that this exemption has effectively been the rule for over thirty years, that its rational has not changed at all during that time, and that for thirty years small and piston-powered aircraft owners have been operating their aircraft under this rule in a safe fashion, it is time to simply make these provisions part of the actual rule.

4. Proposed Amendment: Adoption of Exemption No. 1637 Into the Rule

Because the Exemption No. 1637 has essentially acted as a mechanism allowing small and piston-powered aircraft operators to elect to take advantage of the cost-sharing mechanisms found in Subpart F so long as they were willing to take on additional safety-related regulatory obligations (as opposed to the operators of large and multi-engine turbine powered aircraft, who must automatically comply with these provisions due to the nature of their aircraft), it is more appropriate to place language allowing for small and piston-powered aircraft operators to elect to operate under Subpart F in § 91.501(a) itself, rather than placing language to that effect in § 91.2, the section that addresses the applicability of Part 91 in general.

With this in mind, the FAA proposes that language be added to § 91.501(a) allowing for small and piston-powered aircraft to be operated under the provisions of Subpart F with certain restrictions and so long as certain additional obligations are met, and then a new § 91.501(e) be added to the rule specifying those restrictions and obligations. The proposed language is provided below.

5. Additional Considerations

Because the proposed amendments will merely put into actual rule form an exemption that has acted as the defacto rule for over thirty years, they should not have a negative impact on the safety of traveling public or on the aviation industry. Likewise, there should be very little "spillover" effect such as an increase in paperwork or other agency involvement. Finally, there should be little need to harmonize this amendment with other rules, although it would be prudent to draft an appropriate advisor circular or other related guidance materials to assist in the implementation in these rule amendments. Other than the typical costs associated with creating such guidance material, the impact of these amendments should be largely cost neutral.

6. Text of new proposed rule

With all of these considerations in mind, the proposed new version of Section 91.501, applicability, is as follows (with the original rule in normal text and the amendments to the rule underlined):

§ 91.501 Applicability.

(a) This subpart prescribes operating rules, in addition to those prescribed in other subparts of this part, governing the operation of large airplanes of U.S. registry, turbojet-powered multiengine civil airplanes of U.S. registry, and fractional ownership program aircraft of U.S. registry that are operating under subpart K of this part in operations not involving common carriage. Small aircraft and helicopters may also be operated under the rules in this subpart to the extent permitted by, and so long as the operators comply with, the additional provisions in paragraph (e) of this section. The operating rules in this subpart do not apply to those aircraft when they are required to be operated under parts 121, 125, 129, 135, and 137 of this chapter. (Section 91.409 prescribes an inspection program for large and for turbine-powered (turbojet and turboprop) multiengine airplanes and turbine-powered rotorcraft of U.S. registry when they are operated under this part or part 129 or 137.)

* * * * *

(e) Small civil airplanes and helicopters may operate under the rules of sections 91.503 through 91.535 and select an inspection program as described in section 91.409(f), subject to the following conditions and limitations:
(1) Only those operations that are listed in section 91.501(b)(1) through (7) and (9) [through (12)] may be conducted under the authority of this section. Those operations must be conducted in compliance with the operating rules in sections 91.503 through 91.535; provided, however, helicopter operations are not required to comply with the flight altitude rules of section 91.515(a), provided the operations comply with the minimum safe altitude requirements in section 91.119. Aircraft operated under the authority of this subpart must use an inspection program listed in section 91.409(f).
(2) No person may operate a small airplane or helicopter under the authority of this section unless the appropriate Flight Standards District Office has been: (a) notified that the operation will be conducted under the terms of this section; and (b) where applicable, provided with a copy of the time sharing, interchange, or joint-ownership agreement each aircraft is being operated under. Each agreement must include the aircraft registration number of each aircraft involved.
(3) No person may operate an aircraft under this exemption unless an entry is made in the aircraft logbook showing the provisions of this subpart under with it is being operated.
(4) No person may operate an aircraft under the authority of this section unless an inspection program has been submitted to and approved by the appropriate Flight Standards District Office.

(Airworthiness Work Group Recommendations

(AWG 1) Part 135 Maintenance Program

ISSUE: Maintenance/Inspection Programs

Determine the maintenance/inspection program requirements appropriate for "large" airplanes currently operating in Part 135 such as intercontinental business jets and airplanes with modified payload capacity; as well as new airplane operations proposed by the 135ARC such as all-cargo airplanes with payload in excess of 7,500lbs and turbine-powered airplanes in commuter scheduled service.

SUMMARY OF FINDINGS & RECOMMENDATIONS

The AWG reviewed maintenance requirements, fleet composition and accident data for aircraft currently operating under Part 135 and made the following:

AWG Findings:

- Existing maintenance requirements use aircraft passenger seating configuration to differentiate between complex (10-or-more) and less complex (9-or-less) aircraft. At the time this rule was promulgated, there was a strong correlation between passenger seating configuration, aircraft size, and aircraft complexity.
- Airplane passenger seating configuration is no longer an appropriate method of differentiating between complex and less complex airplanes. Current business airplanes are not configured with the maximum passenger seating capacity resulting in airplanes of a relatively large size (i.e. complex) configured with 9-or-less passengers that had not been considered when the maintenance requirements of Part 135 were promulgated.
- Airplane size, as determined by certificated maximum takeoff weight (MTOW), correlates well with the relative airplane complexity of the existing fleet from a maintenance perspective. For example, airplanes with a MTOW of greater than 50,000lbs are all long-range airplanes that typically require specialized maintenance procedures (i.e. ETOPS).

- The correlation between aircraft size and aircraft complexity is not likely to hold true as new technologies and performance capabilities are introduced into a broader range of general aviation airplanes. Current trends in general aviation avionics and new airplane models demonstrate that the technologies and performance characteristics once found only on large, more-complex airplanes are now available on smaller general aviation airplanes.
- Part 135 accident data does not indicate that any safety issues exist for turbine-powered airplanes, regardless of whether these airplanes were maintained under a 135.411(a)(1) 9-or-less or 135.411(a)(2) 10-or-more maintenance program. The large "complex" airplanes operating in part 135 that were not envisioned when the maintenance requirements were promulgated are nearly ALL turbine-powered. However, 135 accident data raises a lot of questions regarding the adequacy of maintenance requirements for piston and turboprop airplanes which are nearly ALL small "less-complex" airplanes.

Aircraft Type	**Part 135 Population**	**Part 135 Accidents**
Piston Airplane	44%	59%
Turbo-Prop Airplane	16%	19%
Turbine Airplane	20%	2%
Helicopter	20%	19%

AWG Recommendations:

- From a strategic perspective that considers the entire Part 135 regulation and scope of current and future operations, the AWG recommends that a single flexible maintenance program standard for Part 135 be established which could address the multiple of levels and factors that comprise aircraft complexity as well as operational complexity.
    - The AWG recommends that FAA form a 135 Maintenance Aviation Rulemaking Committee (135MARC) with the appropriate membership required to develop a new 135 maintenance program standard. The membership of the 135ARC and AWG did not include operators of small piston and turboprop airplanes which would be a key stakeholder group for which new maintenance requirements would apply.

- From a tactical perspective that addresses the specific tasking to consider maintenance/inspection program requirements appropriate for "large" airplanes as well as new airplane operations proposed by the 135ARC, the AWG recommends the following:
    - Maintenance/inspection program requirements should be based on the "configured" passenger seating, not the "type-certificated" passenger seating
    - The following aircraft shall be maintained in accordance with a 135.411(a)(2) continuous airworthiness maintenance program (CAMP):
        - Large airplanes with MTOW of 50,000lbs or more
        - Turbine-powered airplanes with a payload capacity of greater than 7,500lbs
        - Turbojet-powered airplanes in commuter operation

DISCUSSION

Introduction:

The Airworthiness Working Group (AWG) primarily focused on the adequacy of §135.411(a)(1) and 135.411(a)(2) in response to the apparent industry trend of operating aircraft of a type, size and design in Part 135 service which had not been considered when Part 135 was promulgated. These new aircraft operating in 135 service include large part 25 intercontinental business jets, all-cargo aircraft with a payload in excess of 7,500lbs, and turbine-powered airplanes in scheduled commuter operations.

Current Regulatory Requirements:

Existing part 135 maintenance/inspection requirements use aircraft passenger seating configuration to differentiate between complex (10-or-more) and less complex (9-or-less) aircraft. At the time this rule was promulgated, there was a strong correlation between passenger seating configuration, aircraft size, and aircraft complexity.

Subpart J—Maintenance, Preventive Maintenance, and Alterations

§ 135.411 Applicability.

(a) This subpart prescribes rules in addition to those in other parts of this chapter for the maintenance, preventive maintenance, and alterations for each certificate holder as follows:

(1) Aircraft that are type certificated for a passenger seating configuration, excluding any pilot seat, of nine seats or less, shall be maintained under parts 91

and 43 of this chapter and §§135.415, 135.416, 135.417, 135.421 and 135.422. An approved aircraft inspection program may be used under §135.419.

(2) Aircraft that are type certificated for a passenger seating configuration, excluding any pilot seat, of ten seats or more, shall be maintained under a maintenance program in §§135.415, 135.416, 135.417, and 135.423 through 135.443.

…

[Doc. No. 16097, 43 FR 46783, Oct. 10, 1978, as amended by Amdt. 135–70, 62 FR 42374, Aug. 6, 1997; Amdt. 135–78, 65 FR 60556, Oct. 11, 2000; Amdt. 135–92, 68 FR 69308, Dec. 12, 2003; Amdt. 135–81, 70 FR 5533, Feb. 2, 2005]

135.411(a)(1) Nine or Less	**135.411(a)(2) Ten or More**
Maintained under 91and 43	Maintained under 135 (135.425)
Inspection Program	Maintenance and Inspection Program
Mechanical Reliability Reports (135.415)	Mechanical Reliability Reports (135.415)
Mechanical Interruption Summary Report (135.417)	Mechanical Interruption Summary Report (135.417)
Aging Airplane (135.423)	Aging Airplane (135.422)
Additional Maintenance Requirements (135.421)	Organization (135.424)
	Manual Requirements (135.427)
	Required Inspection Personnel (135.429)
	Continuing Analysis and Surveillance

(135.431)
Maintenance Training Program (135.433)

Background:

When the maintenance rules for Part 135 were written the method to separate complex aircraft from less complex aircraft was the number of passenger seats. At the time that 135.411(a)(1) and 135.411(a)(2) were created the majority of aircraft flying in 135 service operated in a manner which maximized the number of seats on an aircraft to make each flight as efficient as possible. In this environment the number of passenger seats naturally correlated to the size and complexity of aircraft making this an accurate indicator upon which to assign a required maintenance program. It was not expected that operators would desire to fly large airplanes with less than the maximum seating capacity because this would significantly reduce the revenue potential of the airplane. The current Part 135 environment shows an increasing trend in the number of large "complex" airplanes configured with less than the maximum passenger capacity. These are primarily business airplanes with business cabin interior configurations.

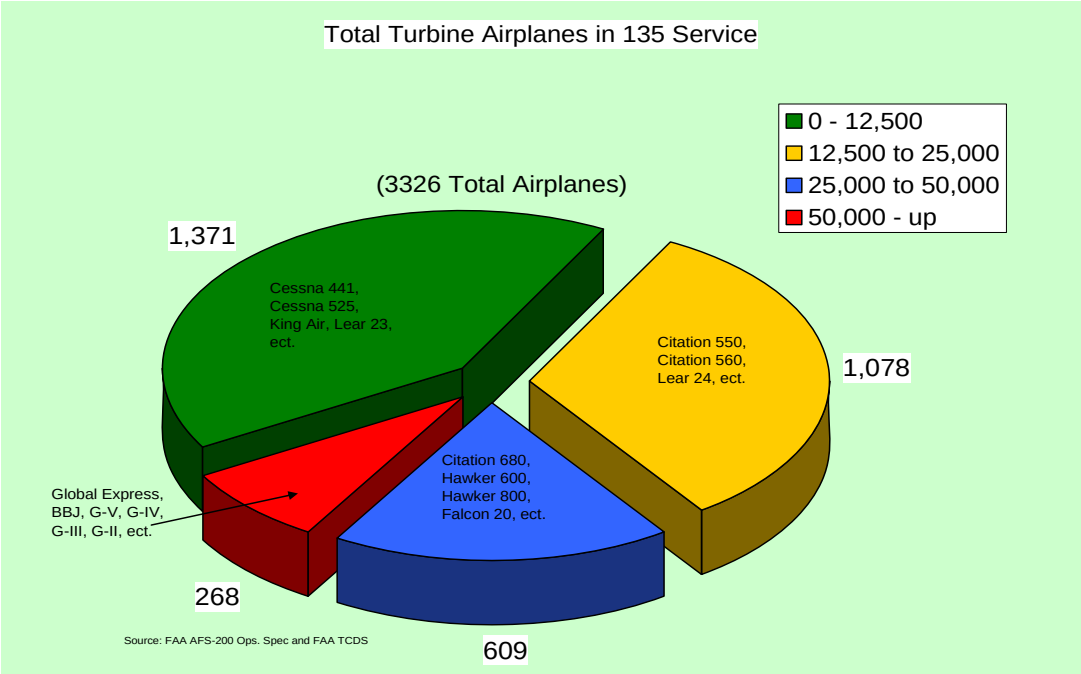
Airplane passenger seating configuration is no longer an appropriate method of differentiating between complex and less complex airplanes. Current business airplanes are not configured with the maximum passenger seating capacity resulting in airplanes of a relatively large size (i.e. complex) configured with 9-or-less passengers that had not been considered when the maintenance requirements of Part 135 were promulgated.

Current Situation:

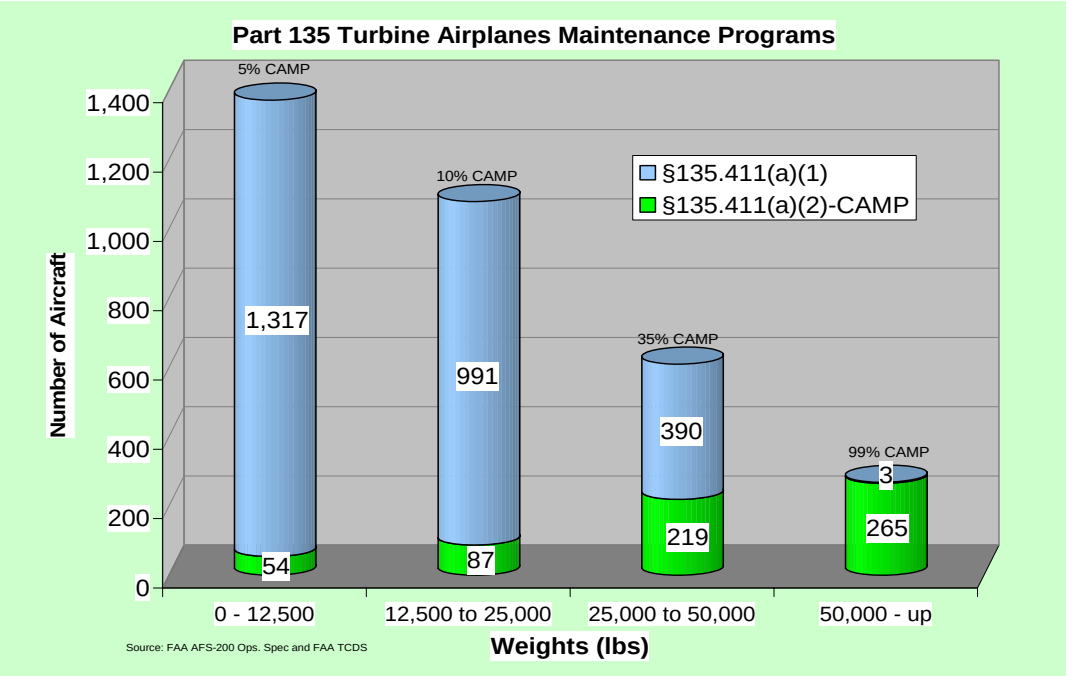
As discussed above, it is possible to operate large “complex” airplanes in Part 135 under the maintenance requirements intended for small “less complex” airplanes. This situation is due to the use of a discriminator which can be easily changed by a manufacturer or operator with no impact on airplane performance or cost. It is important to determine if this potential situation is prevalent within the existing 135 fleet and whether there are any indications of potential safety issues.

Review of 135 Fleet Data:

Current Part 135 operators include aircraft from single engine reciprocating aircraft to very complex intercontinental jet aircraft with hundreds of model of aircraft in between. In order to determine the number of complex aircraft operating in Part 135 service the subset of turbine aircraft was analyzed. The following chart represents all Part 135 turbine airplanes divided into weight categories as a measure of the population of complex aircraft.



It's clear from the chart above that the majority of aircraft in part 135 service are less complex with the truly complex aircraft such as intercontinental jets comprising the smallest segment of operators. These aircraft are maintained under the maintenance requirements of §135.411(a)(1) and 135.411(a)(2). As discussed previously the two standards were created to require less complex aircraft to be maintained under §135.411(a)(1) and to require more complex aircraft to be maintained under §135.411(a)(2). The following chart depicts the number of turbine airplanes maintained under an (a)(1) or (a)(2) requirement versus MTOW as an indication of whether the intent of the Part 135 maintenance rules is being met.



There is a correlation between the complexity of aircraft and the number of aircraft that follow the appropriate maintenance standards. Nearly all very complex intercontinental aircraft are maintained under the §135.411(a)(2) regulation also known as CAMP and the percentage of those in a CAMP decreases with MTOW. The data indicates there is currently not an issue with large complex aircraft following the maintenance programs intended for less complex aircraft though the possibility that this may occur in the future does exist.

Review of 135 Accident Data:

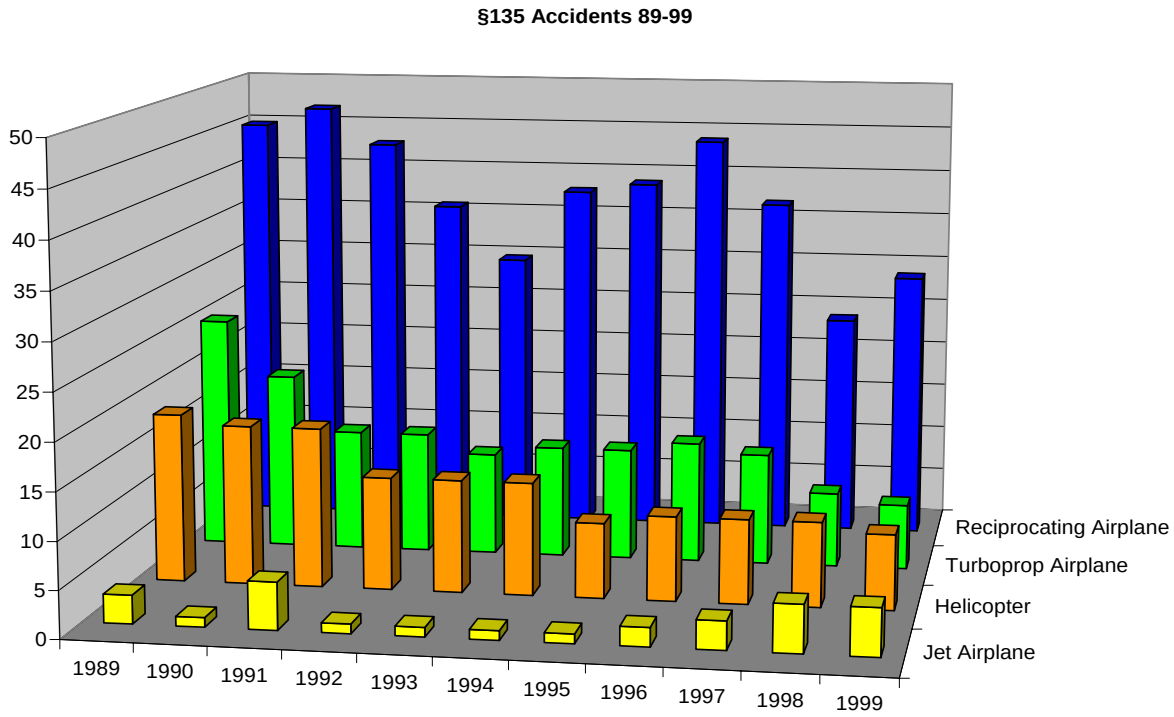
A review of average accident rates and accidents with maintenance related causes for aircraft operating in Part 135 was conducted to determine if there exists any indication that the regulations need to be improved for complex aircraft. When reviewing the data a clear division in overall accident rates could be seen based upon the following categories:

Reciprocating Engine Airplanes Turbo-Prop Engine Airplanes

1 Turbine Engine Airplanes

2 Helicopters

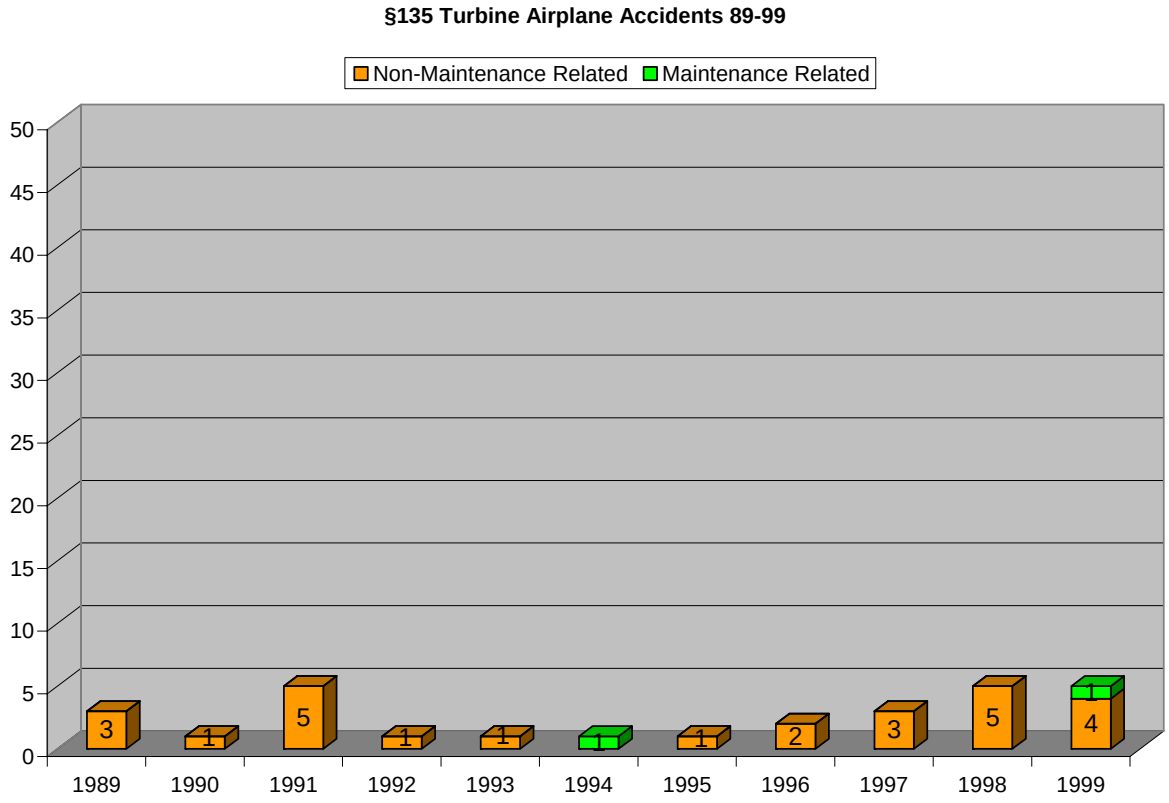
Information was obtained from the NTSB for accidents between 1989 and 1999 as the number of complete accident investigations was high and the data series was complete. Additionally accidents which occurred in Alaska have not been included in the analysis as there exists a unique operating environment which lends its self to individual scrutiny. The following chart depicts aircraft accidents based upon the categories above.



Aircraft Type	Part 135 Population	Accidents
Reciprocating Engine Airplane	44%	59%
Turbo-Prop Airplane	16%	19%
Turbine Airplane	20%	2%
Helicopter	20%	19%

The accident rate for all turbine aircraft is significantly lower their share of the total Part 135 operating population accounting for 20% of the Part 135 operators and only 2% of the accidents. Because complex aircraft are almost completely included in the Jet Airplane category the average accident data indicates that there is not currently a condition that results in a large number of complex airplane accidents. The data does suggest however that some other segments of Part 135 operations should be investigated further.

In addition to a review of the average accident rate for Part 135 aircraft causal data for those accidents was also investigated for the purpose of determining if maintenance is lacking. The chart below depicts the number of maintenance related accidents compared to the number of non-maintenance related accidents each year. The chart labeled §135 Turbine Airplane Accidents 89-99 indicates that of the of Part 135 turbine accidents from 1989 to 1999 an extremely small number of these accidents were said to have been caused by maintenance practices in the probable cause section of the NTSB accident reports.



It is noteworthy that maintenance related causes are more prevalent in Part 135 operating categories other than Turbine Airplanes. This data is presented in Appendix 1 and it is indicative that some of the categories of aircraft that had a higher rate of accidents also have a higher percentage of maintenance related causes.

Conclusion:

It's clear that the preambles of Parts 135, 23, and 25 identified aircraft complexity as the basis for differentiating which maintenance standard would be used when operating under Part 135. It is also clear that the item used to distinguish complexity, number of passenger seats, will not capture all operators of complex aircraft in the current operating environment. From the data it is also clear that the vast majority of current Part 135

operators are following the appropriate maintenance standards for the complexity of their aircraft regardless of the number of seats installed. Further average accident data supports the fact that these larger more complex aircraft have safety records that are much better than the average Part 135 operator. Detailed review of the few accidents in the complex aircraft category reveals an extremely small number of the accidents that do occur are related to maintenance issues. There is no accident or operational data to support a change in the regulations for complex aircraft in Part 135 service at this time.

It is expected that the number of large complex aircraft will grow in the coming years as will the number of smaller turbine operators possibly opening up currently unforeseen operating practices. As the complex aircraft become more commonplace the number of operators who would opt to default to the more simple maintenance requirements of §135.411(a)(1) may increase. In order to proactively deal with these possibilities it would be advisable to bolster the items that distinguish one maintenance program from another to assure the current operating trends continue and the extremely low accident rate and impeccable maintenance record remain. Additionally recommendations should be made with respect to smaller turbine operators who will enter the market in the coming years as they will have unique operating practices.

It is evident that even less complex turbine aircraft which are maintained in accordance with the §135.411(a)(1) maintenance regulation exemplify the same fantastic safety record. This is likely due to a higher level of care given to these high-end of spectrum less complex aircraft. From this observation it would be advisable to consider a single

maintenance standard which could be tailored to each operator as the division between (a)(1) and (a)(2) is not the most optimal way in which to divide the requirements and does not represent what operators are doing in today's §135 operating environment.

Accident data from the smaller Part 135 operators does indicate that changes to the requirements at this level might benefit the safety record of these aircraft. Consideration of a review of the entire Part 135 maintenance regulations would have merit however this is not the task assigned to this working group nor is the composition of the team appropriate to address all the issues involved. Assemblance of a team that is more representative of the range of Part 135 operators would be able to assess and recommend an appropriate solution. The data reviewed through this tasking indicates a single flexible maintenance standard would better fit the Part 135 environment as it exists today and into the future.

Current FAA Policy Change – HBAW 04-06D:

A general approach that was agreed upon by the AWG was to establish more appropriate criteria to differentiate small/simple airplanes from large/complex airplanes as the number of passenger seats does not match intent with today's types of Part 135 operation.

The number of seats with respect to §135.411(a)(1) and 135.411(a)(2) is defined as the certified passenger capacity. This capacity, originally defined on an FAA issued Type Certificate (TC) can be modified through Amended Type Certificate (ATC), Supplemental Type Certificate (STC) or field approval which can allow complex aircraft

to qualify for the §135.411(a)(1) maintenance standards in place of the §135.411(a)(2) regulations that were intended for it.

The HBAW 04-06D bulletin explains FAA's intent to limit the ability for complex aircraft to operate under the maintenance standards of §135.411(a)(1) by requiring the number of passenger seats to be Type Certified (TC) or Supplemental Type Certified (STC). Such an interpretation does not prohibit such operation but simply requires the operator to purchase or design an STC designating a lower seating capacity. Upon reviewing the maintenance and safety data there appears on indication that issues exist in larger aircraft which would warrant the extra certification work needed to limit passenger seating capacity. There does not seem to be a method to force the number of seats to truly represent the complexity of an aircraft as all attempts can be met with other certification options to allow such operation. Such practice is a waste of FAA resources in a time when the commodity is critical and therefore a change should be made to the existing regulation. The words "type certified" in §135.411 should be changed to "configured" with 10-or-more seats for these reasons. Additionally this makes the terminology consistent with all other Part 135 safety standards (i.e. equipment) that are based upon the number of passengers. The term "configured" also makes the task of determining the required maintenance program simpler for FAA inspectors as one only needs to count the number of seats that can be occupied during taxi, takeoff, and landing.

Options Considered:

The AWG considered establishing a single flexible maintenance standard for all aircraft in Part 135 service which could address the multitude of levels of aircraft complexity and operational characteristics. As there is such a difference from one operator to the next such a task would need input from more stakeholders that were represented on the AWG. Additionally the task of the AWG is to assure the new types of aircraft and operations entering Part 135 service had adequate maintenance requirements and a single flexible maintenance standard would encompass the large numbers of existing operators. The date reviewed by the AWG does indicate that some existing Part 135 operators could benefit from a total review of Part 135 maintenance standards and the concept of a flexible single standard does have merit.

In keeping with the task of the AWG the group considered methods to aid the existing regulations. Though the data reviewed does not indicate there is currently an issue with complex aircraft operating outside of a §135.411(a)(2) maintenance program nor is there any safety concern with respect to maintenance on this type of aircraft benefit could be realized by implementing some additional constraints. To assure future complex aircraft are still maintained under the standards of §135.411(a)(2) it would be wise to use MTOW as a further discriminator in the determination of which maintenance standard needs to be followed. Such a recommendation would simply be a patch to the current process of two maintenance requirements where a single flexible standard would have more merit.

In order to group these aircraft by complexity an accurate indicator needed to be developed. In order to assure the indicator would accurately reflect the complexity of the

aircraft and the indicator is not flexible enough to allow a very complex aircraft to indicate that it is a less complex aircraft. For the purpose of data analysis maximum take-off weight (MTOW) will be used as it accurately portrays aircraft complexity in today's environment. For future applications MTOW might be useful as well as any flexibility in this number comes at the expense of fuel. To make a notable change in an aircraft's MTOW the amount of fuel sacrificed will dramatically reduce the range of an aircraft.

In keeping with the original intent of the regulations (135, 23, and 25), i.e., using aircraft complexity to determine maintenance standards in 135, the AWG discussed the use of the aircraft certification basis, i.e., part 23 and part 25. Part 23 aircraft would fall under 135.411(a)(1) and Part 25 aircraft under 135.411(a)(2). However, consensus could not be reached on this proposal. Without any safety justification, it would be completely inappropriate and impracticable to require thousands of airplanes safely operating under 135.411(a)(1) inspection programs today to implement a 135.411(a)(2) continuous airworthiness maintenance program at significant cost and administrative burden.

How do you propose to change 135.411(a)(1) and 135.411(a)(2)?

The AWG recommends a review of the entire Part 135 maintenance program and the development of a single flexible maintenance standard.

In lieu of a re-write of the current 135 maintenance/inspection requirements, the following tactical recommendations to amend existing regulations are necessary to address aircraft operations not envisioned when the current regulations were promulgated:

Passenger Seating – "type certificated" vs "configured" (HBAW 04-06D)

The words "type certified" in §135.411 should be changed to "configured"

Large "Complex" Airplanes

Airplanes configured with 10-or-more passenger seats or a certificated MTOW of 50,000 pounds shall be maintained under a 135.411(a)(2) CAMP.

Turbojet-Powered Airplanes in Commuter Operation

The AWG believes that because turbojet engine powered aircraft were being considered in 135 scheduled commuter operation, it would be appropriate to require these aircraft to be maintained under the higher maintenance standard of 135.411(a)(2) CAMP which is consistent with the maintenance requirements of airplanes in scheduled Part 121 service.

All-Cargo Airplanes with Payload in excess of 7,500lbs

The AWG believes that turbine-powered all-cargo airplanes with payload in excess of 7,500lbs should be maintained under a 135.411(a)(2) CAMP. There is a very limited number of piston-powered all-cargo airplanes that will be required to transition to Part 135 from Part 125 as a result of 135ARC proposals.

RECOMMENDATION:

From a strategic perspective that considers the entire Part 135 regulation and scope of current and future operations, the AWG recommends that a single flexible maintenance program standard for Part 135 be established which could address the multiple of levels and factors that comprise aircraft complexity as well as operational complexity.

- The AWG recommends that FAA form a 135 Maintenance Aviation Rulemaking Committee (135MARC) with the appropriate membership required to develop a new 135 maintenance program standard. The membership of the 135ARC and AWG did not include operators of small piston and turboprop airplanes which would be a key stakeholder group for which new maintenance requirements would apply.

From a tactical perspective that addresses the specific tasking to consider maintenance/inspection program requirements appropriate for "large" airplanes as well as new airplane operations proposed by the 135ARC, the AWG recommends the following:

- Maintenance/inspection program requirements should be based on the "configured" passenger seating, not the "type-certificated" passenger seating
- The following aircraft shall be maintained in accordance with a 135.411(a)(2) continuous airworthiness maintenance program (CAMP):
    - Large airplanes with MTOW of 50,000lbs or more

- Turbine-powered airplanes with a payload capacity of greater than 7,500lbs
- Turbojet-powered airplanes in commuter operation

- The proposed rule language would be as follows:

§ 135.411 Applicability.

(a) This subpart prescribes rules in addition to those in other parts of this chapter for the maintenance, preventive maintenance, and alterations for each certificate holder as follows:

(1) Aircraft that are configured with nine or less passenger seats, excluding any pilot seat, shall be maintained under parts 91 and 43 of this chapter and §§135.415, 135.416, 135.417, 135.421 and 135.422. An approved aircraft inspection program may be used under §135.419.

(2)The following aircraft shall be maintained under a maintenance program in §§135.415, 135.416, 135.417, and 135.423 through 135.443:

(A) aircraft that are configured with ten or more passenger seats, excluding any pilot seat;

(B) aircraft with a **certificated maximum takeoff weight (MTOW) of 50,000 lbs or more;**

(C) turbine-powered airplanes with a payload capacity of greater than 7,500lbs; and

(D) turbojet-powered airplanes ***in commuter operation***

FAA NOTE: Extensive notes from the recommendation document are not included in this preamble—Review to determine if they should be added here.

(AWG 2) Maintenance technician training program

Current State for Ten or More Aircraft:

Part 135.433 is the current rule with regards to maintenance training programs for Part 135 Air Carriers. Part 135.433 is however, only applicable to aircraft maintained under 135.411 (a)(2), a Continuous Airworthiness Maintenance Program (10 or more passenger aircraft). In reviewing the current rule, Part 135.433, we find that the rule states that "Each certificate holder or a person performing maintenance or preventative maintenance functions for it shall have a training program to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties." Part 135.433 does not require a training program to be approved; therefore, by default such training programs are merely accepted by the FAA. The rule also does not specify criteria for the type of training required or the frequency for such training to be conducted.

Part 135.429 "Required Inspection Personnel", which only applies to aircraft operated under 135.411(a)(2), does state that "(a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so." It should be noted that

135.429 is only applicable when performing return to service on Required Inspection Items.

Similarly Part 121.375 states the requirements for training programs under Part 121 and is worded verbatim to Part 135.433.

Current State for Nine or Less Aircraft:

Aircraft maintained under Part 135.411 (a)(1) (9 or less) are not subject to the requirements of Part 135.433 and virtually have no regulatory requirements for technician training other than the very broad scope requirements of Part 65.81 “General Privileges and Limitations”. Part 65.81 applies to all certified maintenance personnel and generically states “…he may not supervise the maintenance, preventive maintenance, or alteration of, or approve and return to service, any aircraft or appliance, or part thereof, for which he is rated unless he has satisfactorily performed the work concerned at an earlier date.”

Current FAA Guidance for Ten or More Aircraft:

In reviewing current guidance material related to maintenance training programs, the AWG reviewed AC 120-16D. AC 120-16D titled “Continuous Airworthiness Maintenance Programs” provides guidance for certificate holders operating aircraft under Part 135.411 (a)(2)(10 or more). More specifically, Chapter 10 of the Advisory Circular is dedicated to “Personnel Training”. Chapter 10 provides information regarding training programs including: Basic Requirements, Types of Training, Definition of Initial and Recurrent Training, Definitions of: Specialized, Maintenance Provider, and Competence Based Training. AC120-16D does not however, make a recommendation for the frequency of recurrent training. In reviewing other guidance material regarding Part 135

training programs it was found that AC 120-16D is virtually the only guidance material available. Because AC120-16D is guidance material for aircraft operated under Continuous Airworthiness Maintenance Programs, it is not intended for aircraft operated under 135.411(a)(1) (9 or less).

The Airworthiness Inspectors Handbook 8300.10 Chapter 70 provides guidance for "…evaluating and accepting an operator/applicant's maintenance/inspection training program." Although the guidance material describes different elements of training and also initial and recurrent training, the guidance is generally only used when initially accepting an Air Carriers training program.

Current FAA Guidance for Nine or Less Aircraft:

Because there is no regulatory requirement for a 9 or less aircraft to have a training program, there is no applicable guidance material for this category of aircraft with regards to Air Carrier training programs. The responsibility for technician qualification falls on the technician under the requirements of Part 65, and not the Air Carrier.

Other Training Guidance:

The "International Standard for Business Aircraft Operations 9.0" (ISBAO) states under "Aircraft Maintenance Requirements" in section 9.5 "Maintenance Personnel Training", that "The training programs shall include initial and recurrent training related to aircraft maintenance and may include other subjects such as: …d. human factors or crew resource management"

The NBAA Management Guide in section 4.10 Maintenance Technician Training states: "The training program should consist of initial and recurrent courses in each type

of aircraft operated and maintained by the company." NBAA further recommends "…aircraft-specific recurrent training be conducted annually at a reputable training facility."

AC's 120-28D and AC 120-67, "Criteria for Cat III Weather Minima…" and "Criteria for Operational Approval of Auto Flight Guidance Systems" respectively, detail maintenance training requirements for very specific aircraft navigational systems. In this guidance, very specific Initial and Recurrent Training Programs are described with AC120-28D recommending recurrent training "...at least annually."

Current Problem for Ten or More Aircraft:

The current regulation as it exists is broad scope in nature and is subject to varying levels of interpretation. The current regulations do not require training programs to be approved by the FAA. Because of the lower level of scrutiny imposed on Part 135 training programs, there is a wide range of training program implementation able to achieve compliance throughout the Part 135 industry. An informal polling conducted of Part 135 Air Carriers revealed not only varying levels of training within 135.433, there is also uneven enforcement of the current regulations by the FAA, and inconsistent use of the available guidance material. This lack of training program definition has manifested itself in several recent air carrier accidents where maintenance training program deficiencies were specifically cited. The NTSB has issued reports, based on recent aviation accidents, recommending that Part 121 Air Carrier Maintenance Training programs be approved by the FAA. Other recent rule changes have focused on maintenance training programs and have specifically further defined the requirements for such programs.

The current rule does not uniformly apply to all Part 135 operations. Aircraft being manufactured today are more sophisticated than ever. Avionics systems, digital data bus technology and new construction techniques have put an increased demand on today's technician to stay current with technology. Human factors have proven to be an ever-increasing area of attention and contributors to aviation accidents and incidents. The regulations that govern the training of the air carrier maintenance technician are clearly in need of revision.

Current Problem for Nine or Less Aircraft:

Those operations that are maintained under 135.411(a)(1) do not require any such training program to be in place. Many of the aircraft operating under this rule, as 9 or less aircraft, are just as, or even more complex than those that operate as 10 or more. The expected growth in the light jet market will introduce ever increasing new technologies into the nine or less category of aircraft. Often thought of as a "simpler" category of aircraft, the smaller jets and piston powered aircraft are now employing high tech composites, advanced avionics and computer technologies that will test the capabilities of today's aircraft technician. The responsibility to ensure that these technicians are properly trained to maintain these aircraft should lie not only with the technician but also with the Air Carrier.

Nine or Less aircraft have the same opportunity to suffer from insufficient maintenance training as do the Ten or More. A recent NTSB report involving an Air Sunshine Cessna 402C that crashed in the Bahamas cited maintenance deficiencies. A contributing factor to the crash was the improper torquing of the right engine #2 cylinder

hold down nuts. Although the report's recommendation focused on the pilots' actions and not maintenance training specifically, the conclusions drawn are quite obvious.

Other Related Rulemaking

The FAA recently released a new set of rules specific to Fractional Operations. The intention of this rulemaking effort was to "level the playing the field" between Part 135 and Fractional Operations that were being conducted under Part 91. In releasing the rules under "91K" the fractional operators were given a set of regulations that would incorporate many of the parameters of Part 135 yet accounted for the unique operation of Fractional Operations. Part 91.1111 titled "Maintenance Training" which applies to all fractional operations, states, "The program manager must ensure that all employees who are responsible for maintenance related to program aircraft undergo appropriate initial and annual recurrent training and are competent to perform those duties." The rule specifically points out the requirement for initial and annual recurrent training. In reviewing the preamble of 91K, it is discovered that a commenter questioned the use of the terms "appropriate initial and annual recurrent training," even suggesting that more generic language be used. The FAA however chose to use the more defined language in the final rule.

In another rulemaking effort, the FAA has recently revised the standards of FAR Part 145. Their issuance of Part 145.163 "Training Requirements" defines the requirements for technician training operating under the authority of Part 145 Repair Stations. The requirements are very specific in stating "(a) A certificated repair station must have an employee training program approved by the FAA that consists of initial and recurrent training." Furthermore, Part 145.51 "Application for Certificate" states in

145.51(7) that the applicant must submit "A training program for approval by the FAA in accordance with § 145.163." In support of the new regulation the FAA has been developing associated guidance material. A report was prepared for the FAA by the F.J. Leonelli Group in October 2004. The report points out the need for more defined training programs for Part 145 Repair Stations. In this report, parallels are easily drawn between Parts 145 and 135 as the report describes; changes in the quality and background of mechanics, changes in industry, changing technology, inconsistency in FAA oversight and influence from other regulatory agencies. The report makes a recommendation for 8-16 hours of initial and recurrent training for Repair Station employees. The FAA has also drafted an Advisory Circular and Inspector Handbook material regarding approval of Part 145 Training Programs. Draft AC 145RSTP dated October 13, 2004 clearly states the flexibility in program approval. The AC states that it is an "acceptable means, but not the only means for developing a training program." A Repair Station may choose not to follow either one of the 2 sample programs provided and a process is provided to tailor the program to the particular operation. As an important note, the FAA choose not to set minimum hours for technician training but merely provided guidelines in subject area and content. The AC also describes a process for determining individual technician training needs based on background and experience. Similar to the Leonelli Report, the FAA points out the need and justification for such training, based on changing hiring practices, ICAO and JAA guidelines, and new technologies. It should be noted that the requirement for a Part 145 Training Program does not differentiate by seating capacity, aircraft size or complexity. The flexibility is built in to the development and application of such programs.

Cost/Benefit

It will be argued that the U.S. aviation safety record is the finest in the world and that further regulation with regard to maintenance training is unnecessary and costly. For a large part of the aviation industry, this may be true. In fact, the majority of U.S. operators will find they already comply with whatever maintenance training requirement might be implemented by FAA and the only additional costs may be in assuring accurate recordkeeping.

However, regulations are not written for the high-end performer. The never have been. They are written as a minimum standard for the lowest acceptable performance for a participant in an industry. Compliance is a litmus test for acceptable ability to perform safely in this community. If you can't perform to the minimum level, you can't participate in our industry. The regulations also represent an outer ring of performance that even historically safe operations could breech if their safety culture should somehow lag or if financial burdens place them in positions of having to save money on programs that the operator might deem unnecessary or are otherwise not required by regulation.

Following an aviation accident, it is not just the affected operator, his employees, the passengers and their families and friends that suffer. It is all of aviation. Granted, the larger the aircraft, that larger the impact on society, the flying public and our industry. But the crash of just one passenger aircraft jangles the nerves of our entire industry and is an opportunity for all of us to closely examine our own operations. To employ a time honored maxim, "Can we afford not to?" with regard to assuring the quality of aviation maintenance through assuring the implementation of comprehensive, FAA-approved technician training programs.

The FAA has well understood the value and importance of approved training for pilots, flight attendants and dispatchers and has backed up that recognition with appropriate regulation. FAA also understands the commensurate role that quality maintenance with properly trained technicians plays in assuring and improving aviation safety.

Well written regulation does not have to result in unnecessary expense. Not all training has to be accomplished at remote based factory training centers. Air Carriers can, and should develop their own maintenance training programs, recognize On-The Job training, and take advantage of low cost industry seminars and professional organizations. By developing proper regulatory guidance that focus's on training standards, those operators that are currently operating to solid safety practices should experience minimal cost impact.

In similar rulemaking process for Part 145, the Leonelli Report previously mentioned in this document address's potential training program cost. The report states "Many repair stations already have training programs in place and may only require revisions to their programs to comply with the new requirements." Very similar conclusions could be drawn concerning Part 135. With the FAA not taking a position on minimum training hours in the Part 145 guidance, similar flexibility could be built in to Part 135 training program guidance.

Recommendation for Rulemaking for Ten or More Aircraft:

The AWG recommends with full consensus that 135.433 be revised to require that maintenance training programs be "approved" by the FAA for air carriers maintaining aircraft under 135.411(a)(2).

The AWG recommends that the guidance material within 120-16D be revised to more clearly identify the need for initial and recurrent training intervals and more emphasis be placed on describing procedures for conducting "in-house" or "On the Job Training (OJT)". Furthermore, FAA guidance material should be enhanced to stress the flexibility that must be in place to tailor a training program to an air carrier's operation.

AWG feels strongly that any training program guidance must be flexible enough and appropriate to fit the type of aircraft being operated and responsive to individual 135 operations. No single program should be developed as a requirement for all operations.

FAA Note: Rulemaking language is copied into regulatory section.—also left in preamble section because of additional discussion on the recommendations.

Recommended Rulemaking Language for Ten or More Aircraft:

FAR Part 135:

(regulation to be effective 18 months from effective date of rule)

§ 135.433 Approved Maintenance and preventive maintenance training program.

Each certificate holder or a person performing maintenance or preventive maintenance functions for it must have an approved training program that includes initial and recurrent training to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties.

AC 120-16D:

1000. (2nd sentence) "These regulations state, in part, that air carriers must "have an approved training program that includes initial and recurrent training to ensure that each person (including inspection personnel) who determines the adequacy of work done

is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties.""

1001. "Some of the types of training that can be included in an air carrier training program are: initial training, recurrent training, on the job training (OJT), specialized training, maintenance provider training, and competence-based training.

1002. What is initial training and what does it include? Initial training is provided right after a person is hired, or when personnel begin to work on new equipment or a new assignment. Your initial training program may include subjects such as employee indoctrination or orientation, maintenance department policies and procedures, maintenance recordkeeping and documentation, aircraft systems or ground equipment, specific skills (avionics, composite repair, aircraft run-up and taxi, etc.), skills upgrade, human factors, task-specific training, hazardous materials, or Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations familiarization. Your initial program may also include a competence-based assessment of employees. This evaluates an employee's previous training and experience and helps identify their specific individual training needs. Each air carrier's initial training program will be unique and based on its individual operation and needs. When developing its initial training requirement, each air carrier should consider its size, location, the type of employees it uses (full-time, part-time, contract,), and its employees' experience and skill levels.

1003. What is recurrent training and what does it include? Recurrent training is education occurring on a repetitive basis. It provides maintenance personnel with the information and skills necessary to maintain the required level of competence. This

training also accommodates the introduction of new aircraft, aircraft modifications, new or different ground equipment, new procedures, techniques, and methods, or other new information. Recurrent training, although occurring on a repetitive basis, may not adhere to a defined schedule. This training should not provide repetitive information unless it is to maintain the desired degree of competence. Recurrent training may include:

a. Continuing competency training designed to maintain regulatory and certificate currency requirements;

b. Refresher training on a seldom accomplished task or seldom used skill;

c. Update training for particular tasks or skills. Update training can include training bulletins, bulletin-board items, self-study tasks, and computer-based instruction;

d. Specific training designed to correct deficiencies identified through the air carrier's CASS; and

e. Any other continuing education or training that may not be provided on a defined schedule

Each air carrier’s recurrent training program will be unique and based on its individual operation and needs. When developing its recurrent training requirement, each air carrier should consider its size, location, the type of employees it uses (full-time, part-time, contract,), and its employees’ experience and skill levels.

1005. What is maintenance provider training and what does it include? Your training program must provide appropriate information to each employee of a maintenance provider about your specific program. The training should include function-specific training appropriate to each person's job assignment or area of responsibility.

You do not need to provide training to maintenance provider personnel in areas that do not concern them. For example, training on aircraft log procedures and minimum equipment list procedures would not be required for aircraft interior cleaners, but would be required for maintenance personnel assigned to on-call maintenance for you. Maintenance training programs approved under **§145.163** may meet an air carrier's technical training requirements, however, the air carrier shall remain responsible to provide appropriate information about their specific program to maintenance providers

NOTE:

If a maintenance provider has specific types of training for its personnel, you do not need to duplicate that training for those individuals, but you must ensure the maintenance provider has indeed provided the training and that the training meets your own needs and training standards.

Recommendation for Rulemaking for Nine or Less Aircraft:

The AWG recommends with general consensus that aircraft maintained under Part 135.411(a)(1) be required to have in place a training program. However, that the training program not require specific approval from the FAA.

The AWG recommends that the FAA develop guidance material for the establishment of maintenance training programs that would be required for aircraft maintained under 135.411(a)(1). This guidance material should include elements to be included in an operators Nine or Less training program. These elements should consist of, but not be limited to:

- Types of training that can be used (initial, recurrent, OJT, competence based training, computer based training, distance learning, etc)
- Definitions of initial, recurrent, and other types of training
- Recommendations for frequency of training
- Documentation of training

Recommended Rulemaking Language for Nine or Less Aircraft:

(regulation to be effective 18 months from effective date of rule)

§ 135.411 Applicability.

(b) This subpart prescribes rules in addition to those in other parts of this chapter for the maintenance, preventive maintenance, and alterations for each certificate holder as follows:

(1) Aircraft that are type certificated for a passenger seating configuration, excluding any pilot seat, of nine seats or less, shall be maintained under parts 91 and 43 of this chapter and §135.415, 135.416, 135.417, 135.420, 135.421 and 135.423. An approved aircraft inspection program may be used under §135.419.

(regulation to be effective 18 months from effective date of rule)

§135.420 Maintenance and preventive maintenance training program.

Each certificate holder or a person performing maintenance or preventive maintenance functions for it shall have a training program to ensure that each person who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties.

On August 26, 2004 the AWG presented Rec Doc AWG-02 to the Steering Committee. It was stated that AWG was in Full Consensus regarding the proposed requirement for 135.433 maintenance training programs (10 or more) to be approved by the FAA. It was also stated that the AWG was in General Consensus regarding the requirement for 135.411(a)(1) aircraft (9 or less) to have in place a maintenance training program. AWG further stated that:

•No single maintenance training program should be developed as a requirement for all operations.

•That any training program guidance must be flexible enough and appropriate to fit the type of aircraft being operated and responsive to individual 135 operations.

The Steering Committee posed several questions regarding the recommendation and requested:

- More definition regarding implementation timeline
- More definition of initial and recurrent training
- Proposed guidance material to support new regulation

DISCUSSION AT STEERING COMMITTEE: Does the FAA have the staffing to handle the approved training program requirement? There is concern in the group that the FAA does not have the required resources to handle this.

It is our understanding that the FAA is considering maintenance training for all air carriers (135/121) and it would be appropriate that this recommendation go forward with that package instead of the 135/125 ARC recommendation. The FAA will take this under consideration.

Group recommends that the Steering Committee vote on this recommendation, but leave it up to the FAA to consider how to move this recommendation forward as part of this NPRM or other rulemaking effort.

(AWG 8) Third Artificial Horizon Requirement

14 CFR Part 135 §135.149(c)

Part 135 has a tendency to treat small jets as having to meet transport level standards. These higher standards are completely independent of passenger capacity, airplane performance, airplane weight, flight crew requirements, but rather is only driven by the means of propulsion. A particular economic burden is the requirement for a third artificial horizon for all jets and transport category airplanes, not recognizing updated Type Design regulations for instruments.

Discussion

There are a number of manufacturers developing light business jets intended to replace the current fleet of small, propeller driven airplanes that meet older Type Design certification standards. These airplanes are have design features that enhance safety, such as lower stall speeds providing enhanced pilot handling at critical operating conditions, and allowing operation in the small airfields currently only serviced by small, propeller driven airplanes. In addition, these new aircraft provide significant advancements in safety by meeting current FAA design Standards (i.e., current Part 23 standards); thereby, providing more reliable and redundant systems. Also, they have much more reliable propulsion systems (modern turbofans) and cockpits often designed to provide enhanced

safety by reducing pilot workload while efficiently providing essential safety information.

However, operational requirements often tend to try and "force" small jets to higher standards that equivalent capability, propeller driven airplanes with older certification basis. Specific example that causes economic burden is §135.149, which requires the installation of a third independent, artificial horizon for all turbojet powered airplane; however, there are high performance turboprops operated under Part 135 not requiring the extra expense of installing the additional equipment. Also, the fact that all turbojet pilots are required to have Type Ratings, as opposed to pilots of small propeller driven airplanes which do not require Type Ratings brings more into question the requirement to install the third indicator in small jets. The only other aircraft required to install the third indicator are those aircraft operated under Part 121.

Of note, JAR-OPS 1, which is a more conservative set of operational requirements, does not have either of these requirements for business jets. This is likely that JAR requirements were developed around more current versions of FAR requirements.

Options evaluated:

- Revise Part 135 to provide appropriate standards based upon airplane use, vice means of propulsion.
- Do nothing – problem still exists and precludes safety enhancements of small jets in the European market.

Airworthiness Working Group Discussions:

It was agreed that type/means of propulsion should not dictate equipment requirements, rather the FAR Type Design standards should. It was agreed to remove type/means of propulsion entirely from the regulations and leave the requirements to the design specifics. It was also agreed that a qualifier be added for certification basis that requires evaluation of systems safety requirements for complex systems and determine point at which third independent artificial horizon does not need to be specifically required (was determined to be Am 23-41 and Am 25-23 for Parts 23 and 25, respectively).

There was much discussion of the broader issue that the regulations eliminate qualifiers and differentiate by mission (scheduled, unscheduled, common carriage, cargo, on demand, etc.).

Recommendation

Proposed Regulation

"§135.149 (c) For large turbojet airplanes with a certification basis prior to Am 25-23 (effective May 8, 1970) and small turbojet airplanes with a certification basis prior to Am 23-41 (effective Nov 26, 1990), in addition to two gyroscopic bank-and-pitch indicators (artificial horizons) for use at the pilot stations, a third indicator that is installed in accordance with the instrument requirements prescribed in 121.305(j) of this chapter."

Impacts:

This change will be cost relieving by not requiring small jet manufacturer's only to install third artificial horizons. This also results in greater ability for small jets with enhanced safety (as compared to older, propeller-powered airplanes) to enter the market

place. Due to current negative cost impacts on small jet manufacturer's of requiring a third artificial horizon, recommend this change be made as soon as feasible.

The STE agrees that in light of 23/25.1309 the need for a third artificial horizon would make this regulation outdated. A third artificial horizon would only be required if .1309 shows that there is a need.

---

1) –(AWG 9) Certification for Flight in Icing FAA Note: Part of this recommendation recommends action by the training work group. (training on icing conditions). For the balance of this discussion, there is no recommended regulatory action. Discussion moved to "NO ACTION RECOMMENDED" section of this preamble.

(AWG 10) - Transponder Maintenance Checks

91.413, 135.411, Order 8300.10

Consider performance of transponder test/checks under an approved Part 135 maintenance program as opposed to Part 91.413(c) (1) requirement that it can only be accomplished by a properly certificated repair station that is equipped to do the work.

Discussion

Section 91.413(c)(2) only allows operators that hold a 121 or 135.411(a)(2) continued airworthiness maintenance program (CAMP) to conduct ATC transponder tests and inspections. Part 135 operators of airplanes with 9 or less passengers that have adopted the manufacturers recommended maintenance program or an FAA approved maintenance inspection program under 135.411(a)(1) are not able to perform required ATC transponder tests and inspections. These operators must remove their airplanes

from service and bring them to a properly certificated repair station or the aircraft manufacturer for the required ATC transponder tests and inspections. This imposes significant cost and burden upon these operators.

Many of these operators already have authorization to conduct ATC transponder tests and inspections under their existing CAMP procedures which are used to support other aircraft in their fleet. Nevertheless, 91.413 does not allow these operators to conduct the same tests on smaller aircraft that happened to be maintained under a 135.411(a)(1) maintenance program.

The AWG recommends that a certificate holder that utilizes a maintenance program under 135.411(a)(1) be able to conduct ATC transponder tests and inspections in accordance with FAA approved procedures contained within the maintenance section of their manual. This would ensure that the appropriate procedures are used to conduct ATC transponder tests and inspections and that persons performing the work would be required to have the appropriate calibrated and certified equipment, and be properly trained/qualified.

Many operators already utilizing CAMP under 135.411(a)(2) who also maintain aircraft under 135.411(a)(1) could simply reference the appropriate procedures. Operators who do not hold an approved CAMP would be required to put in its manual procedures for an ATC transponder test and inspection program for approval by the administrator.

The AWG recommends an amendment to 91.413(c) and the applicable guidance document, Order 8300.10, to allow the holder of a maintenance program under

135.411(a)(1) to conduct ATC transponder tests and inspections in accordance with an FAA approved procedure.

The current regulation reads –

§ 91.413 ATC transponder tests and inspections.

(a) No persons may use an ATC transponder that is specified in 91.215(a), 121.345(c), or § 135.143(c) of this chapter unless, within the preceding 24 calendar months, the ATC transponder has been tested and inspected and found to comply with appendix F of part 43 of this chapter; and

(b) Following any installation or maintenance on an ATC transponder where data correspondence error could be introduced, the integrated system has been tested, inspected, and found to comply with paragraph (c), appendix E, of part 43 of this chapter.

(c) The tests and inspections specified in this section must be conducted by -

(1) A certificated repair station properly equipped to perform those functions and holding -

(i) A radio rating, Class III;

(ii) A limited radio rating appropriate to the make and model transponder to be tested;

(iii) A limited rating appropriate to the test to be performed;

(iv) A limited rating for a manufacturer issued for the transponder in accordance with §145.101(b)(4) of this chapter; or

(2) A holder of a continuous airworthiness maintenance program as provided in part 121 or §135.411(a)(2) of this chapter; or

(3) The manufacturer of the aircraft on which the transponder to be tested is installed, if the transponder was installed by that manufacturer.**; or**

[NEW](4) A holder of a maintenance program as provided in §135.411(a)(1) of this chapter with an approved inspection procedure in its manual to perform those functions.

Current Guidance

Order 8300.10 Volume 2 Chapter 83 for the *Evaluation of part 135 (nine or less) Approved Aircraft inspection Program*

Cost Benefit

Cost benefit can be quantified by multiplying aircraft revenue by available annual flight hours. You would then need to determine what additional time the aircraft would be out of service due to scheduling with outside avionics shops. This number is then subtracted from the annual available number. You would then factor in the cost of supporting a technician and equipment for these inspections.

Example:

Flight Hours Per Day	Revenue Per Hour	Gross Revenue Per Day	Gross Revenue 200 Days/Year
4	2000	8000	1600000

Depending on scheduling of flights and repair station availability revenue can be adversely affected. In this model a one day delay, in returning an aircraft to service, reduces revenue by $8,000.00.

A delay over a weekend or holiday could increase the loss by a factor of 4 or 5.

The benefit will be increased aircraft availability. This will allows operators to factor their fixed costs over a larger revenue base.

Recommendation

The AWG recommends that a certificate holder that utilizes a maintenance program under 135.411(a)(1) be able to conduct ATC transponder tests and inspections in accordance with FAA approved procedures:

Amend 91.413(c) by adding a new subparagraph (4) which reads as follows:

(4) A holder of a maintenance program as provided in §135.411(a)(1) of this chapter with an approved inspection procedure in its manual to perform those functions.

Amend Order 8300.10 Volume 2 Chapter 83 to include minimum criteria for maintenance program procedures to conduct ATC transponder tests and inspections.

(AWG 11) Self Issue of Ferry Permits

Problem Statement:

Part 135 only allows certain air carriers to establish approved procedures for the self-issuance of ferry permits. Part 135 operators maintaining their aircraft with an AAIP are not eligible for self-issue ferry permits [21.197(c)]. This imposes an economic burden on

certain operators because ferry permits are only available during “FAA business hours”. Additionally, current rules prohibit carriage of revenue cargo on ferry flights.

- AWG to recommend that any 135 can issue ferry permits IAW approved Ops Spec procedure
- AWG does NOT support ability to carry cargo/passengers on ferry flight

Background:

Special Flight Permits (Ferry Permits) are governed by FAR 21:197 and the Air Carriers Operations Specifications D084-1 for those aircraft on a Continuous Airworthiness Maintenance Program as prescribed by FAR 135.411 (a)(2) or (b). Special Flight Permits may also be issued directly from the FAA or Designed Airworthiness Representative under FAR 21.199. The 135 Regulations treat aircraft with seating configurations of ten or more differently then aircraft with nine or less seating configurations. Although the operator has the option of placing nine or less aircraft onto a CAMP program (135.411(b)), this seems unnecessarily burdensome for the operator with no apparent improvement to safety or process. Both nine or less and ten or more aircraft configurations operating under a 135 certificate, more then likely, have maintenance and/or inspection programs in place that follow the manufacturers Chapter Five program. In the case of an operator that operates both nine or less and ten or more aircraft types, they have an acceptable process in place to ferry their aircraft and an operations specification, D084-1, that authorizes them to self ferry. The operator would need only to develop an acceptable program and submit that program to the FAA for approval for the nine or less aircraft the same as for the CAMP aircraft. The operator desires to have his aircraft repaired and returned to service as quickly as possible. In the

case of a nine or less operator, he must contact the FAA or a DAR, feed them the information and then wait for a response. If the request happens after hours, weekends, or holidays, then the permit may not be issued for days. The increased costs of keeping an aircraft that may be away and incurring parking costs or hangar rent, as well as the operator may have to charter or find other accommodations for his clients. These additional out of service costs while awaiting a ferry permit, could be very high.

The largest burden of the FAR 135 regulations is categorizing aircraft by size, weight, and seating configurations. These categories no longer apply or identify an aircraft as belonging to a certain size or use groupings. Operators that operate both nine or less and ten or more category aircraft and have D084-1 Operations specifications in place have acceptable means in place to self ferry ten or more aircraft. It would stand to reason that these processes would also apply to the nine or less aircraft with the same level of safety.

The recommendation would be to use the regulations to maintain the safety that they were designed to uphold regardless of aircraft size, weight, or seating configuration. The process used by operators to prove to the FAA that they have an adequate program in place to meet the intent and purpose of the regulations to use Operations Specification D084-1 should apply to all aircraft that fall under that program.

This appears to be accomplishable by merely changing/adding wording to 21.197(c)(2). Considering that the change is not complex, in most cases where operators will desire this Operational Specification, the process is either in place or could be in place easily. The guidance for the Operational Specification already exists.

This will affect the fleet operator whose business depends on the ability to return his aircraft to service as quickly as possible. It will also "unburden" the FAA FSDO in needing to issue special flight permits to these operators. It will level the playing field for those operators who have placed their aircraft onto CAMP programs merely to be able to access this Operational Specification.

This change will reduce paperwork and effort within the FAA. No other agencies should be affected. Fleet operators will be better able to return their aircraft to service by placing them where they may be repaired faster. This will translate to improved operating efficiencies. No FAA documentation will need to be rewritten other then the operators procedures (GMM, etc.)

Operator or FAA Inspector training will be basically unaffected.

11/17/2003 AWG DISCUSSION

- ACTION:
  - Propose reg change to 21.197(c)(2) to add allow holder of 135.411(a)(1) or 135.419 inspection program with an FAA approved Ops Spec procedure for self-issue of a special flight permit
  - Propose change to Order 8300.10 Volume 2 Chapter 89 to reflect this change

2/24/2002 AWG DISCUSSION

- What vehicle used for "accepted/approved procedures" for issuance of ferry permit?
  - Operators that have a GMM (i.e. 135.411(a)(2)) can simply add procedures to their GMM for self-issuance of special flight permits for aircraft with less than 9 seats.

- 135 Operations manual could have appendix with self-issuance of special flight permit
- Why was self-issuance of special flight permit limited to 135 with CAMP? Need to review preamble for rationale.
- These privileges would still be recognized under Ops Spec D84. Requires change to Order 8300.10

(AWG 12) Seat Removal and Installation **FAA Note: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble**

(AWG 16) Oxygen Capacity -

ISSUE: **Oxygen Capacity Requirements**

Regulation: 135.157, 121.333

Inconsistencies in the oxygen capacity requirements of Part 135 (i.e. 1-hour/30-minutes) and Part 121 (10-minutes) have significant economic impact on aircraft design/construction with no apparent safety benefit.

DISCUSSION:

Docket Submittal

FAR 135.157 contains oxygen capacity requirements for pressurized airplanes, including the requirements of FAR 135.157(b)(ii) that, in the event of cabin decompression, that one hour of passenger oxygen be provided, unless the aircraft can descend below 15,000 feet in less than four minutes, in which case only 30 minutes is necessary.

Even for jet aircraft operating over non-mountainous terrain that can descend quickly and easily to lower altitudes where ambient pressure is sufficient to prevent hypoxia, a minimum of 30 minutes of passenger oxygen is required.

This requirement is contrasted with that in FAR 121.333(e)(2) which has similar requirements, except that the minimum oxygen supply requirement is ten minutes.

It is not clear why there are two different oxygen capacity requirements when the exposure to high cabin altitude in the event of a cabin depressurization is the same. Both requirements are objectively structured around cruise altitude (both before and after the pressurization failure) and descent capability, but the FAR 135 requirement requires a much higher minimum capacity for the same passenger exposure.

This difference in requirements has required operators of Embraer aircraft that have moved into FAR 135 operation to modify their airplanes to replace the oxygen canister systems that have sufficient endurance to meet the FAR 121.333 requirement, with a higher capacity gaseous system that meets FAR 135.157(b). Since there is no design or operational reason apparent to Embraer for the difference, we request that the committee review the development of these two requirements and revise FAR 135.157 to more closely match that of FAR 121.333 unless the committee determines that safety considerations justify otherwise."

AWG Discussion

The oxygen requirements of Part 121 and 135 have been developed to take into account the differences in the operations between Domestic, Flag, and Supplemental Air Carriers and Commercial Operators of Large Aircraft (Part 121) and Air Taxi Operators and Commercial Operators (Part 135). Individual sections of Part 121 may be less

stringent than the corresponding section 135.157(b)(ii), with regard to oxygen requirements. However, when all related oxygen requirements of Part 121 are taken as a whole it provides a comprehensive and stringent standard which assures the highest level of safety appropriate to the type of operation. Revising Section 135.157 to more closely match a single Section 121.333 would not provide a level of safety equivalent to that established by the existing regulations.

Regulations

Sec. 121.333 Supplemental oxygen for emergency descent and for first aid; turbine engine powered airplanes with pressurized cabins.

…

(e) Passenger cabin occupants. When the airplane is operating at flight altitudes above 10,000 feet, the following supply of oxygen must be provided for the use of passenger cabin occupants:

(1) When an airplane certificated to operate at flight altitudes up to and including flight level 250, can at any point along the route to be flown, descend safely to a flight altitude of 14,000 feet or less within four minutes, oxygen must be available at the rate prescribed by this part for a 30-minute period for at least 10 percent of the passenger cabin occupants.

(2) When an airplane is operated at flight altitudes up to and including flight level 250 and cannot descend safely to a flight altitude of 14,000 feet within four minutes, or when an airplane is operated at flight altitudes above flight level 250, oxygen must be available at the rate prescribed by this part for not less than 10 percent of the passenger cabin occupants for the entire flight after cabin

depressurization, at cabin pressure altitudes above 10,000 feet up to and including 14,000 feet and, as applicable, to allow compliance with Sec. 121.329(c) (2) and (3), except that there must be not less than a 10-minute supply for the passenger cabin occupants.

Sec. 135.157 Oxygen equipment requirements.

…

(b) Pressurized aircraft. No person may operate a pressurized aircraft--

(1) At altitudes above 25,000 feet MSL, unless at least a 10-minute supply of supplemental oxygen is available for each occupant of the aircraft, other than the pilots, for use when a descent is necessary due to loss of cabin pressurization; and

(2) Unless it is equipped with enough oxygen dispensers and oxygen to comply with paragraph (a) of this section whenever the cabin pressure altitude exceeds 10,000 feet MSL and, if the cabin pressurization fails, to comply with Sec. 135.89 (a) or to provide a 2-hour supply for each pilot, whichever is greater, and to supply when flying--

(i)At altitudes above 10,000 feet through 15,000 feet MSL, oxygen to at least 10 percent of the occupants of the aircraft, other than the pilots, for that part of the flight at those altitudes that is of more than 30 minutes duration; and

(ii)Above 15,000 feet MSL, oxygen to each occupant of the aircraft, other than the pilots, for one hour unless, at all times during flight above that

altitude, the aircraft can safely descend to 15,000 feet MSL within four minutes, in which case only a 30-minute supply is required

Comparison of Oxygen Requirements

The following excerpt from Exemption No. 5192, FAA Docket No. 26106 provides FAA's analysis of a request for an exemption from Section 135.157(b)(2)(ii) 30-minute oxygen supply.

> There are three major purposes for oxygen on an aircraft operated under Part 121 or 135. The first purpose is to provide oxygen to each person on the aircraft if a loss of cabin pressurization should occur. This oxygen is used while the aircraft descends, in the fastest manner possible, and is referred to as get-down oxygen. The percentage of oxygen in the atmosphere is relatively constant as altitude is increased above the surface of the earth. However, as altitude is increased, density, the pressure that forces the oxygen into the lungs and blood stream, is decreased. Therefore, the percentage of oxygen in the respiration cycle must be increased to compensate and maintain an adequate level of oxygen. Thus, a supplemental supply of oxygen to each person, following decompression must be provided until the aircraft has descended to an altitude at which the density or pressure in the atmosphere has increased to the point that supplemental oxygen is not necessary.
>
> The second reason for oxygen on an aircraft is for sustenance, to provide a means of sustaining life. This supply of oxygen must be supplied whenever the aircraft is operated at an altitude at which the pressure inside the cabin of the aircraft is not sufficient to force the oxygen in the atmosphere into the lungs and the blood stream. This high cabin pressure altitude would exist in (1) a nonpressurized aircraft, (2) an aircraft which had been pressurized but in which the pressurization system has failed, or (3) a pressurized aircraft, but one in which the pressurization system is not capable of providing enough cabin pressure to force the oxygen in the atmosphere into

the lungs and blood stream. Operations conducted under these circumstances are governed by sections of the FAR which specify the duration and percentage of the entire number of occupants on the aircraft that supplemental oxygen must be provided for during flight at these altitudes, depending on the actual cabin altitude.

The third reason that oxygen is required on aircraft is for use in first-aid.

In Part 135, all operational oxygen regulations, based on the three reasons to provide oxygen, are contained in Section 135.157. However, in Part 121, the 3 reasons to provide passengers with oxygen are prescribed in separate sections. These separate sections, when taken together, provide the total set of oxygen requirements for Part 121, that for Part 135 are found in Section 135.157. For example, Section 121.329 prescribes supplemental oxygen for sustenance in turbine-engine powered airplanes. Section 121.333 prescribes supplemental oxygen for emergency descent and for first aid in turbine-powered airplanes with pressurized cabins. Section 121.327 prescribes supplemental oxygen requirements for reciprocating engine-powered airplanes. Section 121.331 prescribes supplemental oxygen requirements for pressurized cabin airplanes that are powered by reciprocating engines. Section 121.335 prescribes equipment standards for both reciprocating and turbine engine-powered airplanes.

In Exemption No. 4701 dated August 21, 1986, FAA denied a request to substitute the oxygen supply requirements contained in Section 121.333 (e) (1) and (2) in place of the passenger oxygen dispensing requirements contained in Section 135.157 (b) (2) (ii) because the petitioner failed to show how it would provide a level of safety equivalent to that provided by the regulation. The FAA's denial of this exemption request found that picking and choosing selected sections of Part 121 and Part 135 for oxygen requirements was unacceptable. An equivalent level of safety is only provided when all oxygen requirements of the respective Part are taken together as a whole.

In Exemption No. 5192 dated June 13, 1990, FAA granted an exemption from Section 135.157(b)(2)(ii) to a Part 135 operator because they agreed to comply with the similar complete set of Part 121 oxygen requirements in Sections 121.329, 121.333, 121.335, and 121.391 of the FAR. This grant of exemption accepted an air carrier's proposal to comply with the Part 121 oxygen requirements taken as a whole in lieu of the Part 135 oxygen requirements.

The AWG agrees with FAA's analysis and discussion within Exemption Nos 4701 and 5192 and the conclusion that existing oxygen requirements for Parts 121 and 135 are appropriate for their respective types of operations and that when all related requirements are taken as a whole, the oxygen requirements of parts 121 and 135 establish an equivalent level of safety.

In general, the Part 121 requirement to provide a 10-minute supply of oxygen to passengers accounts for the fact that all flight routes must be approved in advance in accordance with Part 121, Subpart E and that a flight attendant is available on each flight. Route approval takes into consideration availability and adequacy of airports, communication, navigation, and airplane radio facilities, and the ability of the personnel to be used in the operation (121.93). The ability to descend to a safe altitude within the oxygen supply limits in the event of depressurization is one of the considerations reviewed during route approval. In addition, flight attendants trained in emergency procedures are available on Part 121 operations to administer the use of supplemental (portable) oxygen supplies and first-aid oxygen use in the event an emergency requires.

These two exemptions provide sufficient guidance to allow the working group to recommend that the existing oxygen requirements for Parts 121 and 135 are appropriate

for their respective types of operations and that when all related requirements are taken as a whole, the oxygen requirements of parts 121 and 135 establish an equivalent level of safety.

Problem With Existing Rule

Aircraft designed and manufactured for airline customers who operate under part 121 must undergo costly modification to the oxygen equipment and capacity system in order to operate under part 135. The level of safety established by part 121 oxygen requirements should also be acceptable for part 135. FAA exemptions have been granted which allow the complete set of Part 121 oxygen capacity requirements to be used in lieu of part 135 requirements.

RECOMMENDATION:

The oxygen requirements of Part 121 and 135 have been developed to take into account the differences in the types of operations under each part. The minimum oxygen quantity requirement of part 121 takes into account related safety requirements which, when taken together, establish an equivalent level of safety to part 135 oxygen requirements (121 is 10 minutes whereas 135 is 30 minutes). The AWG recommends a change to oxygen capacity requirements of 135.157(b)(2)(ii) to allow airplanes which meet the complete set of Part 121 oxygen equipment and quantities of oxygen requirements to operate in Part 135.

Proposed Rule Language

Sec. 135.157 Oxygen equipment requirements.

…

(b) Pressurized aircraft. No person may operate a pressurized aircraft--

(1) At altitudes above 25,000 feet MSL, unless at least a 10-minute supply of supplemental oxygen is available for each occupant of the aircraft, other than the pilots, for use when a descent is necessary due to loss of cabin pressurization; and

(2) Unless it is equipped with enough oxygen dispensers and oxygen to comply with paragraph (a) of this section whenever the cabin pressure altitude exceeds 10,000 feet MSL and, if the cabin pressurization fails, to comply with Sec. 135.89 (a) or to provide a 2-hour supply for each pilot, whichever is greater, and to supply when flying--

(i)At altitudes above 10,000 feet through 15,000 feet MSL, oxygen to at least 10 percent of the occupants of the aircraft, other than the pilots, for that part of the flight at those altitudes that is of more than 30 minutes duration; and

(ii)Above 15,000 feet MSL,

(A) oxygen to each occupant of the aircraft, other than the pilots, for one hour unless, at all times during flight above that altitude, the aircraft can safely descend to 15,000 feet MSL within four minutes, in which case only a 30-minute supply is required or

(B) oxygen equipment and quantities prescribed in 121.329(c) (1), (2), and (3); 121.333(d); 121.333(e) (1), (2), and (3); 121.335(b); and 121.391(a)(1).

NOTE: a summary of the part 121 oxygen requirements that can be used in lieu of 135.157(b)(2)(ii) oxygen capacity requirement is available in the attached Exemption

#5192. FAA NOTE: Exemption available on rec doc or on FAA website. Not included in this preamble.

(AWG 17) Aviation Maintenance Technician Rating

FAA Note: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble

(AWG 22) Part 23 High Performance Airplane Certification Standards

FAA NOTE: Contained in separate document

(AWG 23A) Additional Equipment Requirements for Large All Cargo Airplanes

SUMMARY:

The AWG reviewed Part 135 equipment requirements and proposes recommended amendments appropriate for the introduction of new Part 135 operation of all-cargo airplanes with a payload capacity of 7,500 to 18,000 lbs. The AWG determined that turbine-powered aircraft with payload in excess of 7,500 lbs should be equipped the same as aircraft with 10-or-more passengers. This is because Part 135 10-or-more airplane equipage requirements are, for the most part, the same as Part 121. The increased payload (above 7,500 lbs) airplanes were originally operated under Part 121 and were therefore equipped accordingly. Part 135.180 TCAS equipage is an exception to this general rule because it will only be required for airplanes with MTOW of more than 33,000lbs, which is consistent with new Part 121/125 requirements effective on January 1, 2005. Changes are proposed to the following requirements:

- 135.151 Cockpit Voice Recorder
- 135.152 Flight Data Recorder

- 135.154 Terrain Awareness and Warning System
- 135.170: Materials for Compartment Interiors
- 135.175: Airborne Weather Radar Equipment
- 135.180: Traffic Alert and Collision Avoidance Systems

DISCUSSION:

During the July 2004 meeting the AWG reviewed each Part 135 regulation with equipage implications and determine how or if it should be modified to accommodate the addition of all-cargo airplane operations with over 7500 lb. payload.

SECTION-BY-SECTION REVIEW

135.87 Carriage of cargo including carry-on baggage.

AWG DISCUSSION: Included review of both the 135 and 121 rules.

Recommendation: No action needed, this subparagraph (e) is the same as 121.287 and 125.185

135.141 Applicability

AWG DISCUSSION: Philosophy for additional equipage requirements for all-cargo increased payload between 7,500 - 18,000 lbs is to equate these airplanes to turboprop with 10-19 pax seats. Add regulatory paragraph with additional requirements which specifies these additional requirements.

134.143(c) General requirements

AWG DISCUSSION: After review it was determined this regulation is satisfactory as written. It does not differentiate between type of use or size of aircraft.

135.151 Cockpit voice recorders

AWG DISCUSSION: The addition of a statement including the turbine powered over 7500 lb aircraft would be appropriate. See recommendation section.

135.152(b)(i)(j)(k) Flight recorders

AWG DISCUSSION: (b)(i)(j) will be revised to include turbine powered over 7500 lbs. See recommendation section. Paragraph (k) will be expanded to include other like aircraft already exempted.

135.154(a)(b) Terrain awareness and warning system

AWG DISCUSSION: The addition of a statement including the turbine powered over 7500 lb aircraft would be appropriate. See recommendation section. This would apply to paragraphs (a)(b).

135.158 Pitot heat indicating systems

AWG DISCUSSION: No change needed. Airplanes in the 7500 lb and up, range are Transport Category aircraft. This equipage was required at the time of certification.

135.169 Additional airworthiness requirements

AWG DISCUSSION: No change needed. Airplanes in the 7500 lb and up, range are Transport Category aircraft. This equipage was required at the time of certification.

135.170 Materials for compartment interiors

AWG DISCUSSION: Current aircraft in Part 125 are required to comply with 125.119 which are identical to 121.221. The regulation does not differentiate between passenger carrying and all-cargo operations. Consequently current 125 and 121 airplanes that may transfer over to 135 will already be compliant.

AWG RECOMMENDATION: Add new paragraph in 135.170 for additional requirement for increased payload 7,500 - 18,000 airplanes must comply with 121.221 Fire Precautions (note this is the same as 125.119)

135.173 Airborne thunderstorm detection equipment requirements

AWG DISCUSSION: No change needed as the requirement for weather radar will be addressed in 135.157.

135.175 Airborne weather radar equipment requirements

AWG: Add requirement for turbine powered increased payload 7,500+ for radar weather, consistent with 121.357 and 125.223.

135.180 Traffic alert and collision avoidance system

AWG DISCUSSION: As of January 1, 2005, 121.356 and 125.224 require TCAS equipage for all all-cargo airplanes with more than 33,000lbs maximum certificated takeoff weight. There are no current Part 135 TCAS equipage requirements for all-cargo airplanes.

The final rule for Part 121/125 TCAS equipage requirements, Federal Register: April 1, 2003 (Volume 68, Number 62), Page 15883-15904, addresses the reasoning for TCAS I versus TCAS II installations. An excerpt follows:

> *Statement of the Problem*
>
> *Current FAA rules do not require collision avoidance systems on all-cargo airplanes. When the FAA issued the traffic alert and collision avoidance system (TCAS) rules for passenger airplanes in 1987, the overnight cargo industry expansion was in its infancy, it operated few airplanes and those were primarily at night. Congress, in its legislation directing installation of TCAS in passenger airplanes, determined that those cargo airplanes did not represent a significant risk to passenger-carrying airplanes, which operated primarily during the day.*
>
> *In promulgating the rules the FAA recognized that those few cargo airplanes would benefit some from the TCAS requirement for passenger airplanes because transponder-equipped cargo airplanes are displayed to pilots of TCAS-equipped passenger airplanes. Cargo airplanes also benefit because of the large number of passenger airplanes that are equipped with TCAS. In addition, the FAA determined that the cost/benefit analysis and*

risk level at that time did not support requiring cargo operators to equip their airplanes with TCAS.

Since those early days of TCAS, cargo operations have grown significantly and we now believe the increase in traffic presents an increased risk of a mid-air collision involving a cargo airplane. We are issuing this amendment to use airplane weight and performance characteristics to encompass cargo as well as passenger airplanes and to standardize and clarify the collision avoidance rules in parts 121, 125, and 129. The FAA believes this would reduce the risk of midair collisions, increasing public safety in the air and on the ground.

History

On April 5, 2000, the Wendell H. Ford Aviation Investment and Reform Act (AIR-21) was enacted (Pub. L. 106-181) and later codified at 49 U.S.C. 44716(g). That section directs the FAA to require all cargo airplanes of more than 15,000 kilograms (kg.) MCTOW to be equipped with collision avoidance equipment by December 31, 2002. It also provides for an extension of up to 2 years for safety or public interest reasons.

Section 44716(g) defines collision avoidance equipment as "equipment that provides protection from mid-air collisions using technology that provides cockpit-based detection and conflict resolution guidance, including display of traffic; and a margin of safety of at least the same level as provided by the collision avoidance system known as TCAS II."

Before Congress passed AIR-21, the FAA had been working on a proposal to require collision avoidance systems on cargo airplanes. The justification for that effort was:

- *The large increases in all-cargo traffic volume (night and day operations),*
- *Two near mid-air collisions (NMACs) involving cargo airplanes,*
- *A petition for rulemaking to put TCAS on cargo airplanes from the Independent Pilots' Association (representing United Parcel Service pilots),*
- *The International Civil Aviation Organization (ICAO)'s recommendation to equip all airplanes with an airborne collision avoidance system (ACAS), which is equivalent to TCAS II, version 7.0, and*
- *The National Transportation Safety Board (NTSB)'s recommendation urging the FAA to require TCAS II and a Mode S transponder on certain airplanes.*

As a result of the TCAS equipage requirement for all-cargo airplanes in the AIR-21 legislation, FAA promulgated amendments 121-286 and 125-41, effective January 1, 2005, as follows:

121.356 Collision avoidance system.

Effective January 1, 2005, any airplane you operate under this part must be equipped and operated according to the following table:

Collision Avoidance Systems	
If you operate any . . .	Then you must operate that airplane with:
(a) Turbine-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) An appropriate class of Mode S transponder that meets Technical Standard Order (TSO) C-112, or a later version, and one of the following approved units: (i) TCAS II that meets TSO C-119b (version 7.0), or a later version. (ii) TCAS II that meets TSO C-119a (version 6.04A Enhanced) that was installed in that airplane before May 1, 2003. If that TCAS II version 6.04A Enhanced no longer can be repaired to TSO C-119a standards, it must be replaced with a TCAS II that meets TSO C-119b (version 7.0), or a later version. (iii) A collision avoidance system equivalent to TSO C-119b (version 7.0), or a later version, capable of coordinating with units that meet TSO C-119a (version 6.04A Enhanced), or a later version.
(b) Passenger or combination cargo/passenger (combi) airplane that has a passenger seat configuration of 10-30 seats.	(1) TCAS I that meets TSO C-118, or a later version, or (2) A collision avoidance system equivalent to TSO C-118, or a later version, or (3) A collision avoidance system and Mode S transponder that meet paragraph (a)(1) of this section.
(c) Piston-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) TCAS I that meets TSO C-118, or a later version, or (2) A collision avoidance system equivalent to TSO C-118, or a later version, or (1)(3) A collision avoidance system and Mode S transponder that meet paragraph (a)(1) of this section.

125.224 Collision Avoidance system.

Effective January 1, 2005, any airplane you operate under this part 125 must be equipped and operated according to the following table:

Collision Avoidance Systems	
If you operate any . . .	Then you must operate that airplane with:
(a) Turbine-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) An appropriate class of Mode S transponder that meets Technical Standard Order (TSO) C-112, or a later version, and one of the following approved units: (i) TCAS II that meets TSO C-119b (version 7.0), or a later version. (ii) TCAS II that meets TSO C-119a (version 6.04A Enhanced) that was installed in that airplane before May 1, 2003. If that TCAS II version 6.04A Enhanced no longer can be repaired to TSO C-119a standards, it must be replaced with a TCAS II that meets TSO C-119b (version 7.0), or a later version. (iii) A collision avoidance system equivalent to TSO C-119b (version 7.0), or a later version, capable of coordinating with units that meet TSO C-119a (version 6.04A Enhanced), or a later version.
(b) Piston-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) TCAS I that meets TSO C-118, or a later version, or (2) A collision avoidance system equivalent to TSO C-118, or a later version, or (1)(3) A collision avoidance system and Mode S transponder that meet paragraph (a)(1) of this section.

IF YOU OPERATE ANY…	YOU MUST OPERATE THAT AIRPLANE WITH:		
	Part 121	Part 125	Part 135
Airplane configured with 10-30 passenger seats	TCAS I	TCAS I	TCAS I
Turbine-powered airplane of more than 33,000lbs MTOW (passenger and/or cargo operations)	TCAS II	TCAS II	N/A
Piston-powered airplane of more than 33,000lbs MTOW (passenger and/or cargo operations)	TCAS I	TCAS I	N/A

AWG Recommendation (based on 11-17-2004 update): For the reasons specified above it has been determined that Part 135 should also have a TCAS equipage requirement based on the same 33,000 lb. MTOW threshold applied to Parts 121/125. This recommendation will be consistent with the current 121 and 125 requirements. Proposed language to incorporate this requirement into Part 135 is contained within the recommendation section of this document.

NOTE: this recommendation would impact more than just those turbine-powered, all-cargo airplanes with payload of more than 7,500lbs. coming into part 135. EXISTING passenger/cargo operations in turbine-powered airplanes of more than 33,000lbs MTOW would be required to have TCAS II, as opposed to the current TCAS I requirement. EXISTING piston-powered airplanes of more than 33,000lbs. MTOW would be required to have TCAS I, as opposed to the existing regulation which does not require any TCAS equipage. Since this proposed TCAS equipage requirement is consistent with existing Part 121/125 requirements, those airplanes having to move operations under Part 135 as a result of the ARC recommendations will not be impacted any differently than today. However, existing airplanes currently operated under Part 135 may be impacted if they meet the requirements of this section.

OPTIONS

1. Revise each regulation affected by the AWG equipage findings/recommendations above.
2. Propose an addition to 135.411 to encompass all the equipage requirements for airplanes with payload of more than 7,500lbs. under a single amended paragraph (i.e. additional requirements for turbine-powered, all-cargo aircraft with payload of more than 7,500obs.

Based on *advice to the workgroup during discussion*, the AWG decided to amend each regulation to include the applicability to "**turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.**"

COST BENEFIT ANALYSIS

There will be a cost factor involved but not greater than the operators face now. This specifically refers to the TCAS, GPWS and RVSM. These are coming into effect regardless. Other portions of the current part 25 certifications standards are meet by operators today. The changes we propose only insure continued compliance.

The benefit resides in the public safety expected when operating airplanes of this size and complexity.

RECOMMENDATION:

Amend the Part 135 equipment requirements as follows:

§ 135.151 Cockpit voice recorders.

(a) No person may operate a multiengine, turbine powered airplane or **turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** or rotorcraft having a passenger seating configuration of six or more and for which two pilots are required by certification or operating rules unless it is equipped with an approved cockpit voice recorder that:

…

§ 135.152 Flight recorders.

…(b) After October 11, 1991, no person may operate a multiengine, turbine-powered airplane having a passenger seating configuration of 20 to 30 seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** or a multiengine, turbine-powered rotorcraft having a passenger seating configuration of 20 or more seats unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data, and a method of readily retrieving that data from the storage medium. The parameters in appendix D or E of this part, as applicable, that are set forth below, must be recorded within the ranges, accuracies, resolutions, and sampling intervals as specified.

…

(i) For all turbine-engine powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.**, manufactured after August 18, 2000—

(1) The parameters listed in paragraphs (h)(1) through (h)(57) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(2) Commensurate with the capacity of the recording system, all additional parameters for which information sources are installed and which are connected to the recording system must be recorded within the ranges, accuracies, resolutions, and sampling intervals specified in Appendix F of this part.

(j) For all turbine-engine-powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.**, that are manufactured after August 19, 2002 the parameters listed in paragraph (a)(1) through (a)(88) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(k) For aircraft manufactured before August 18, 1997, the following aircraft types need not comply with this section: Bell 212, Bell 214ST, Bell 412, Bell 412SP, Boeing Chinook (BV–234), Boeing/Kawasaki Vertol 107 (BV/KV–107–II), deHavilland DHC–6, Eurocopter Puma 330J, Sikorsky 58, Sikorsky 61N, Sikorsky 76A.

NOTE: *Due consideration should be given to the make/model airplanes expected to operate under Part 135 all-cargo with payload of more than 7,500 lbs to determine if there are any specific airplanes for which it would be impracticable (technical feasibility or economically reasonable) to modify for compliance with the above DFDR requirement. If so, 135.152(k) should also be amended to reflect these make/model aircraft manufactured before August 18, 1997 that need not comply with this section.*

135.154 Terrain awareness and warning system.

(a) Airplanes manufactured after March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(b) Airplanes manufactured on or before March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical

Standard Order (TSO)-C151. (Approved by the Office of Management and Budget under control number 2120-0631)

…

§ 135.170 Materials for compartment interiors.

(a) No person may operate an airplane that conforms to an amended or supplemental type certificate issued in accordance with SFAR No. 41 for a maximum certificated takeoff weight in excess of 12,500 pounds unless within one year after issuance of the initial airworthiness certificate under that SFAR, the airplane meets the compartment interior requirements set forth in §25.853(a) in effect March 6, 1995 (formerly §25.853 (a), (b), (b–1), (b–2), and (b–3) of this chapter in effect on September 26, 1978).

(b) Except for commuter category airplanes and airplanes certificated under Special Federal Aviation Regulation No. 41, no person may operate a large airplane unless it meets the following additional airworthiness requirements:

(1) Except for those materials covered by paragraph (b)(2) of this section, all materials in each compartment used by the crewmembers or passengers must meet the requirements of §25.853 of this chapter in effect as follows or later amendment thereto:

…

(2) For airplanes type certificated after January 1, 1958, seat cushions, except those on flight crewmember seats, in any compartment occupied by crew or passengers must comply with the requirements pertaining to fire protection of seat cushions in §25.853(c) effective November 26, 1984.

(3) For turbine-powered, all-cargo airplane with a payload of more than 7500 lbs., each compartment must be designed so that, when used for storing cargo or baggage, it meets the requirements of §121.221 of this chapter.

…

§ 135.175 Airborne weather radar equipment requirements.

(a) No person may operate a large, transport category aircraft in passenger carrying operations **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** unless approved airborne weather radar equipment is installed in the aircraft.

…

§ 135.180 Traffic Alert and Collision Avoidance System.

(a) Unless otherwise authorized by the Administrator, after December 31, 1995, no person may operate a turbine powered airplane that has a passenger seat configuration, excluding any pilot seat, of 10 to 30 seats unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(b) The airplane flight manual required by § 135.21 of this part shall contain the following information on the TCAS I system required by this section:

(1) Appropriate procedures for -

(i) The use of the equipment; and

(ii) Proper flightcrew action with respect to the equipment operation.

(2) An outline of all input sources that must be operating for the TCAS to function properly.

(c) Effective January 1, 2005, any airplane you operate under this part 135 must be

equipped and operated according to the following table:

Collision Avoidance Systems	
If you operate any . . .	**Then you must operate that airplane with:**
(a) Turbine-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) An appropriate class of Mode S transponder that meets Technical Standard Order (TSO) C-112, or a later version, and one of the following approved units: (i) TCAS II that meets TSO C-119b (version 7.0), or a later version. (ii) TCAS II that meets TSO C-119a (version 6.04A Enhanced) that was installed in that airplane before May 1, 2003. If that TCAS II version 6.04A Enhanced no longer can be repaired to TSO C-119a standards, it must be replaced with a TCAS II that meets TSO C-119b (version 7.0), or a later version. (iii) A collision avoidance system equivalent to TSO C-119b (version 7.0), or a later version, capable of coordinating with units that meet TSO C-119a (version 6.04A Enhanced), or a later version.
(b) Piston-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) TCAS I that meets TSO C-118, or a later version, or (2) A collision avoidance system equivalent to TSO C-118, or a later version, or (1)(3) A collision avoidance system and Mode S transponder that meet paragraph (a)(1) of this section.

(AWG 23B) Additional Equipment Requirements for Turbojets in Commuter Operations

SUMMARY:

The AWG reviewed Part 135 equipment requirements and proposes recommended amendments appropriate for the introduction of new Part 135 operation of turbojet-powered airplanes in commuter operation. The AWG determined that turbine-powered

airplanes in commuter operation should be equipped the same as aircraft with 10-or-more passengers. Changes are proposed to the following requirements:

- 135.154 Terrain Awareness and Warning System
- 135.175: Airborne Weather Radar Equipment
- 135.180: Traffic Alert and Collision Avoidance Systems

DISCUSSION:

1. Review of FAA Regulations

1.1 Review of Part 121

Sec. 121.2 Compliance schedule for operators that transition to part 121; certain new entrant operators.

(a) *Applicability.* This section applies to the following:

(1) Each certificate holder that was issued an air carrier or operating certificate and operations specifications under the requirements of part 135 of this chapter or under SFAR No. 38-2 of 14 CFR part 121 before January 19, 1996, and that conducts scheduled passenger-carrying operations with:

(i) Nontransport category turbopropeller powered airplanes type certificated after December 31, 1964, that have a passenger seat configuration of 10-19 seats;

(ii) Transport category turbopropeller powered airplanes that have a passenger seat configuration of 20-30 seats; or

(iii) Turbojet engine powered airplanes having a passenger seat configuration of 1-30 seats.

2) Each person who, after January 19, 1996, applies for or obtains an initial air carrier or operating certificate and operations specifications to conduct scheduled passenger-

carrying operations in the kinds of airplanes described in paragraphs (a)(1)(iii) of this section.

b) Obtaining operations specifications. A certificate holder described in paragraph (a)(1) of this section may not, after March 20, 1997, operate an airplane described in paragraphs (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section in scheduled passenger-carrying operations, unless it obtains operations specifications to conduct its scheduled operations under part 121 of this chapter on or before March 20, 1997.

(f) "*New type certification requirements.* No person may operate an airplane for which the application for a type certificate was filed after March 29, 1995, in 14 CFR part 121 operations unless that airplane is type certificated under part 25 of this chapter."

Summary of Part 121

1. Equipage of Part 25 Turbojets operating in scheduled service is adequately covered by existing Part 121 rules.
2. Part 23 Turbojets in scheduled (commuter) operation, type certificated after March 29, 1995 must operate to Part 135 rules.

1.2. Review of Part 135 and Part 23

Sec. 135.2

(a) *Applicability.* This section applies to the following:

(1) Each certificate holder that was issued an air carrier or operating certificate and operations specifications under the requirements of part 135 of this chapter or under SFAR No. 38-2 of 14 CFR part 121 before January 19, 1996, and that conducts scheduled passenger-carrying operations with:

(i) Nontransport category turbopropeller powered airplanes type certificated after December 31, 1964, that have a passenger seat configuration of 10-19 seats;

(ii) Transport category turbopropeller powered airplanes that have a passenger seat configuration of 20-30 seats; or

(iii); “Turbojet powered airplanes having a passenger seating configuration of 1-30 seats.”

(2) Each person who, after January 19, 1996, applies for or obtains an initial air carrier or operating certificate and operations specifications to conduct scheduled passenger-carrying operations in the kinds of airplanes described in paragraphs (a)(1)(i), (a)(1)(ii), or paragraph (a)(1)(iii) of this section.

b) Obtaining operations specifications. A certificate holder described in paragraph (a)(1) of this section may not, after March 20, 1997, operate an airplane described in paragraphs (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section in scheduled passenger-carrying operations, unless it obtains operations specifications to conduct its scheduled operations under part 121 of this chapter on or before March 20, 1997.

f) New type certification requirements. No person may operate an airplane for which the application for a type certificate was filed after March 29, 1995, in 14 CFR part 121 operations unless that airplane is type certificated under part 25 of this chapter.

Sec. 23.3 Airplane categories.

(a) The normal category is limited to airplanes that have a seating configuration,

excluding pilot seats, of nine or less, a maximum certificated takeoff of 12,500 pounds or less, and intended for nonacrobatic operation.

Summary of Part 135 and Part 23

1. Part 23 Turbojets in scheduled (commuter) operation, type certificated after March 29, 1995 must operate to Part 135 rules.
2. Part 23 or Part 25 Turbojets cannot operate in commuter operation unless equipped with less than 9 seats.
3. Part 23 Commuter Category airplanes equipped with 10 or more passenger seats must operate to Part 121.

Proposed Regulations Changes **(Changes in bold print)**

Sec. 135.154 Terrain awareness and warning system.

(a) Airplanes manufactured after March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain

awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(3) No person may operate a turbojet powered airplane in commuter operation configured with 9 or less passenger seats, excluding any pilot seat after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151.

(b) Airplanes manufactured on or before March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(3) No person may operate a turbojet powered airplane in commuter operation configured with 9 or less passenger seats, excluding any pilot seat after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151.

(c) Airplane Flight Manual. The Airplane Flight Manual shall contain appropriate procedures for-

(1) The use of the terrain awareness and warning system; and

(2) Proper flight crew reaction in response to the terrain awareness and warning system audio and visual warnings.

Justification - AWG is of the opinion that this class of airplane should be equipped with a Class A TAWS system installed when in commuter operation. AWG is aware that newer aircraft, manufactured after March 29, 2002, will typically be equipped this system as standard equipment.

135.175 Airborne weather radar equipment requirements.

(a) No person may operate a:

(Add)(1) large transport category aircraft in passenger-carrying operations unless approved airborne weather radar equipment is installed in the aircraft.

(add) (2) Part 23 turbojet powered airplane in commuter operation after (effective date of rule change) unless approved airborne weather radar equipment is installed in the aircraft.

(b) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar equipment, may reasonably

be expected along the route to be flown, unless the airborne weather radar equipment required by paragraph (a) of this section is in satisfactory operating condition.

(c) If the airborne weather radar equipment becomes inoperative en route, the aircraft must be operated under the instructions and procedures specified for that event in the manual required by Sec. 135.21.

(d) This section does not apply to aircraft used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(e) Without regard to any other provision of this part, an alternate electrical power supply is not required for airborne weather radar equipment.

Justification -AWG is of the opinion that this class of airplane operating in commuter operation should have an approved radar system installed. This class of airplane will typically provide the system as standard or as optional equipment.

135.180 Traffic Alert and Collision Avoidance System.

(a) Unless otherwise authorized by the Administrator, after December 31, 1995, no person may operate a turbine powered airplane that has a passenger seat configuration, excluding any pilot seat, of 10 to 30 seats unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(Add) New (b) Unless otherwise authorized by the Administrator, after (effective date of rule change), no person may operate a Part 23 turbojet powered airplane in commuter operation, unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(now) (c) The airplane flight manual required by Sec. 135.21 of this part shall contain the following information on the TCAS I system required by this section:

(1) Appropriate procedures for--

(i) The use of the equipment; and

(ii) Proper flightcrew action with respect to the equipment operation.

(2) An outline of all input sources that must be operating for the TCAS to function properly.

Justification -AWG is of the opinion that this class of airplane operating in commuter operation should have a TCAS II system installed. AWG is aware that newer aircraft will typically be equipped with this system as standard equipment or as optional equipment.

Through extensive discussion the AWG working group has identified the following issues and recommendations.

What is wrong with the old rule?

The change to Part 121.2 moved the Part 23 turbojet aircraft out of Part 121 to Part 135 with no specific equipment requirements for Part 23 turbojets.

How do you propose to change the rule?

By adding any additional rule changes described above.

Why do you think the change is justified?

The change is justified by the fact that there were no rules in place and the changes mirror what is currently in Part 121 for Part 23 turbojet powered airplanes in commuter operations.

Who will be affected and how?

Owners/operators of Part 23 jets operating in commuter operation.

What will be the "spillover" affect.

No significant impact expected as Part 23 turbojets are not generally operating in commuter operation at this time. As more of this class of airplane enters the market, more of this type of operation is anticipated.

Economics.

No significant impact is expected.

Equipment and Technology Work Group Recommendations

(EQU 2) Mode S and TCAS II

Section 135.143 (c){2} & 121.345

Discussion:

Mode S transponders are required to be installed per 135.143{c}(2) and 121.345 on 30 seat or less aircraft that are not required to be equipped with TCAS II.

Mode S is no longer a requirement for efficient air traffic management. Affected operators routinely submit and FAA routinely grants exemptions from these regulations, a paper work to industry and government. These rules should therefore be amended to reflect that only Mode S is only required as part of a TCAS II installation.

Recommend section 135.143(c) be revised to read as follows:

(c) ATC transponder equipment installed after January 1, 1992, must meet the performance and environmental requirements of any class of TSO-C74b or TSO-C74c, as appropriate, or the appropriate class of TSO-C112 (Mode S).

Recommend section 121.345(c) be revised to read as follows:

(c) ATC transponder equipment installed after January 1, 1992, must meet the performance and environmental requirements of the following TSOs:

(1) For aircraft not required to be equipped with an approved TCAS II traffic alert and collision avoidance system pursuant to §121.356, any class of TSO-C74b or TSO-C74c, as appropriate, or the appropriate class of TSO-C112 (Mode S).

(2) For aircraft required to be equipped with an approved TCAS II traffic alert and collision avoidance system pursuant to §121.356, the appropriate class of TSO-C112 (Mode S).

(EQU 3)VOR Checks **FAA NOTE: Discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(EQU 5) TAWS for Piston and Turboprop Airplanes with 6-9 Seats

FAA NOTE: Discussion moved to "NO ACTION RECOMMENDED" section of this preamble.

(EQU 7) Electronic Flight Bags (EFB) **FAA Note: This discussion has been moved to the "NO ACTION RECOMMENDED" section.**

(EQU 8) Enhanced Flight Vision Systems **FAA Note: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.**

(EQU 17) Combi Recorders for Rotorcraft

Discussion:

References-

1. 14 CFR 27.1457, Cockpit voice recorders.
2. 14 CFR 27.1459, Flight recorders
3. 14 CFR 29.1457, Cockpit voice recorders.

4. 14 CFR 29.1459, Flight recorders
5. 14 CFR 91.609, Flight Recorders and Cockpit Voice Recorders
6. 14 CFR 135.151, Cockpit Voice Recorders
7. 14 CFR 135.152, Flight Recorders
8. JAR-OPS 3, Commercial Air Transportation (Helicopters) Subpart K – Instruments and Equipment
9. ICAO Annex 6- Operation of Aircraft, Part III - International Operations - Helicopters
10. AC 20-141, Airworthiness and Operational Approval of Digital Flight Data Recorder Systems

Abbreviations

CVR- Cockpit Voice Recorder

FDR- Flight Data Recorder

SSCVR- Solid State Cockpit Voice Recorder

SSFDR- Solid State Flight Data Recorder

Definition-

Combi recorder- For the purposes of this Recommendation Item a Combi recorder is a recorder that combines both CVR and FDR functionality into one unit. It may also be referred to as a combination recorder.

Recommendation Item Scope

The Recommendation Item will be limited to the use of single Combi recorders in rotorcraft in place of a separate CVR and FDR when a separate CVR and FDR are required. The use of Combi recorders in fixed-wing aircraft will not be addressed.

Typical Cost of Equipment

A typical Combi Recorder has a catalog price of $29,500

A typical SSCVR has a catalog price of $21,500

A typical SSFDR has a catalog price of $21,500

General

The use of a single Combi recorder in place of a separate CVR and FDR is not a new subject. It has been discussed before, however, many previous discussions addressed "aircraft" and not specifically rotorcraft. Some of the arguments against a single Combi recorder installation seemed to be based on the dynamics of a fixed-wing crash versus a rotorcraft crash. Papers proposing dual Combi recorders, which eliminate the weight and cost advantages of a single Combi recorders in favor of redundancy, based the argument on the physical size of fixed-wing aircraft and did not consider that rotorcraft generally are smaller than most fixed-wing aircraft where CVRs and FDRs are required. Lastly, international rules either allow or are being revised to allow the use of a single Combi recorder in rotorcraft when a CVR and FDR are required. Revising the FAA rules would be a step in harmonizing the FAA rules with ICAO and JAR-OPS 3.

<u>Excerpts from Current Regulatory Rules and Discussion</u>

14 CFR 91.609, Flight Recorders and Cockpit Voice Recorders

§ 91.609 Flight recorders and cockpit voice recorders.

(a) No holder of an air carrier operating certificate or an operating certificate may conduct any operation under this part with an aircraft listed in the holder's operations specifications or current list of aircraft used in air transportation unless that aircraft complies with any applicable flight recorder and cockpit voice recorder requirements of the part under which its certificate is issued except that the operator may—

(1) Ferry an aircraft with an inoperative flight recorder or cockpit voice recorder from a place where repair or replacement cannot be made to a place where they can be made;

(2) Continue a flight as originally planned, if the flight recorder or cockpit voice recorder becomes inoperative after the aircraft has taken off;

(3) Conduct an airworthiness flight test during which the flight recorder or cockpit voice recorder is turned off to test it or to test any communications or electrical equipment installed in the aircraft; or

(4) Ferry a newly acquired aircraft from the place where possession of it is taken to a place where the flight recorder or cockpit voice recorder is to be installed.

(b) Notwithstanding paragraphs (c) and (e) of this section, an operator other than the holder of an air carrier or a commercial operator certificate may—

(1) Ferry an aircraft with an inoperative flight recorder or cockpit voice recorder from a place where repair or replacement cannot be made to a place where they can be made;

(2) Continue a flight as originally planned if the flight recorder or cockpit voice recorder becomes inoperative after the aircraft has taken off;

(3) Conduct an airworthiness flight test during which the flight recorder or cockpit voice recorder is turned off to test it or to test any communications or electrical equipment installed in the aircraft;

(4) Ferry a newly acquired aircraft from a place where possession of it was taken to a place where the flight recorder or cockpit voice recorder is to be installed; or

(5) Operate an aircraft:

(i) For not more than 15 days while the flight recorder and/or cockpit voice recorder is inoperative and/or removed for repair provided that the aircraft maintenance records contain an entry that indicates the date of failure, and a placard is located in view of the pilot to show that the flight recorder or cockpit voice recorder is inoperative.

(ii) For not more than an additional 15 days, provided that the requirements in paragraph (b)(5)(i) are met and that a certificated pilot, or a certificated person authorized to return an aircraft to service under §43.7 of this chapter, certifies in the aircraft maintenance records that additional time is required to complete repairs or obtain a replacement unit.

(c) No person may operate a U.S. civil registered, multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration, excluding any pilot seats of 10 or more that has been manufactured after October 11, 1991, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium, that are capable of recording the data specified in appendix E to this part, for an airplane, or appendix F to this part, for a rotorcraft, of this part within the range, accuracy, and recording interval specified, and that are capable of retaining no less than 8 hours of aircraft operation.

(d) Whenever a flight recorder, required by this section, is installed, it must be operated continuously from the instant the airplane begins the takeoff roll or the rotorcraft begins lift-off until the airplane has completed the landing roll or the rotorcraft has landed at its destination.

(e) Unless otherwise authorized by the Administrator, after October 11, 1991, no person may operate a U.S. civil registered multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration of six passengers or more and for which two pilots are required by type certification or operating rule unless it is equipped with an approved cockpit voice recorder that:

(1) Is installed in compliance with §23.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g); §25.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g); §27.1457(a) (1) and (2), (b), (c),

(d), (e), (f), and (g); or §29.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g) of this chapter, as applicable; and

(2) Is operated continuously from the use of the checklist before the flight to completion of the final checklist at the end of the flight.

(f) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used, so that at any time during the operation of the recorder, information recorded more than 15 minutes earlier may be erased or otherwise obliterated.

(g) In the event of an accident or occurrence requiring immediate notification to the National Transportation Safety Board under part 830 of its regulations that results in the termination of the flight, any operator who has installed approved flight recorders and approved cockpit voice recorders shall keep the recorded information for at least 60 days or, if requested by the Administrator or the Board, for a longer period. Information obtained from the record is used to assist in determining the cause of accidents or occurrences in connection with the investigation under part 830. The Administrator does not use the cockpit voice recorder record in any civil penalty or certificate action.

[Doc. No. 18334, 54 FR 34318, Aug. 18, 1989, as amended by Amdt. 91–226, 56 FR 51621, Oct. 11, 1991; Amdt. 91–228, 57 FR 19353, May 5, 1992]

14 CFR 135.151, Cockpit Voice Recorders

§ 135.151 Cockpit voice recorders.

(a) No person may operate a multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration of six or more and for which two pilots are required by certification or operating rules unless it is equipped with an approved cockpit voice recorder that:

(1) Is installed in compliance with §23.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g); §25.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g); §27.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g); or §29.1457(a) (1) and (2), (b), (c), (d), (e), (f), and (g) of this chapter, as applicable; and

(2) Is operated continuously from the use of the check list before the flight to completion of the final check list at the end of the flight.

(b) No person may operate a multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration of 20 or more seats unless it is equipped with an approved cockpit voice recorder that—

(1) Is installed in compliance with §23.1457, §25.1457, §27.1457 or §29.1457 of this chapter, as applicable; and

(2) Is operated continuously from the use of the check list before the flight to completion of the final check list at the end of the flight.

(c) In the event of an accident, or occurrence requiring immediate notification of the National Transportation Safety Board which results in termination of the flight, the certificate holder shall keep the recorded information for at least 60 days or, if requested by the Administrator or the Board, for a longer period. Information obtained from the record may be

used to assist in determining the cause of accidents or occurrences in connection with investigations. The Administrator does not use the record in any civil penalty or certificate action.

(d) For those aircraft equipped to record the uninterrupted audio signals received by a boom or a mask microphone the flight crewmembers are required to use the boom microphone below 18,000 feet mean sea level. No person may operate a large turbine engine powered airplane manufactured after October 11, 1991, or on which a cockpit voice recorder has been installed after October 11, 1991, unless it is equipped to record the uninterrupted audio signal received by a boom or mask microphone in accordance with §25.1457(c)(5) of this chapter.

(e) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used, so that during the operation of the recorder, information:

(1) Recorded in accordance with paragraph (a) of this section and recorded more than 15 minutes earlier; or

(2) Recorded in accordance with paragraph (b) of this section and recorded more than 30 minutes earlier; may be erased or otherwise obliterated.

[Doc. No. 16097, 43 FR 46783, Oct. 10, 1978, as amended by Amdt. 135–23, 52 FR 9637, Mar. 25, 1987; Amdt. 135–26, 53 FR 26151, July 11, 1988; Amdt. 135–60, 61 FR 2616, Jan. 26, 1996]

14 CFR 135.152, Flight Recorders (Note: Subsections which specify parameters have been deleted for brevity)

§ 135.152 Flight recorders.

(a) Except as provided in paragraph (k) of this section, no person may operate under this part a multi-engine, turbine-engine powered airplane or rotorcraft having a passenger seating configuration, excluding any required crewmember seat, of 10 to 19 seats, that was either brought onto the U.S. register after, or was registered outside the United States and added to the operator's U.S. operations specifications after, October 11, 1991, unless it is equipped with one or more approved flight recorders that use a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The parameters specified in either Appendix B or C of this part, as applicable must be recorded within the range, accuracy, resolution, and recording intervals as specified. The recorder shall retain no less than 25 hours of aircraft operation.

(b) After October 11, 1991, no person may operate a multiengine, turbine-powered airplane having a passenger seating configuration of 20 to 30 seats or a multiengine, turbine-powered rotorcraft having a passenger seating configuration of 20 or more seats unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data, and a method of readily retrieving that data from the storage medium. The parameters in appendix D or E of this part, as

applicable, that are set forth below, must be recorded within the ranges, accuracies, resolutions, and sampling intervals as specified.

(1) Except as provided in paragraph (b)(3) of this section for aircraft type certificated before October 1, 1969, the following parameters must be recorded:

(i through xvii deleted for brevity)

(3) For aircraft manufactured after October 11, 1991, all of the parameters listed in appendix D or E of this part, as applicable, must be recorded.

(c) Whenever a flight recorder required by this section is installed, it must be operated continuously from the instant the airplane begins the takeoff roll or the rotorcraft begins the lift-off until the airplane has completed the landing roll or the rotorcraft has landed at its destination.

(d) Except as provided in paragraph (c) of this section, and except for recorded data erased as authorized in this paragraph, each certificate holder shall keep the recorded data prescribed in paragraph (a) of this section until the aircraft has been operating for at least 25 hours of the operating time specified in paragraph (c) of this section. In addition, each certificate holder shall keep the recorded data prescribed in paragraph (b) of this section for an airplane until the airplane has been operating for at least 25 hours, and for a rotorcraft until the rotorcraft has been operating for at least 10 hours, of the operating time specified in paragraph (c) of this section. A total of 1 hour of recorded data may be erased for the

purpose of testing the flight recorder or the flight recorder system. Any erasure made in accordance with this paragraph must be of the oldest recorded data accumulated at the time of testing. Except as provided in paragraph (c) of this section, no record need be kept more than 60 days.

(e) In the event of an accident or occurrence that requires the immediate notification of the National Transportation Safety Board under 49 CFR part 830 of its regulations and that results in termination of the flight, the certificate holder shall remove the recording media from the aircraft and keep the recorded data required by paragraphs (a) and (b) of this section for at least 60 days or for a longer period upon request of the Board or the Administrator.

(f)(1) For airplanes manufactured on or before August 18, 2000, and all other aircraft, each flight recorder required by this section must be installed in accordance with the requirements of §23.1459, 25.1459, 27.1459, or 29.1459, as appropriate, of this chapter. The correlation required by paragraph (c) of §23.1459, 25.1459, 27.1459, or 29.1459, as appropriate, of this chapter need be established only on one aircraft of a group of aircraft:

(i) That are of the same type;

(ii) On which the flight recorder models and their installations are the same; and

(iii) On which there are no differences in the type designs with respect to the installation of the first pilot's instruments associated with the flight

recorder. The most recent instrument calibration, including the recording medium from which this calibration is derived, and the recorder correlation must be retained by the certificate holder.

(f)(2) For airplanes manufactured after August 18, 2000, each flight data recorder system required by this section must be installed in accordance with the requirements of §23.1459 (a), (b), (d) and (e) of this chapter, or §25.1459 (a), (b), (d), and (e) of this chapter. A correlation must be established between the values recorded by the flight data recorder and the corresponding values being measured. The correlation must contain a sufficient number of correlation points to accurately establish the conversion from the recorded values to engineering units or discrete state over the full operating range of the parameter. Except for airplanes having separate altitude and airspeed sensors that are an integral part of the flight data recorder system, a single correlation may be established for any group of airplanes—

(i) That are of the same type;

(ii) On which the flight recorder system and its installation are the same; and

(iii) On which there is no difference in the type design with respect to the installation of those sensors associated with the flight data recorder system. Documentation sufficient to convert recorded data into the engineering units and discrete values specified in the applicable appendix must be maintained by the certificate holder.

(g) Each flight recorder required by this section that records the data specified in paragraphs (a) and (b) of this section must have an approved device to assist in locating that recorder under water.

(h) The operational parameters required to be recorded by digital flight data recorders required by paragraphs (i) and (j) of this section are as follows, the phrase “when an information source is installed” following a parameter indicates that recording of that parameter is not intended to require a change in installed equipment.

(1 through 88 deleted for brevity)

(i) For all turbine-engine powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats, manufactured after August 18, 2000—

(1) The parameters listed in paragraphs (h)(1) through (h)(57) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(2) Commensurate with the capacity of the recording system, all additional parameters for which information sources are installed and which are connected to the recording system must be recorded within the ranges, accuracies, resolutions, and sampling intervals specified in Appendix F of this part.

(j) For all turbine-engine-powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats, that

are manufactured after August 19, 2002 the parameters listed in paragraph (a)(1) through (a)(88) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(k) For aircraft manufactured before August 18, 1997, the following aircraft types need not comply with this section: Bell 212, Bell 214ST, Bell 412, Bell 412SP, Boeing Chinook (BV–234), Boeing/Kawasaki Vertol 107 (BV/KV–107–II), deHavilland DHC–6, Eurocopter Puma 330J, Sikorsky 58, Sikorsky 61N, Sikorsky 76A.

[Doc. No. 25530, 53 FR 26151, July 11, 1988, as amended by Amdt. 135–69, 62 FR 38396, July 17, 1997; 62 FR 48135, Sept. 12, 1997; Amdt. 135–89, 68 FR 42939, July 18, 2003]

ICAO Annex 6, Part III – International Operations - Helicopters

Current Version

4.3 Flight Recorders, Note 2 – Combination recorders (CVR/FDR) can only be used to meet the flight recorder equipage requirements as specifically addressed in this Annex (*Ref 4.3.1.6 and 4.3.4.1 below*).

4.3.1.6- Recommendations- All helicopters of a maximum certificated takeoff mass over 2700 kg, required to be equipped

with a FDR and/or CVR, may alternatively be equipped with one combination recorder (FDR/CVR).

4.3.4.1- (Applies to helicopters of a maximum certificated takeoff mass over 3180 kg issue an initial certificate of airworthiness after 1 January 2005) Note- A single, combination CVR/FDR is acceptable.

Revision proposed by ICAO Helicopter Tiltrotor Study Group (HTSG)

4.3 Flight Recorders, Note 2 – Combination recorders (CVR/FDR) may be used to meet the flight recorder equipage requirements in this Annex.

JAR-OPS 3, Subpart K – Instruments and Equipment

JAR-OPS 3.700 (e)- In complying with this section, the cockpit voice recorder may be combined with the flight data recorder. (See ACJ OPS 3.700(e))

JAR-OPS 3.705 (e)- In complying with this section, the cockpit voice recorder may be combined with the flight data recorder. (See ACJ OPS 3.700(e))

JAR-OPS 3.715 (g)- In complying with this section, the flight data recorder may be combined with the cockpit voice recorder. (See ACJ OPS 3.700(e))

JAR-OPS 3.720 (g)- In complying with this section, the flight data recorder may be combined with the cockpit voice recorder. (See ACJ OPS 3.700(e))

ACJ OPS 3.700(e), Combination Recorder

1. Compliance with CVR and FDR requirements may be achieved by the carriage of a combination recorder

Existing installations of Combi Recorders in Rotorcraft

Combi recorders entered the marketplace nearly ten years ago. Combi recorders have been installed in following rotorcraft in accordance with existing airworthiness rules:

- Sikorsky S-76
- Sikorsky S-92
- Bell-212/412
- Eurocopter EC-155/EC-255
- AB-139
- Aerospatiale AS-332

Arguments for Permitting a Single Combi Recorder in Rotorcraft

Reliability- One manufacturer reports the expected MTBF of Combi units is 30,000 hours with field experience showing actual reliability at much higher numbers (as high as 75,000 hours). Reliability is reported by this manufacturer as 25,750 hours for the SSCVR and 29,250 hours for the SSFDR.

Crash dynamics- Arguments against the use of a single Combi recorder in aircraft are based on the possibility that an accident could destroy the one recorder on the aircraft. The NTSB is promoting a requirement for two remotely located Combi recorders per aircraft to increase the probability that at least one Combi recorder would survive an accident. The EQU Working Group believes this logic should not be applied to Rotorcraft. The NTSB position appears based on the dynamics of a fixed-wing crash where the speed, aircraft weight, and fuel onboard are significantly different than those experienced in a rotorcraft. The Recommendation Item does not attempt to quantify those differences but subjectively one can conclude that the crash dynamics are significantly different. Also, the argument that two remotely located Combi recorders would increase the likelihood that at least one of the recorders would survive the accident does not address the limited space available in rotorcraft for installation of this equipment. While transport category aircraft or large corporate aircraft may allow separation of this equipment by significant distances, separation on rotorcraft would be

minimal and it is questionable how much additional survivability would be possible in a typical rotorcraft installation.

Weight, space and power considerations for Rotorcraft and reduced operating costs

This consideration is discussed in part in the above section. A typical Combi recorder weighs 15 pounds. A typical SSCVR weighs 16 pounds and a typical SSFDR weighs 18 pounds. A typical weight savings for a Combi installation compared to a SSCVR and SSFDR installation is 19 pounds. Considering the useful loads and limited CG ranges of many rotorcraft, this savings in weight is significant. Over the life of the aircraft this reduced weight would also provide the operator some reduction in operating costs.

A Combi recorder installation requires approximately the same volume of space as that required by either a SSCVR or SSFDR, therefore, compared to a separate SSCVR and SSFDR installation, a single Combi recorder reduces the volume required by 50%. Installation of a Combi recorder in a rotorcraft optimizes volume of space available. A requirement for a second Combi recorder on rotorcraft eliminates the space advantage offered by a Combi recorder and reduces the space available for other safety equipment such as EGPWS, TAS/TCAS, FMS, etc. The additional safety offered by EGPWS, TAS/TCAS, FMS, etc., would seem to add more safety value than a second Combi Unit.

Power consumption of a Combi recorder is typically 10 watts. A typical SSCVR and SSFDR each use 12 watts each. A Combi recorder reduces power requirements by nearly 60%.

Another advantage offered by a single Combi recorder is a reduction in spares costs. Considering the cost of these different recorders, as provided earlier in this Recommendation Item, a shipset of one SSCVR and one SSFDR, based on typical catalog pricing, is $14,000 more than one Combi recorder. If an operator maintains one shipset of spares on hand, the operator would save an additional $14,000 in inventory cost reduction.

International Regulatory Harmonization

As presented earlier in this Recommendation Item, JAR OPS 3 and ICAO Annex 6 permit the use of a single Combi recorder in rotorcraft where CVR and FDR functionality is required. Newly manufactured rotorcraft (helicopters) being operated in Europe under JAR OPS 3 are typically being delivered with single Combi recorders.

Arguments Against Permitting a Single Combi Recorder in Rotorcraft

NTSB Position Letter dated 22 AUG 94

In a letter to the FAA from the NTSB dated 22 AUG 94, the NTSB presented its position regarding single Combi recorders in aircraft. The letter did not differentiate between fixed-wing aircraft and rotorcraft and used the term “aircraft.” In summary, the NTSB stated that:

- The use of a single combination CVR/FDR should be prohibited for aircraft now requiring both a CVR and FDR.
- The use of two combination CVR/FDR recorders should be promoted for aircraft now requiring both a CVR and FDR.

- The use of a combination CVR/FDR should be promoted for aircraft now requiring only a CVR.

FAA Letter dated 21 AUG 96

In a letter from the Manager of the Aircraft Engineering Division, AIR-100 to the Manager of the Rotorcraft Standards Staff, ASW-100, the manager of the Aircraft Engineering Division stated he concurred with the NTSB's position as presented in their letter of 22 AUG 94. In the AIR-100 letter no differentiation between fixed-wing and rotorcraft was made and the term "aircraft" was used.

Single Point Failure

Single point failures (SPF) have been a major discussion item regarding the use of single Combi recorders. According to one manufacturer there are three possible contributors to SPF:

- Processor
- Power supply
- Memory flex cable

While these SPFs do exist, operational data and expected MTBF analysis has shown these failures to be a low probability. This issue can be further mitigated by reducing the time or under what conditions a rotorcraft may be flown with an inoperative Combi recorder.

Economic Impact

The economic impact of this proposed change would be to reduce the equipment and operating cost for the aircraft operators where a separate CVR and FDR are now required. The cost savings would vary depending on several factors including the

operator's fleet size, hours flown, and spares program. One metric to consider is the cost savings due solely to price of the equipment. From data previously provided in this Recommendation Item, the catalog price of a Combi Recorder is $29,500. A typical SSCVR has a catalog price of $21,500 and a typical SSFDR has a catalog price of $21,500. Based on acquisition cost alone, the savings are $13,500 per aircraft. To this can be added the reduced installation costs. On a recurring basis one can consider the reduced aircraft operating costs resulting from a weight savings of 19 pounds the Combi recorder offers.

Conclusion

The Equipment and Technology Working Group concludes that Combi recorders offer unique advantages to the Rotorcraft community due to their reduced weight, lower acquisition/installation costs and lower cost of operation. Authorizing Combi recorders will increase the level of safety in rotorcraft and harmonize the equipment requirements with international regulatory agencies.

The arguments against single Combi recorders by the NTSB and the FAA appear to primarily focus on Fixed-wing aircraft and do not adequately consider rotorcraft operations and the limitations of rotorcraft to accommodate dual Combi recorders. Combi recorder reliability concerns, i.e., single point failures, can be mitigated by limiting the operations of the rotorcraft with an inoperative Combi recorder.

(EQU 18) Pitot Static System—Other Approved Systems

Discussion:

§135.163 (e) is outdated and overly restrictive. If an aircraft does not specifically have an alternate source of static pressure for the altimeter, and airspeed and vertical speed indicators, the aircraft cannot be approved for single pilot Part 135 operations regardless how the aircraft manufacturer demonstrated compliance with §23.1325.

Background

On December 13, 1999, the Director of Flight Standards Service issued a memorandum that set a policy for alternate static source for aircraft certificated for single pilot operations. The memo cited 14 CFR Section 135.163 (e), which requires an alternate source of static pressure for the altimeter and the airspeed and vertical speed indicators. The result of the memorandum was the immediate grounding of a significant number of Raytheon, Cessna, and Pilatus aircraft used in Part 135 operations since each of these aircraft did not utilize a traditional “alternate source of static pressure” design.

During the following six months, Raytheon, Cessna and Pilatus all demonstrated to the FAA’s Aircraft Evaluation Group that the aircraft could be safely flown by a single pilot in IFR with the alternate design of the static pressure systems.

In April 2000, the FAA Air Transportation Division (AFS-200) published a revised memorandum recognizing the acceptability of dual, independent static sources for the altimeter and the airspeed and vertical speed indicators in meeting the equipment requirements of § 135.163 for single-pilot IFR operations.

FAA Note: Verify the following are the current rule sections--

§ 135.163 Equipment requirements: Aircraft carrying passengers under IFR.

No person may operate an aircraft under IFR, carrying passengers, unless it has -

(e) An alternate source of static pressure for the altimeter and the airspeed and vertical speed indicators;

§ 23.1325 Static pressure system. (c) Except as provided in paragraph (d) of this section, if the static pressure system incorporates both a primary and an alternate static pressure source, the means for selecting one or the other source must be designed so that -(1) When either source is selected, the other is blocked off; and

(2) Both sources cannot be blocked off simultaneously.

Recommendation: Amend section 135.163 to allow an alternate approved system.

(EQU 19) Terminology

Discussion:

This Recommendation Item reviews the following 14 CFR Parts for the use of appropriate and current terminology: Parts 23, 25, 27, 29, 91, 121, 125, 135.

Scope of this Recommendation Item

The Equipment and Technology Working Group limited its review to 14 CFR but recognizes that many other FAA publications such as Advisory Circulars and guidance and reference materials also need to be reviewed to insure the terminology used is current and consistent. The Equipment and Technology Working Group felt that a review outside of 14 CFR was beyond the scope of the Part 135 ARC. If the FAA adopts the changes to 14 CFR recommended in this Recommendation Item, it is suggested that the FAA also initiate a review of other FAA publications to insure consistency of terminology.

Background

A review of Part 135 and other Parts in 14 CFR showed that some of the terminology is outdated. The Equipment and Technology Working Group initiated Recommendation Item EQU 19 to review Parts 23, 25, 27, 29, 91, 121, 125, and 135. The Working Group initiated this effort with a detailed review of Part 135 and Part 91. One of the lessons learned from the detailed review of these two parts was that the review process could be satisfactorily conducted by executing a search of the Parts using key words. These key words would lead the reviewer to the sections of the rules that contained terminology or statements that would be reviewed for appropriate and current terminology usage. The following key words were selected based on the detailed reviews conducted to Part 135 and Part 91:

- radio
- ground
- facilities
- communications
- navigations
- telephone
- gyroscopic/gyroscopic
- slip/skid
- indicator
- celestial
- precision

Another lesson learned by the detailed review of Part 135 and Part 91was that clarifying or redefining certain common terms used in the rules could reduce the volume of changes required to the rules. The Working Group used the following definitions during its review of Parts 23, 25, 27, 29, 91, 121, 125, and 135. It is recommended that the FAA adopt these definitions when 14 CFR is updated.

Global Positioning System (GPS)- GPS is a satellite-based radio navigational, positioning, and time transfer system. The system provides highly accurate position and velocity information and precise time on a continuous global basis to properly equipped users. (Note: This definition is currently included in Part 91 under SFAR 97 and is noted here for the benefit of the reader.)

Gyroscopic "instrument"- An angular rate sensor that is designed to present angular rate information to the pilot in a specific manner. Angular rate sensing may be accomplished by the use of a mechanical or electronic gyroscope. Examples of Gyroscopic Instruments are: Direction Indicator, Turn Indicator or Rate of Turn Indicator, Attitude Indicator, Bank and Pitch Indicator.

Gyro Stabilized- An instrument or other device that is stabilized using inputs from a mechanical or electronic gyroscope.

Radio- An electronic device that transmits and/or receives information by means of electromagnetic waves. The information transmitted and/or received can be voice communication, data communications, or navigational signals.

Facility- A site or station that provides an intended function or service, such as communications, regardless of where the equipment it uses to accomplish its function or

service is located. For example, a communications facility can be ground-based or satellite-based.

(EQU 21) Encoding Altimeter and Pitot Static System Testing Requirements

Discussion:

A meeting was hosted by EuroControl and the JAA on May 19, 2004 in which the FAA participated. The FAA's interest in this meeting was to review current Mode S and Mode A/C, as well as encoding altimeter/device testing requirements and procedures found within 14 CFR parts 43, Appendix E and F, and 14 CFR part 91, §§ 91.411 and 91.413.

Background:

Terry Pearsall of AFS-350 initiated this recommendation Item in an e-mail dated 17 AUG 04.

Referenced CFR Parts

§91.411, Altimeter system and altitude reporting equipment tests and inspections

§91.413, ATC transponder tests and inspections

Part 43, Appendix E, Altimeter System Tests and Inspection

Part 43, Appendix F, ATC Transponder Tests and Inspections

The current requirements that are not technically consistent are:

§91.411 (a) (2) "Except for the use of system drain and alternate static pressure valves, following any opening and closing of the static pressure system, that system has been tested and inspected and found to comply with paragraph (a), appendices E and F, of part 43 of this chapter; and…"

Wherein, the text *appendices E and F* represent a burden to testing encoding altimeters, which are installed but are not connected to a transponder, thus requiring that they be tested. Therefore, the FAA should change the language of *"and F"* and change "*appendices*" to "appendix", thus removing the requirement.

This proposed language change has been vetted through EuroControl who is in the process of defining test requirements for Mode A/C and Mode S transponder equipment and are aware of unintended consequences of possibly adopting our existing regulation verbatim without realizing the effects of such a burden.

(EQU 23) Use of datalink in Lieu of Weather Radar FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

Operations Work Group Recommendations:

(OPS 1)

Flight, Duty and Rest

FAA Note: The flight, duty and rest proposals are incorporated into this master document but may be broken out later into a separate, stand alone regulatory document.

Background:

Statement of the problem

The Civil Aeronautics Act of 1938 (52 Stat. 1007; as amended by 62 Stat. 1216, 49 U.S.C. 551) and subsequently, the Federal Aviation Act of 1958 (now codified

at 49 U.S.C. Sec. 40101 et seq.) addressed the issue of regulating flight crewmember hours of service. The Federal Aviation Act, as amended, empowers and directs the Secretary of Transportation to establish ``regulations in the interest of safety for the maximum hours or period of service of airmen and other employees of air carriers." 49 U.S.C. Sec. 44701(a)(4). Moreover, the Act also provides the FAA with the authority to prescribe ``regulations and minimum standards for other practices, methods, and procedures the Administrator finds necessary for safety in air commerce and national security." 49 U.S.C. Sec. 44701(a)(5).

The current rules specify flight time limitations and **rest** requirements for air carriers certificated to operate under part 121 (domestic: subpart Q; flag: subpart R; and supplemental: subpart S) and part 135 (subpart F).

In December of 1995, the FAA release a notice of proposed rulemaking (NPRM) that sought to revise the flight, duty and rest requirements of air carriers conducting operations under FAR Part 121 and 135. By June of 1996, the FAA had received over 2,600 comments on the proposal. In 1998, the FAA requested that the Aviation Rulemaking Advisory Committee (ARAC) attempt to develop a set of recommendations for the FAA on how to address lingering issues surrounding flight, duty and rest limitations. The ARAC was unable to achieve consensus on a recommendation and submitted a proposal to the FAA with little support from industry. During these rulemaking efforts, the vast majority of the effort focused on scheduled operations conducted under FAR Part 121.

HISTORY:

The Flight, Duty, and Rest (FDR) subgroup of the Part 135/125 Aviation Rulemaking Committee (ARC) was assigned the difficult task of developing a cure to a problem that has been in existence since the original writing of the Part 135 regulations. Over the years various ARAC's, and industry groups have tried to solve the problem, in addition to NPRM's presented by the FAA. However, to date, no group has been able to recommend a plan that is acceptable to all parties. Therefore, the current ARC had once again been assigned the task of updating the FDR regulation for Part 135 operators. The size of the problem could not be minimized, but it was the commitment of this ARC to once and for all develop a solution that will achieve general consensus amongst all the fractions within the Part 135 community. One of the first achievements of the FDR subgroup was to educate all members of the subgroup who were not on-demand operators, as to the real world operations of an on-demand Part 135 operator. Since the subgroup was made up of various fractions within the Part 135 community, many of whom were not familiar with on-demand operations, it was important to define the operations of an on-demand operator. Further, it was important the members were aware that a high percentage of on-demand operators business comes from "pop ups", or unscheduled business. When a pop up charter is confirmed, most operators only have an hour or two before the crews must be ready to begin their flight assignment. This is particularly true in small on-demand charter operations, air cargo operations, and air medical operations. With approximately 2,800 Part 135 charter operators in the domestic US, a high percentage of these operators (estimates are 75 to 85%) are on-demand operators, and fall within these three categories. The difficulty over the years in revising the FDR rules is that in the past, the revision attempts either tried to capture all the

fractions of the Part 135 community under one rule, or the revisions attempted to apply scheduled operation rules to an unscheduled business. The fractions within the Part 135 community operations are different enough that the one rule fits all theory wasn't acceptable, and applying scheduled operation rules to the unscheduled (on-demand) community wasn't acceptable either as those operators questioned how do you schedule pilots in an unscheduled business. A high percentage of on-demand operator's flights are booked with only a short time between confirmation of the flight and its departure time.

Once all members of the subgroup understood the on-demand segment of the Part 135 community, they directed their focus to pilot rest, and the prevention of pilot fatigue within that community. In so doing, it became clear to the subgroup members, that the current regulations requiring *prospective rest* prior to a flight assignment needed reviewed. Stated another way, the subgroup members needed to resolve the dilemma of how does an on-demand operator give prospective rest to its crewmembers considering the nature of the on-demand business, and if prospective rest is not required, how do you prevent pilot fatigue?

Currently, under existing Part 135 regulations for on-demand operations, a pilot is required to have 10 hours of rest in the 24 hours preceding the completion of their flight assignment (§135.267(d). The legal interpretations supporting this rule have determined the rest required by this regulation must be prospective. To be prospective, the operator must know about the flight more than 10 hours prior to the scheduled departure time, in order for the operator to place their pilot(s) in rest. Unfortunately, a high percentage of time within the on-demand charter industry, an operator is not given that much time by their customer. This is why the industry is referred to as "on-demand". Depending on

location and type of charter flying (passenger, cargo, medical, etc.), the "pop up" flights account for as low as 5% of operator's flights to as high as 100% of operator's flights. A pop up flight is a flight that is unplanned or unscheduled, and requires the operator to be off the ground within a short period of time. The pop up charter departure times will vary amongst operators, but will be from as little as one-hour notice to a maximum of 2 hours notice. Although the response time will vary with each operator, all operators will respond in less than 10 hours, and therefore, the operator is unable to give its crew the required 10 hours of prospective rest.

DEVELOPMENT

Realizing that a large percent of the business provided by the on-demand air charter industry requires a quick response to a short notice by their customers, the FDR subgroup set about finding a method by which prospective rest could be eliminated. In order to eliminate prospective rest, the subgroup knew its alternative to prospective rest had to maintain the same level of safety as the current rule, and pilot fatigue had to be addressed.

After several meetings, and hours of consideration, research, review, and design, the FDR subgroup developed a "Crewmember Availability Method" (CAM), affectionately called the "Wheel". This tool would replace the need for prospective rest, while for the first time in history, pilots would be guaranteed a protected time of rest each 24-hour period, which addresses the pilot fatigue issue. Although the FDR subgroup developed other criteria for Part 135 operators who are not classified as on-demand (scheduled, regularly assigned, or operating under a fatigue management program), the CAM was developed solely for the on-demand charter operator.

In developing the CAM, the critical areas of design were the following.

1. It must meet or exceed the current level of safety.
2. It must address pilot fatigue.
3. It must realistically reflect the business of on-demand air charter.
4. It must be easy to understand and implement.
5. It must be user friendly for FAA auditing and record keeping.

The FDR subgroup believes the CAM does encompass the design criteria stated above, and is revolutionary for the on-demand air charter industry.

DESIGN

The Crewmember Availability Method (CAM) was designed as a pilot-scheduling tool for the on-demand charter industry. The CAM (final draft will have the visual design) is a two-part tool with the primary part being a fixed 24-hour clock, and the overlay part being a “Wheel” looking device, which represents a 24-hour period of time. The primary part is a fixed standard 24-hour clock and the Wheel is the movable portion of the tool. The Wheel is colored to depict an 8-hour “Protected Time” and a 16-hour “Available Time”. The 8-hour Protected Time is divided into 7 hours of uninterrupted Protected Time, followed by a 1-hour “Contact Time”. For easy visual reference, the Protected Time is colored in red, the Contact Time in yellow, and the Available Time in green. The “Wheel” portion of the CAM is movable, and can be spun to reflect what time on the fixed 24-hour clock (the primary portion of the CAM), an on-demand operator wants protected for pilots in their employment. It can be individualized or used as a single tool for all pilots, and the protected times can be modified or changed (with restrictions) by an operator.

As the CAM is further described in the following paragraphs, it should be remembered that the CAM was developed to eliminate the current requirement for prospective rest prior to a flight assignment, and to prevent pilot fatigue. It is a paradigm change for the on-demand industry, and a change that most fairly resolves the pilot rest and fatigue issues for on-demand operators, particularly considering that the FAA will no longer accept the status quo.

OPERATION

Upon the hiring of a pilot or changing to the CAM as the pilot scheduling tool for an operator, each pilot will be assigned a 8-hour protected time in each 24-hour period the pilot is available for a flight assignment. Once a pilot has been assigned to the CAM, a notation will be made in his/her permanent record, and noted on his/her flight/duty monthly log (see the attached example of a Part 135 on-demand flight/duty log). The record entries shall identify the pilot by name, time zone of domicile, and his/her protected hours of the day by identifying the start and ending of the protected time in local or GMU time. All changes thereon to the pilots CAM shall be made in a similar manner.

Once assigned to the CAM it will be a shared responsibility of the operator and the pilot to make sure both abide by the FAR's pertaining to the rest and availability associated with the CAM.

If an operator changes the protected time of a pilot by two hours or less, no compensatory rest time is required for this change. However, a ten-hour (10) rest period is required prior to the beginning of the new protected time period. If an operator changes the protected time of a pilot by more than two hours, but less than four hours, a

compensatory sixteen-hour (16) rest period must be given prior to the beginning of the new protected time. If an operator changes the protected time by four hours or more, a forty eight-hour (48) compensatory rest period must be given prior to the beginning of the new protected time.

1. The Wheel portion of the CAM is broken down into three parts as stated under the Design section above. The three parts are the protected time, contact time, and available time. These three parts cover a 24-hour period. During the 7-hour protected time (red area on the "wheel"), a certificate holder is forbidden to contact a pilot for any reason, and the pilot has no obligation to the certificate holder. During the last hour of the 8-hour protected time is the Contact Time (yellow area on the wheel). During this time, a crewmember has no obligation to the certificate holder for any duty assignment, but the certificate holder may actively attempt contact.

The contact time is for contact only, and not for travel or any other certificate holder requirements. The earliest a flight assignment may begin is the safe travel time from the crewmember's rest location to the flight assignment departure location; which travel may not begin prior to the end of the protected time (full 8 hour protected time). The rest location of a crewmember during their 8-hours of protected time may be their home, or other similar lodging (i.e., hotel, motel, lodge, etc.).

The balance of the 16 remaining hours on the wheel is the Available Time, which is colored in green (green area of the wheel). During this period of time, a crewmember is available to receive a flight assignment, or other employment related assignments as required by their certificate holder (i.e., navigational revisions, scheduling duties, etc.).

The certificate holder is allowed to issue to the crewmember any equipment (cell phone, pager, etc.) necessary to be able to contact the crewmember during the Available Time, and Available Time is not duty.

A flight assignment may be given to a crewmember where the planned completion of the flight assignment penetrates the crewmembers protected time. However, any planned or unplanned penetration of a crewmembers protected time shall have the following restrictions:

1. The crewmembers protected time may not be penetrated by more than two hours.
2. If the crewmembers protected time is penetrated, a compensatory rest time of 12 hours shall be required, and said rest shall begin at the end of the crewmembers flight assignment.
3. Only two penetrations of the crewmembers protected time will be allowed in any 7 calendar day period.

Once assigned to the CAM, a pilot remains on the CAM for the purpose of scheduling future flight assignments unless they transition to the tabular method (TAB), and comply with the transition requirements. If a pilot remains on the CAM, and has not received a future flight assignment prior to or during his/her 10-hour rest period following their last flight assignment, the pilot automatically reenters their assigned CAM at the time their rest period ends. This reentry point of the CAM will dictate the amount of availability they have left, for receiving a future flight assignment.

REGULATORY REQUIREMENTS

To operate using the CAM, an operator must meet the following requirements.

1. Prior to a crewmember being given a flight assignment, the crewmember must have had a minimum of 10 hours of consecutive rest, or the applicable compensatory rest, since his/her last flight assignment.
2. The crewmembers Protected Time must begin and end at the same time each calendar day, based on the time zone of the crewmembers assigned domicile.
3. The flight and duty time limitations listed in the TAB for unscheduled pilot operations is the ruling guidance for pilot's assigned duty under the CAM. Once a flight assignment is given to a pilot assigned to the CAM, the pilot's duty time will be limited by the most restrictive of the CAM or TAB.

MINORITY POSITION

The stated goal of the FDR Subgroup of the Part 135/125 ARC was to develop a consensus proposal to replace the current Flight, Duty and Rest Regulations of FAA Part 135/125. Because the majority's proposal, if adopted, would lead to a degradation in safety from the existing Part 135 FDR rules, and for reasons that follow, a consensus proposal to change the Part 125/135 Flight/Duty/Rest regulations was not possible.

A minority of the FDR Subgroup dissented from the proposal of the majority to change the existing Part 135/125 FDR rules and encourages the FAA to modernize and harmonize the Part 135/125 FDR regulations based upon modern scientific principles. Aircraft and aviation operations may differ, but by and large, human physiology and the physiological responses of various pilots and pilot groups to the fatigue factors inherent

in discrete operational settings do not. The majority of the ARC FDR Subgroup ultimately determined not to consider, or adopt, the minority's proposal to modernize the FDR regulations under Part 135/125, but rather pursued and ultimately adopted a proposal developed by certain Subgroup members designed primarily to permit an increase in the hours of availability and the hours of work assignable to pilots employed by on-demand operators. No proposal to change the existing Part 135 rules for scheduled operators was proposed by the majority. The minority calls upon FAA to correct this error in drafting proposed new regulations and to propose updating the Part 135/125 Flight, Duty and Rest Regulations based upon scientifically demonstrated human performance limitations rather than perceptions of operational necessity.

The present FAA flight time/duty time rules are a patchwork of regulations that have been developed over the past fifty or sixty years. For example, the rules usually applied to air carrier cargo operations – the supplemental rules -- were developed over 50 years ago for unscheduled freight operations using piston-powered aircraft. Many of these post WW-II vintage aircraft had unpressurized cabins, cruise speeds in the 200-knot range, and flight crews consisting of at least two pilots and often a flight engineer. In the 21st Century, air carriers and other commercial operators have used modern technology to decrease cockpit crew size and travel times and to increase pilot and aircraft utilization. This has put additional pressures on flight crews. As the overall system complexity continues to increase, the hazards associated with pilot fatigue in the industry are as great as they have ever been.

Because the FAA's flight and duty time rules are antiquated and dated, they are frequently augmented in the air carrier industry and at some commercial operators by collective bargaining agreements. The National Mediation Board has extended "air carrier" status under the Railway Labor Act to FAA Part 135 on-demand aircraft operations, recognizing the right of those employees to an equal level of protection under federal law and recognizing their right to form collective bargaining units. However, such collective bargaining agreements affect only a part of the industry and do not result in uniform treatment of flight, duty and rest limitations at all operators. This puts pressure on operators to reduce crew rest due to a belief that reducing crew rest results in "productivity," increases that are necessary for an economic advantage, or even survival. Pressures are especially acute in economic downtimes. It has been stated more than once that for some operators, the FAA flight, duty and rest regulations are a goal rather than a limitation.

During the mid-1990's, a number of high-profile aircraft accidents attracted public and media attention to questions of aviation safety. A number of these high-profile accidents involved Part 135 operators. At that time and there were indications that these commercial operators were not providing the reliable and consistent level of safe transportation expected by paying passengers and the public. In response to this public interest, the FAA Administrator -- and the Secretary of Transportation -- helped direct the FAA towards a regulatory system for all U.S. commercial aviation based upon the principle of a "Single Level of Safety." In January 1995, former DOT Secretary Federico Pena convened an unprecedented aviation safety summit that called together

over 1,000 officials from the government, airlines, labor, and other segments of the industry to establish joint priorities and strategies for enhancing aviation safety. These events led to the landmark FAA ruling on the "Single Level of Safety" ("Commuter Rule"). The Commuter Rule required many 14 CFR Part 135 operators to transition to 14 CFR Part 121 by March 20, 1997.

This standard – the Single Level of Safety -- which has been applied to large airlines and regional airlines (formerly "commuters") alike, has become one of the FAA's guiding regulatory principles during the last decade and has been a widely heralded success.

The FAA proposed to modernize the flight, duty and rest regulations during the adoption process of the Commuter Rule. That attempt stalled for a number of reasons. Industry, pilots and the regulators were unable to reach a consensus and the industry-wide reform proposed in 1995 was not implemented. Nearly a decade later, the need for industry-wide reform in flight, duty and rest rules is still apparent. The NTSB's Most Wanted Transportation Safety Improvements includes "[s]et working hour limits for flight crews." Domestic carrier pilots have a flight time maximum of 30 hours in seven days, while flag carrier pilots are allowed up to 32 hours in the same seven days. Scheduled 135 pilots are limited to 34 hours per week. Supplemental (non-scheduled) air carrier pilots can fly 48 hours in a six-day period, or 60 percent more than domestic pilots. And Part 135 non-scheduled pilots have no weekly limit. The clear weight of scientific evidence supports the case that modernization and harmonization of the flight, duty and rest rules based on solid scientific principles is overdue, and needed to

enhance safety. Part of that reform is to limit the risk associated with overly long duty periods.

There is a pressing need to provide rational working hour limits for pilots engaged in all commercial aviation operations. Further, there is a real need for unification, or harmonization of the regulations to provide for a single standard, or "A Single Level of Safety." This is not the same as saying that all areas of operation or of the flight, duty and rest regulations must be reformed at once. Obviously, certain unique aspects of some operations must, of course, ultimately be addressed by variations in the rules tailored to those operations. For example, some of the specific areas that are unique or predominant in cargo operations are fatigue and rest issues due to the scheduling nature of these operations and heavy assignment of back-side-of-the-clock (window of circadian low) schedules; human factors challenges introduced by non-standardized airport infrastructure, crew support and rest facilities, increased workload due to older aircraft; and the use of Part 91 operations (e.g., tail-end ferry) to position aircraft. However, we must begin somewhere and the modernization of the regulations must begin with agreement to set rules based upon safety and hard scientific evidence rather than perceptions of operational necessity or even historical acceptability.

A regulatory regime for all pilots based upon a single common baseline established by the numerous and mounting number of authoritative and peer-reviewed scientific fatigue-related and safety studies conducted across the globe is called for. The minority's proposal to harmonize the Part 135/125 Flight, Duty and Rest rules with the

guidelines established by these scientific investigations is supported by outstanding government and NTSB safety recommendations.

The weight of the scientific evidence over the last 20 or so years has firmly established that the vast majority of humans, pilots included, can simply not be expected to capably, reliably and safely perform operational tasks with the same degree of safety or effectiveness as at the beginning of the shift past a time on duty beyond the range of 12 to 14 hours. Recent aviation accident studies point to a statistically significant increase in the rate of accident beyond 10 to 12 hours time on duty. Other studies show that 8 hours at the controls between required rest periods is the maximum period that one should normally be able to expect a rested pilot to perform reliably and safely. The NTSB and other accident investigation bodies are increasing the focus on fatigue as a factor in aviation accidents as well as in accidents in other modes of transportation. Additionally, scientific evidence continues to mount that the negative effects of disrupting a person, or pilot's, circadian rhythm, i.e., the sleep-rest-wake cycle, if anything, have, historically, been grossly underestimated.

When addressing possible revisions to the current flight, duty and rest regulations, the parties are seemingly and immediately at cross-purposes. The operators are looking for more availability and "productivity" from flight crews. For flight crews, safety advocates and scientists the question is often not whether to change the current rules, but rather how much to reduce the current flight and duty limitations to enhance safety and reduce risk.

Given that it is impossible to eliminate all risks of fatigue, we are mindful that in designing a new rule to replace the current Part 135/125 Flight, Duty and Rest regulations, that rule must not promote the occurrence of fatigue. Two central principles can serve to guide any effort to modernize the regulations: (1) the flight/duty cycle should not prevent the crew from being fully rested when they report for each duty cycle; and (2) the duration and timing of each cycle must allow the crewmembers to be alert during the entire duty cycle.

There is an increasing number of model flight and duty guidelines, and model rules that have been developed to promote these two principles by incorporating the results of relevant scientific studies and safety research and reports. Several examples of such model rules, such as those contained in the CAP 371, The Avoidance of Fatigue in Aircrews (UK, January 2004), were submitted and available to the FDR Subgroup and the ARC. The minority takes issue here, as it did in the Subgroup, with the approach of the majority in undertaking the creation of a proposed new 135/125 flight, duty and rest regulatory regime without the assistance of technical advisors, but rather based upon notions of operational necessity. The majority's proposal does not address the concern of pilots that any proposed changes to the rules show fidelity to the results of scientifically based sleep research, fatigue studies and safety reports.

A notable government study, Principles and Guidelines for Duty and Rest Scheduling in Commercial Aviation (NASA TM 110404) (1996) – one of a number of NASA Technical Memoranda developed in response to continuing concerns over fatigue in aviation -- recommended 10 hours maximum time on operational flight duties,

including time spent in required pre-flight activities, with a maximum 14-hour duty day. Another NASA TM, Crew Factors in Flight Operations XIV: Alertness Management in Regional Flight Operations Education Module (NASA TM 2002-211393), found that of 1,424 pilots surveyed at 26 regional airlines, 89% considered fatigue a "Moderate" or "Serious" concern; 88% reported that crew fatigue was common; and 80% admitted to having "nodded off" in the cockpit. The NTSB report discussing fatigue factors in the 1993 Guantanamo Bay crash, Rosekind, et al., Examining Fatigue Factors in Accident Investigations: Analysis of Guantanamo Bay Aviation Accident (NTSB 1994), found that a consensus of international scientists has agreed that fatigue "is the largest, identifiable and preventable cause of accidents in transport operations," causing or contributing to 15% to 20% of all accidents. Other documents submitted to the Subgroup and the ARC included overviews of the relevant scientific literature: the Batelle Institute's An Overview of the Scientific Literature Concerning Fatigue, Sleep, and the Circadian Cycle (1998); and the Air Line Pilots Association's (ALPA's) General Readings, (posted 10/25/04), a listing of pilot fatigue literature prepared for the use of the FDR Subgroup. During the ARC process, the minority also referenced and submitted selected items from the increasing volume of scientific sleep and fatigue studies, literature and reports. Unfortunately, there was inadequate substantive discussion or effective consideration of these and similar scientific resources by the FDR Subgroup during the ARC process.

Some members of the FDR Subgroup majority contended that fatigue has not presented a significant risk in past aviation accidents. The minority contends that that it is now understood that fatigue has historically been a greater factor than generally

assumed in aviation accidents. See ALPA, Fatigue Related Accident Chronology: Findings and Recommendations (accidents 1971-1997)(posted 5/24/04). Several recent scientific studies show an alarming and statistically significant increase in the risk of accident for pilots on duty for more than 12 hours. See Jeffrey Goode, Are pilots at risk of accidents due to fatigue?, Journal of Safety Research (March 27, 2003); see also NTSB Press Release, Experts: Human Fatigue Bigger Risk to Safety Than Realized (2004).

Some members of the FDR Subgroup majority contended that 14 hours time on duty was inadequate to meet their customer's needs and that longer duty periods were needed. They suggested extending pilot duty and standby time, and recommended pilot "napping" in the middle of the day (referred to in the majority's proposal as a "mid-duty" break) to allow busy executives to fly home late in the day with the same crew. It was suggested this mid-duty break concept might apply to other operations, such as cargo, as well. The minority contends there is no scientific basis for this proposal. The minority submits that modern scientific research (see e.g., Crew Factors in Flight Operations IX: Effects of Planned Cockpit Rest on Crew Performance and Alertness In Long-Haul Operations (NASA TM 108839) (September 1994)) shows that napping has been shown to have only an acute or short-term benefit in aviation operations; other research showing that "napping" has not been demonstrated to be an effective or acceptable mechanism to safely extend hours-on-duty. Despite this research and a contradictory and specific earlier agreement by the majority that "banking sleep" and "sleep[ing] on demand" were "not feasible," see KSN, Rest and Duty Meeting Report, April 20-22, 2004, at 6 (posted 5/25/04), the mid-duty break and banking sleep

approaches were ultimately adopted by the majority's proposal as a mechanism to extend the pilots' duty day.

The only other evidence considered by the majority in proposing the mid-duty break was the anecdotal evidence of individual Subgroup members who recalled feeling rested after naps or extra time off, and a limited number of popular news items showing that truck drivers and office workers reported feeling better after naps. A member of the Subgroup submitted the DOT trucking hours of service regulations as a basis for designing a regulation extending pilots' maximum regulatory duty day by the use of a mid-duty break. The minority contends that any reliance on the trucking duty time regulations is misplaced. DOT extended the maximum duty for truckers from 10 to 11 hours. Moreover the skills, risks and tasks of truckers are different, and the consequences of error are greater in aviation. Finally, and certainly not insignificantly, the entire new DOT trucking regulations – including the mid-duty break provision – were recently invalidated as arbitrary by the U.S. Court of Appeals because in passing those regulations DOT failed to adequately consider the negative health effects of the regulations on the drivers. See Public Citizen, et al., v. Federal Motor Carrier Safety Adm., 374 F.3d 1209 (D.C. Cir. 2004).

With regard to circadian effects, the minority submits that recent authoritative and peer reviewed sleep research studies by noted scientists show the importance of avoiding circadian disruption in aviation operations; and show that the negative effects of circadian disruption upon human performance has, in the past, been grossly underestimated. See Gander et al., Sleep: The Key to Safety and Health (filed 10/24/04);

Von Dongen, et al., Circadian rhythm in Sleepiness, Alertness and Performance (in press); Rogers, et al., Sleep, Waking and Neurobehavioral Performance (2003); Rosekind, Managing Work Schedules: An Alertness and Safety Perspective. The minority further submits that specific studies by top-rated international research institutions directly show the negative effects of circadian and disruption both: in the case of long-haul transmeridian flights, Samel, et al., Aircrew Fatigue in Long-Haul Operations (1997): and in the case of short-haul, high frequency operations. See QinetiQ, Aircrew alertness during short-haul operations, including the impact of early starts (2002).

Some members of the Subgroup indicated that today's small jets demand international long-haul crews and that the existing duty limits do not provide sufficient operational flexibility to meet their customer's needs. One simple requirement long made clear by both study and experience in long-haul operations is that the presence of suitable and functionally adequate bunk facilities for off-duty flight crew is essential. A reclining passenger seat, as suggested by the majority for this for this purpose, is inadequate. See NASA TM 110404, at 7 (extension of in-flight duty beyond recommended maximum predicated upon adequate sleeping facilities for off-duty pilots).

The majority proposes to extend the pilots' hours of service while offering in mitigation practices that even it agreed were not effective mechanisms to deter fatigue. The post-flight compensatory rest offered by the majority as penalty for exceeding regulatory duty limits has simply not been shown effective to combat the immediate dangers of acute fatigue. Under the majority's proposal, Part 135 "long range" pilots

would face flight duty periods of up to 18 to 20 hours and two-pilot crews would face 12 to 14 hours at the controls with ineffective compensatory mechanisms offered in mitigation. The majority proposes a regulation requiring the development an Advisory Circular characterizing "Alertness Management Procedures," to help mitigate the effect of fatigue. The minority's position is that additional training on fatigue dangers provided to flight crews can enhance safety, provided that information and any such procedures are used only as a supplement to prescriptive limits and never as a replacement or means to extend or circumvent quantitative maximum regulatory limits.

Given the volume of comprehensive aviation specific research and reports on fatigue and sleep issues in aviation conducted by NASA and other government-funded and private agencies and institutions, the minority urges the FAA to propose to change the flight, duty and rest regulations only after ensuring proper consideration of the results of those relevant scientific studies. The minority proposal, presented in full here, is based upon both scientific research and flight experience. The minority's proposed Part 135/125 regulations, presented below, are designed to ensure that duty and rest patterns for all flight crews engaged in commercial aviation are arranged in such a way as to avoid fatigue.

The minority's proposed rules represent a comprehensive framework, in concept and in detail, of a flight and duty time and rest requirement regulatory scheme. The concepts within this framework demonstrate one way of addressing both short-term and cumulative (long-term) fatigue safeguards for all fixed wing and helicopter operations. The proposal is a comprehensive model rule that if fully adopted and implemented,

would ultimately decrease fatigue and increase safety in all U.S. commercial aviation operations, including air carriers. The minority's proposed rule here is presented as a model rule to replace the current Part 135/125 Flight, Duty and Rest regulations. It should be emphasized that the various parts of this framework are inter-related. The proposed rule covers domestic and international, and international augmented flight operations. However, the essential policy elements will not fully address all flight crew fatigue factors, unless a comprehensive flight, duty and rest rule, such as the model that appears below, is implemented.

In conclusion, the majority had adequate scientific information before it to undertake the creation of proposed regulations that would provide an improved or equivalent level of safety compared to the current Part 135 flight, duty and rest regulatory scheme. Unfortunately, the majority failed to adequately consider or explain its divergence from the guidance and principles set forth in the great weight of scientific literature. Scientific researchers and advisors played no role in the Subgroup's work and no scientific evaluation or analysis was performed on the majority's proposed regulations. Instead the majority focused upon and has recommended a proposal that focuses on increasing pilot availability for duty and hours of work rather than increasing safety.

The FAA is urged by the minority to reject the majority proposal and adopt the minority model rule that appears below.

14 CFR 135, Subpart F (Minority Recommendation)

Crewmember Flight Time and Duty Period Limitations and Rest Requirements

§ 135.1201 Applicability and General Principles

a. The demand for limitations on the duty periods, flight duty time, block time and rest period of flight personnel in civil aviation is based on recognition of the fact that excessive working hours and adverse social conditions affect flight safety.

b. The work and rest time regulations, being essential to safety, should be considered to be the minimum requirements and should be given the force of law; member associations should be consulted in the establishing or changing of such laws.

c. The regulatory limitations established in this policy, however, are not intended to prevent member associations from seeking to establish improved conditions for purposes of enhancing flight safety, by means of collective agreements.

d. An operator shall include in his Operations Manual a flight and duty time limitations and rest scheme complying with the provisions of this policy.

e. Each operator and every flight crewmember shall comply with the provisions of the scheme referred to in paragraph d. above.

f. Flight crewmembers working on a freelance or private basis shall maintain an individual record of their flight hours, flight duty hours and duty hours together with their rest hours and local days free of duty, which shall be presented to all operators who employ their services before undertaking any flight duty.

g. No person shall act as a flight crewmember if he/she knows or suspects that he/she is suffering from, or is likely to suffer from, such fatigue or feels unfit in such a way as to endanger the safe conduct of the flight.

h. Planned operations shall allow for flights to be completed within the maximum permitted flight duty period taking into account the time necessary for pre- and post-flight duties, the flight and the turn-around times and the nature of operation.

i. An operator shall prepare and publish planned and re-planned duty rosters, taking account of the effects of circadian rhythm disruptions and sleep deprivation, sufficiently in advance to provide the opportunity for flight crew members to plan adequate rest for the duty envisaged.

j. Both flight crewmembers and Operators should be aware that a lack of sustenance can prove detrimental to an individual's performance and level of vigilance.

k. If either the scheduled permitted flight duty period or block time is maintained on less than 75% of occasions based on an appropriate sequence or similar schedules on a particular route, the planning is considered unrealistic and must be amended.

§ 135.1202. Definitions and Terminology

a. Acclimatization / Time Zone Adaptation - The physiological and mental state of a flight crewmember whose bio-rhythms and bodily functions are considered aligned with local time.

b. Augmented Crew - A flight crew which comprises more than the minimum number required for the operation of the airplane and in which each flight crew member can leave his/her post for the purposes of flight relief and be replaced by another fully qualified flight crew member.

c. Block time - The time when an airplane first moves from its parking place for the purpose of taking off until it comes to rest on the designated parking position or with all engines stopped whichever is the later.

d. Day - Any consecutive 24 hours.

e. Day off - A period of time notified in advance for recreation and leisure and free of all duties. A day off is at least 36 hours, which shall contain 2 local nights; any consecutive additional days off are 24 hours duration. A day off can only be assigned at home base. If the required recovery for the preceding flight duty period is more than 12 hours, the additional hour(s) shall be added to the day off period.

f. Duty - Any task that a flight crewmember is required to carry out associated with the business of an Air Operators Certificate (AOC) or Operating Certificate holder.

g. Duty period - A period that starts when the flight crewmember is required by an operator to report for a duty until the crewmember is free from all duties.

h. Flight crewmember - A properly licensed flight crewmember, who may be charged with flight deck duties during the flight time.

i. Flight duty period (FDP) - The time, within a duty period, which starts no later than 60 minutes before the planned flight commences and ends no sooner than 30 minutes after the aircraft is shut down in the final parking position once the flight or series of flights has been completed. It includes block time, break time in flight, ground stops, the time spent positioning as a passenger to or from a place of duty as well as the time spent in training in a simulator.

j. Flight relief facilities should provide the optimum conditions for rest and ideally be situated adjacent to the flight deck.

(1) Flight relief seat - A comfortable, fully horizontally reclining seat,

separated and screened from the passengers and flight deck, equipped with a call device, sleep restraint, oxygen, with a means of controlling local temperature and not subject to distraction from noise, movement, or vibration generated in the cabin.

(2) Flight relief bunk - A bunk, for each resting flight crew member, that at a minimum meets FAA Advisory Circular 121-31 dated 28/02/1992 ("Flightcrew Sleeping Quarters and Rest Facilities Criteria") and a dedicated toilet. A seat, screened and private from the cockpit and passengers, will also be available for each off duty crewmember, as well as a dedicated toilet for flight crew use only.

k. Flying hours - The aggregate of all block time spent as flight deck crew including flight time spent as an off-duty relief crewmember.

l. Home base - The place at which a flight crew member normally reports for duty.

m. Local day - A period from 00:00 to 24:00 local time.

n. Local night - The period between 22:00 hours and 07:59 hours local time.

o. Notification time - The standard period of time that an operator allows between the time a flight crew member on standby receives a call requiring the flight crew member to report for duty and the time required to report for that duty.

p. Operating flight crewmember - A flight crew member carrying out duties in an airplane during the flight or during a part of it.

q. Piston/turbo-prop aircraft - A propeller driven aircraft with a piston or turbine engine.

r. Positioning - The transferring of a flight crew member as a Passenger from place to place, excluding "traveling" as stated below at the behest of an operator.

s. Recovery period - A period provided after any duty period to allow a flight crewmember to recover sufficiently to undertake a further duty or to benefit from days off. Recovery period may also include the rest period required before the next FDP.

t. Reporting time - The time at which a flight crewmember is required by an operator to report for any duty.

u. Rest period - The time provided to a flight crewmember by the air carrier for the specific purposes of enabling him/her to rest prior and subsequent to a flight duty. A minimum of 10 hours in suitable accommodation and the opportunity to obtain not less

than 8 consecutive hours sleep shall be achievable. Rest time is determined in advance, is continuous, is free from all duty and restraint, and may not be interrupted by the employer.

v. Standby duty - A duty period undertaken at a place of rest during which a flight crew member is required to be available to report for a further duty.

w. Suitable accommodation - A suitably furnished bedroom on the ground, with single occupancy, which is subject to minimum noise, is well ventilated and has the facility to control the levels of light and temperature, which provides for the opportunity of undisturbed rest.

x. Three-flight crew aircraft - An aircraft which is certified for operation during all phases of flight by a minimum of three flight crew members and which includes all three flight crew members in routine operating procedures.

y. Two-flight crew aircraft - An aircraft which is certified for operation during all phases of flight by a minimum of two flight crew members and which includes both flight crew members in routine operating procedures.

z. Traveling - All reasonably planned traveling time spent by a flight crew member in transit between his/her place of rest and the place of duty and vice-versa.

aa. UTC time zone - A geographical area with an equivalent local time difference in relation to UTC, disregarding daylight saving time.

ab. Week - Any period of seven consecutive days.

ac. Window of Circadian Low (WOCL) - The hours between 0200 and 0600 for

flight crewmembers who are time-zone adapted. For flight duty periods that cross 3 or fewer time zone boundaries, the WOCL is 0200-0600 home-base time. For flight duty periods that cross more than 3 time zone boundaries, the WOCL is considered to move at a rate of one hour per complete day towards the arrival time zone.

§ 135.1203. Limitations - Flight Crew

a. Block time - No operator shall schedule a flight crew member for flight duty and no flight crewmember shall accept an assignment for a flight duty if the total block time of the flights in which he/she was an operating crew member would be more than:

(1) 900 hours in any 365 consecutive days;

(2) 250 hours in any 13 consecutive weeks;

(3) 90 hours in any 28 consecutive days;

(4) 30 hours in any 7 consecutive days.

(5) 8 hours in any flight duty period.

b. Duty periods - No operator shall schedule a flight crewmember for a duty period and no flight crew member shall accept an assignment for duty if his/her total duty time would be more than:

(1) 2000 hours in any 365 consecutive days;

(2) 460 hours in any 13 consecutive weeks;

(3) 160 hours in any 28 consecutive days;

(4) 50 hours in any 7 consecutive days.

c. Flight duty periods - The maximum flight duty periods (not extendable) in the following graph and tables are for two pilot operations (or two pilots and a flight engineer), time zone adapted single segment with operational autopilot.

(1) Table 1: Minimum required flight crew of two or more

For Duty Period Starting	Single Segment Trip Preparation
0800-1059	13:00
1100-1559	13:00 reduced 7 mins for each 20 mins beyond 11:00
1600-2059	11:15 reduced 1 min for each 10 mins beyond 16:00
2100-0059	10:45 reduced 1 min for each 3 mins beyond 21:00
0100-0159	9:25
0200-0759	9:25 increased by 6 mins for each 10 mins beyond 02:00

The figures in the above table are reduced by 60 minutes for each additional segment beyond one, and by 60 minutes for piston/turboprop aircraft. For non-time zone adapted single segment operations the FDP will be restricted to 9.5 hours unless a realistic calculation can be made of the flight crew members actual body clock time for

entry into the graph. There should be no further landings if the WOCL is impinged or overlapped (except for regular night shift workers where an additional landing may take place if suitable mitigation measures are provided to ensure an equivalent measure of safety is maintained). In the case of no autopilot or an inoperative autopilot, the times in the above table will be reduced by "X" hours.

(2) Table 2. Single pilot operations

Reporting Time	Number of landings as operating crew member		
	1-4	5	6
0800-1159	8:00	7:00	6:00
1200-1359	7:30	6:30	5:30
1400-1559	7:30	6:30	5:30
1600-1759	6:30	5:30	4:30
1800-0359	6:00	5:00	4:00
0400-0459	6:30	5:30	4:30
0500-0559	7:00	6:00	5:00
0600-0759	7:30	6:30	5:30

For VFR-operations, the landings are not counted. However, if the number of landings exceeds an average of 4 per hour then a break of at least 30 minutes shall be achieved within any continuous period of three hours.

d. Maximum block-time - With the exception of augmented flight crew a member of a flight crew of two or more shall not exceed 8 hours maximum block-time in any FDP.

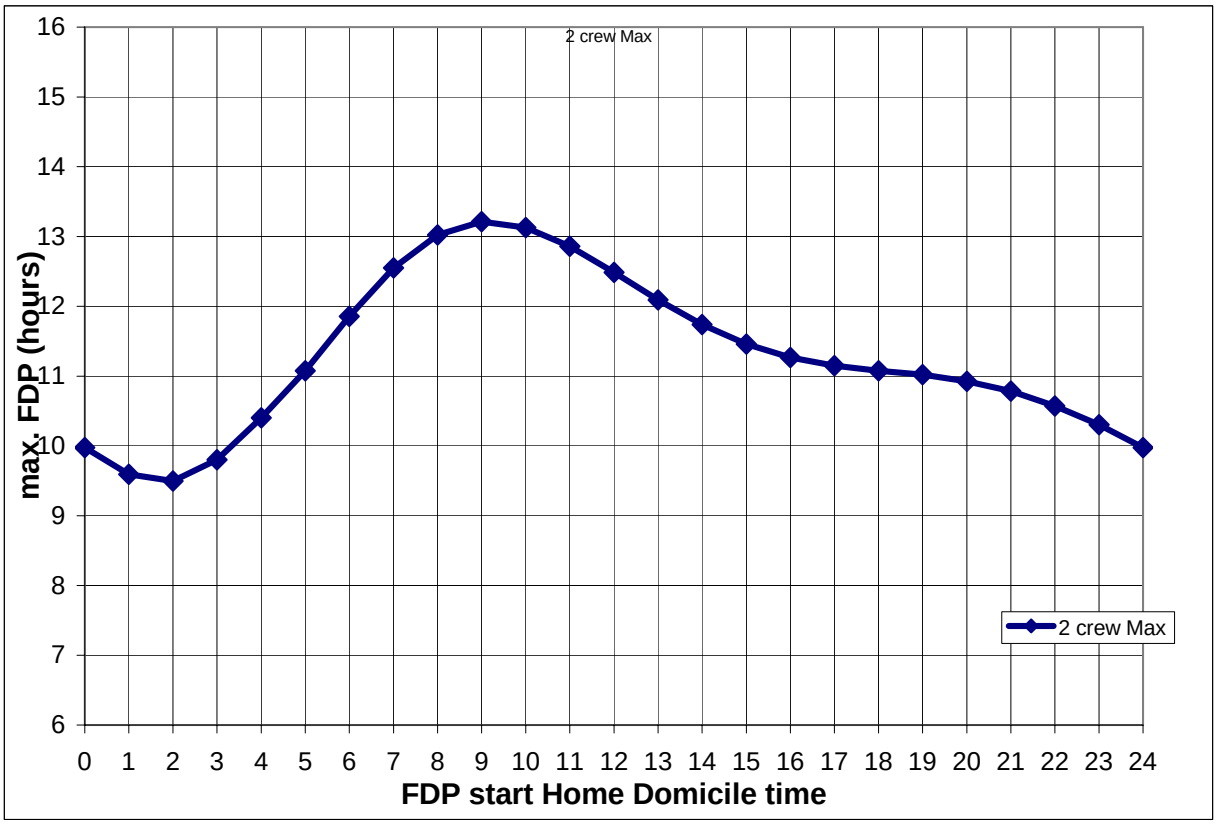
e. Maximum flight duty period (not extendable) - see graph below

(1) The following graph is for two pilot (or two pilots and a flight engineer) operations, time zone adapted single segment with operational autopilot.

(2) For a non time zone adapted single segment operations the FDP will be restricted to 9.5 hours unless a realistic calculation can be made of the flight crew members actual body clock time for entry into the graph.

(3) The maximum flight duty period must be reduced by 1 hour for each additional segment.

(4) There should be no further landings if the WOCL is impinged or overlapped (except for regular night shift workers where an additional landing may take place if suitable mitigation measures are provided to ensure an equivalent measure of safety is maintained).



Source: DERA/CHS/PPD/CR980207/1.0

f. Mixed flying / types of operation

(1) Fixed and rotary wing - When both airplane and helicopter flying is carried out, the more restrictive flight and duty period limitations contained in the applicable regulations, shall apply.

(2) Flight simulator and airplane - For the application of the flight duty period limits as stated in paragraph 3c. above, the duration of full flight simulator and training flights shall be doubled (line training /checks excluded).

(3) Single pilot / multi-pilot operations - If in one flight duty period a pilot flies as a single flight crew operation and then flies as a multi-pilot operation, the single pilot operation limits prescribed in Table 2 shall apply.

g. Augmented Operations

(1) An augmented FDP may only consist of a single segment flight.

(2) The qualifications of the pilots at the controls at all stages of flight should be such that the control and completion of the flight to a safe landing should not be dependent on the return of resting pilots to the flight deck.

(3) In the case of a single landing, the flight duty times in Table 1 and the maximum block time in paragraph 3d. may be increased, if augmented flight crew and in-flight rest facilities are available for each relieved flight crew member.

Provided that:

1

(a) When an additional flight crewmember is carried to provide in-flight relief with the intent of extending an FDP that individual shall hold qualifications which are equal or superior to those held by the crewmember who is to be relieved;

(b) The division of duty and rest between crew members is kept in balance;

(c) That prior notification of operating or relief role must be made available to crews in order for them to take or forego rest accordingly;

(d) That full crew integrity be retained, i.e., for 2 flight crew member operations with 2 flight crew member augmentation, the 2 rested flight crew members must replace the 2 operating flight crewmembers at the appropriate phase of flight;

(e) There is, for the flight crewmember(s) resting, a flight relief seat or a flight relief bunk(s) and seat(s), separated and screened from the flight deck and passengers and well away from designated smoking areas; then the permitted FDP and block time may be extended as follows:

(i) When the crew of a two flight crew aircraft is augmented by the addition of another flight crewmember and a flight relief seat, the FDP may be extended by three hours with a maximum Block Time Limit of 12 hours.

(ii) When the flight crew of a two flight crew aircraft is augmented by the addition of at least two flight crewmembers and flight relief bunks and seats, then the FDP may be extended to the scheduled block time plus the specified allowance for flight planning and post-flight duties, up to a maximum block time limit of 16 hours.

(iii) When the flight crew of a three flight crew aircraft is augmented by the addition of two flight crew members and flight relief seats, then the FDP may be extended by three hours with a maximum Block Time Limit of 12 hours.

(iv) When the flight crew of a three flight crew aircraft is augmented by the addition of three flight crewmembers and flight relief bunks and seats, then the FDP may be extended to the scheduled block time plus the specified allowance for flight planning and post-flight duties, up to a maximum block time limit of 16 hours.

(v) The flight duty period time limitations in paragraphs 3.a. (4) and 3.a. (5), and 3.b. (4) shall not apply to augmented flight crew operations conducted under paragraphs 3.g. (3)(e)(i), (ii), (iii) and (iv) above.

NOTE: If the FDP starts with a positioning flight then the increase in block time and FDP in paragraph 3.g. (3) is not applicable.

§ 135.1204. Minimum reporting times - An operator shall specify minimum reporting times prior to flight, which reflects the time, required for preparation for the flight and shall not be less than 60 minutes.

§ 135.1205. Positioning - All time spent on positioning shall count as block time and is a FDP. When a duty consists solely of a single landing positioning flight the maximum duty period will be 16 hours.

§ 135.1206. Rest requirements

a. No operator shall schedule a crewmember for a duty period and no crew member shall accept an assignment for a duty period without a rest period preceding that duty period of:

(1) At least as long as the preceding duty period, or

(2) 12 hours, whichever is greater.

b. The planned minimum rest period may be reduced by a maximum of three hours but to not less than 11 hours under the following conditions:

(1) The preceding rest period shall have been at least a normal minimum rest period as defined in paragraph 6.; and

(2) The amount of reduction of the rest period shall be added to the next rest period, which cannot be reduced.

c. After a reduced rest as stated in paragraph 6.b., the maximum flight duty period as determined in paragraphs 3.c. and 3.f. (2) shall be reduced by twice the amount of reduction of the preceding rest period.

d. When rest periods away from the home base are required, the operator shall provide suitable accommodation.

e. In any 7 consecutive days, a minimum consecutive 36 hours including 2 consecutive local nights rest shall be provided.

f. Traveling Time

(1) If the traveling time from the place of duty to suitable accommodation provided by the operator and return does not comply with the requirement of a rest period, then the subsequent departure time will be adjusted to ensure a minimum rest period is achieved.

(2) Where the traveling time from the accommodation provided, as above, to the place of duty exceeds 1 hour, then the flight duty period will commence 1 hour after the crew pick-up time.

g. Days off

(1) A minimum of 8 days off shall be given at home base in each consecutive 28 days.

(2) Days off at base shall be taken in groups of two or more consecutive days off.

(3) Flight Crew members shall:

(a) have 2 consecutive days off in any consecutive 14 days;

(b) in the event of being away from home base more than 13 to 15 consecutive days, 1 extra day off; and 2 extra days if away for 16 days or more added to (1) above:

(c) have a minimum of 30 days off at base in 13 consecutive weeks;

(d) have a minimum of 32 local days vacation per year.

§ 135.1207. Night duty

a. There shall be no more than 3 consecutive duty periods which impinge on the period between 00:00 and 06:00 home-base time, nor may there be more than 4 such duties in any 7 consecutive local days. If 3 or more flight duty periods within a 7-consecutive-local-day period encroach on all or any portion of the WOCL, then the standard off-duty period (36 consecutive hours within 7 days) shall be extended to 48 hours to ensure recovery.

b. Except as provided below, when a flight duty period impinges or overlaps on the WOCL, there shall be no further landings in that flight duty period.

(1) If the WOCL is impinged upon during a ground stop, and the elapsed flight duty time period prior to commencing the stop is less than three hours, and close-by sleeping accommodations are provided to all flight crew members when ground stop time exceeds 2:30, then one additional landing is allowed which shall be completed within the limits of the original flight duty period.

(2) If the complete WOCL is overlapped during a ground stop within a flight duty period, and close-by sleeping accommodations are provided to all crew members for the period of the ground stop, then one additional landing is allowed regardless of length of elapsed flight duty period prior to the ground stop. This additional landing shall be completed within the limits of the original flight duty period.

(3) If, due to an unforeseen delay, a duty period which was planned outside the night duty time period specified in paragraph 7.a. falls more than 1 hour within the night duty time period during actual flight operations, that duty will count as a night duty and the rest requirements of paragraph 6 and night duty in paragraph 7 shall be complied with.

§ 135.1208. Time Zone Adaptation / Acclimatization - to be considered as adapted to local time a flight crewmember must:

(a) if he/she is adapted to another time zone where the local time differs by less

than three hours, achieve one local night free of duty and be able to take an uninterrupted night's sleep or

(b) if he/she is non-time zone adapted, achieve three consecutive local nights free of duty and be able to take uninterrupted night's sleep in a single time zone.

The flight crew member shall remain adapted to a local time until he/she becomes:

(a) adapted to another time zone or

(b) non-adapted by finishing his/her duty at a place where the local time differs by three hours or more from that to which he/she is adapted.

§135.1209. Time zone crossing

a. If the time zone difference, based on UTC time zones, between the beginning and the end of a duty period is three hours or more, the minimum rest period shall be at least as long as:

(1) the preceding duty time plus 30 minutes per time zone passed; or

(2) minimum 14 hours plus 30 minutes per time zone passed, whichever is greater,

b. A flight crewmember who has performed a duty period as outlined in paragraph a. and undertakes a further duty period as outlined in paragraph a. must have a recovery

period of a minimum 36 hours, including two local nights, before performing any further duty.

c. As soon as a flight crewmember, having performed one or more duty periods as outlined in paragraph a., or having flown in excess of 8 hours block time, ends a duty period at his/her home base he/she shall receive a minimum rest period of either:

(1) A minimum rest period in hours will be determined by multiplying the time zone difference between the home base and the destination within those duty periods with the greatest time zone difference where a rest period is obtained by the factor 10; or

(2) A minimum rest period that is at least twice the total number of all hours flown since the last rest period at his/her home base, whichever is greater.

§ 135.1210. Standby Duty

a. When an operator elects to place flight crews on standby duty, he shall apply the following limits on standby periods for crew members:

(1) A flight crewmember shall not be assigned to standby duty for a period exceeding 12 hours, and the operator shall notify the pilot of the time of the beginning and end of the standby duty at least 48 hours in advance.

(2) During the time a flight crewmember is on standby duty the operator can assign the crew member to work up to the maximum flight duty period of the reporting

time outlined in paragraph 3c., or up to 18 hours after the time of commencement of standby duty, whichever is the more limiting. In the event the flight duty consists of a single segment requiring an augmented flight crew, the block time limit may also be extended as permitted by paragraphs g.(e)(i) and (ii) by the addition of one or two augmenting flight crewmembers respectively.

b. Standby duty can be undertaken at home or in suitable accommodation provided by the operator.

c. Standby duty shall count in full for the purposes of cumulative duty hour limitations as specified in paragraph 3b.

d. If the standard notification time is less than two hours, the flight duty period commences at the start of the standby duty. The minimum standard notification time shall not be less than one hour.

e. Following completion of a standby duty period without being called for duty, a minimum rest period of 12 hours shall be provided prior to the next duty period or standby.

f. If a flight is delayed or rescheduled on the day of operation before a crewmember leaves the place of rest, then the crewmember is considered to be on standby commencing at the original reporting time.

§ 135.1211. Commander's Discretion

a. Any re-plans initiated by the operator as a result of material factors occurring prior to duty commencement must not exceed normal FDP's. However, during the actual flight operation, which starts at the reporting time, the limits on flight duty and rest periods

prescribed in this document may be modified in the event of unforeseen delays. Any such modifications must be approved by the commander after consultation with all other crew members and shall, in all circumstances, comply with the following:

(1) The planned flight duty period may be extended by two hours at the Captain's discretion in the event of contingencies occurring after the departure of the aircraft from base. A written report shall be submitted to the regulatory authority. The following rest shall be as long as the preceding duty period plus twice the extension of the duty.

(2) In the case of an augmented crew, one additional landing is permitted due to unforeseen circumstances.

(3) Away from base the minimum rest period may be reduced by a maximum of 2 hours but to not less than 10 hours in suitable accommodations plus any traveling time.

b. Reports on exceeding duty and/or reducing rest periods:

(1) Increasing the maximum flight duty period and/or reducing the minimum rest period and why it was considered necessary to exceed duty and/or reduce rest in actual flight operation shall be reported to the operator by the commander concerned.

(2) If the extension or reduction is more than one hour, then a copy of the

report (with the operator's comments) shall be forwarded within 28 days after the event by the operator to the Regulatory Authority.

c. If there are special circumstances, which led to severe fatigue, the commander shall reduce the actual flight duty time and/or increase the rest time.

§135.1212. Flight duty and rest period records

An operator shall ensure that sufficiently detailed schedules and actual records of each crewmember's:

(a) Block times;

(b) Flight duty periods;

(c) Duty periods; and

(c) Rest periods and local days free of all duties, are maintained to ensure compliance with the requirements of this document.

(OPS 2) Performance, Multiengine Departures

Given the information available in normal operations to certificate holders and crewmembers, compliance with the current provisions of §135.379 cannot reasonably be determined. There is a disconnect between the obstacle data provided by TERPS, the

requirements of this part, and the certification standards of the aircraft. All of the guidance provided has, historically, assumed the certificate holder has the resources to design engine out departure procedures – an assumption that is far outside the capabilities of most Part 135 certificate holders. The intent of the proposed revisions to §135.379 are to clarify the criteria needed to determine obstacle clearance for a specific aircraft and to provide the ability to use readily available TERPS data, i.e. SIDS and Instrument Departure Procedures which will enhance safety by providing a regulatory standard that can be realistically applied.

Justification

The current rule is based on a false assumption that a typical Part 135 certificate holder has the ability to design departure procedures for specific aircraft and airports. To ensure safety and a regulation that can be realistically applied based on data readily available to any Part 135 certificate holder, the proposed rule allows for a minimum "3.3% or charted gradient minimums" standard for departure. This gradient is easily calculated and is based on established TERPS criteria.

Cost / Benefit Information

Adoption of the proposed rule should not result in addition costs to the certificate holder. In some cases, costs may be eliminated if the certificate holder currently uses engineering services in an attempt to comply with the current regulation.

(OPS 3) Weight and Balance **FAA NOTE: Discussion put in "NO ACTION RECOMMENDED" section of this preamble**

(OPS 4) Harmonization between part 135 and JAR-OPS-1—FAA NOTE: Discussion put in "NO ACTION RECOMMENDED" section of this preamble

(OPS 5) Part 135 Jumpseat Authority

This revision expands provisions of FAR 135.85 (and harmonizes it with FAR 121) so that, with appropriate controls, other certificated operators' flight crewmembers can be carried as nonrevenue "observers" (commonly called "jumpseaters) on an operator's vacant cockpit jumpseats (or other approved seats).

Discussion:

1. As it is currently written, FAR 135.85(a) allows only "a crewmember . . . *of the certificate holder*" to be carried without meeting FAR 135 passenger requirements.
2. FAR 121.583(a)(1) allows "a crewmember [implying, and currently interpreted to mean, of *any* carrier]."
3. FAR 121.547(a)(4) further allows "any person who has permission of the PIC, an appropriate management official of the Part 119 Cert Holder, and the Administrator." Procedures for CH managers to grant permission can be incorporated in the CH's manuals, and Administrator's permission can be granted via OpsSpecs.
4. Research conducted for this item did not reveal any reason for the difference in wording between FAR 121 and FAR 135, which (as currently written) has the effect of excluding other operators' crewmembers with from jumpseating on FAR 135 operators' aircraft.

5. FAR135 cargo operators would like capability to offer reciprocal agreements to FAR 121 carriers for *gratis* carriage of cockpit crewmembers on jumpseats within the FAR 135.85 framework – e.g. without meeting all pax carrying requirements.
6. Such agreements would greatly enhance flexibility (while reducing cost and delays) of travel to and from domicile assignments for flight crewmembers residing in smaller communities not served by FAR 121 carriers.
7. Additional set of pilot-trained eyes in the cockpit inherently improves safety.
8. A petition for exemption is currently under consideration to grant an FAR 135 cargo operator permission to carry other carriers' cockpit flight crewmembers without meeting all pax carrying requirements, by incorporating certain FAR 121.583 and 121.547 features in its procedures and specifying *which* FAR 135 pax requirements will *not* be met. This petition, while not yet granted (or denied), has received an encouraging reception at FAA Hq.
9. There do not appear to be any FAA legal interpretations applicable to this issue.
10. Preamble material in FAR 135 does not address FAR 135.85.
11. Airline Dispatchers Federation has requested that Certificated Dispatchers [persons with FAA Aircraft Dispatcher certificates] be allowed to jumpseat. Flight attendants (who are flight crewmembers and subject to the same screening procedures as pilots and flight engineers) have generally been excluded from jumpseat privileges on FAR 121 carriers. "Airmen other than flight crewmembers" (mechanics, for example) have been excluded from jumpseat privileges unless traveling on their employers' official business. Precedent does not appear strong for extending jumpseat privileges to dispatchers.

11. The FAA has suggested that this subject is appropriate for rulemaking (see note ** below); this appears to be an excellent opportunity to take that advice.

Key Issues

1. Means of positive identification of jumpseaters
2. Legal means to provide access to the cockpit.
3. Classification of jumpseater so all pax-carrying requirements of FAR 135 do not need to be met (e.g., allowable under FAR 135.85)
4. Availability of an approved seat, access to an exit, and protection against loose cargo or baggage for jumpseaters.

121.547 – access to the cockpit under Part 121. 121.583 – is not an admission to the flight deck/cockpit regulation. 121.547 – interpretation of crewmember means a crewmember on that flight, employees of other carriers have to get into the cockpit through (a)(3) or (a)(4) (which requires permission from the PIC, the air carrier, and the Administrator). Possibly move 121.547 into Part 135, and/or address the positive identification issue.

Dispatchers are required to have cockpit time (but many exemptions have been issued post 9-11), and as a part of that they will also be useful as another set of eyes in the cockpit. However, we need to address the screening issues for dispatchers and flight attendants.

Is there an additional risk of taking a properly identified employee of another carrier, when each carrier can already transport their own employees? Is this more of a TSA issue

than a safety issues, and therefore should it be turned over to them? Ref. the universal identification system currently being developed.

Pilots may be subject to criminal background checks under new legislation, but flight attendants and dispatchers are not. Should they be if they are going to ride in the jumpseat, and if so how can this be accomplished (legislation/regulation)?

Instead trying to define the types of individuals it may be better to specifically list out those categories of individuals allowed to ride in the jumpseat.

Add subparagraph (h) to FAR 135.85 as follows –

(h) Pilot or Flight Engineer crewmembers of other Part 119-certificated carriers (referred to as an Observer), provided –

(i) An approved seat with an approved seat belt is available for each Observer

(ii) Each Observer is protected from injury by cargo or baggage as provided in FAR 135.87

(iii) At least one means of emergency exit is available to each Observer in compliance with FAR 135.87(c)(7).

(iv) Prior to being transported on a flight, each Observer's identity and current crewmember status is confirmed with his/her employer and this confirmation is communicated to the pilot in command of the flight, in

accordance with a procedure incorporated in the Certificate Holder's manual (or by other means acceptable to the Administrator).*

(v) Prior to being transported on a flight, the each Observer will positively identify him/herself to the Pilot in Command by presenting a U.S. FAA Airline Transport or Commercial Pilot certificate or Flight Engineer certificate, a photo identification card issued by his/her employer, and one other government-issued photo identification (such as a driver's license or passport).

*Guidance for ID confirmation procedure per (h)(iv) above can be found in FSAT 02-06. The "other means acceptable to the Administrator" provision opens the door for a universal electronic flight crewmember ID system reputed to be currently under development by FAA, TSA, and the airlines.

**" . . . .The FAA further finds that the relief requested by the petitioner is of a type which should be considered in the general rulemaking process rather than by a grant of exemption . . . Issued in Washington, D.C. on September 21, 1990 . . . /s/ Thomas C. Accardi, Acting Director [Flight Standards Service]" (excerpt from Docket No. 26167, denial of Exemption No. 5240)

(OPS 6) Load Manifest Requirements

FAA Note: This section should be consolidated.

NTSB has recommended that load manifests be required for single engine aircraft.

Summary:

As a result of an accident involving a single engine turbine aircraft, NTSB has recommended that all aircraft complete a load manifest. The recommendation of the Ops WG is to require a load manifest for all multi-engine or turbine powered aircraft. Additionally, the group has recommended that the rule be clarified regarding the disposition of the duplicate manifest copy.

Discussion: Single-Engine Operators Applicability to single-engine operators. The size of single-engine aircraft has increased to a point where manifests are necessary. Single-engine aircraft are not required to be reweighed as frequently. Conditions the pilots to complete manifests on all flights. Are there NTSB recommendations regarding this issue? Responsibility for Completion of the Manifest Where does the responsibility for completing the manifest lie: certificate holder or PIC? The regulation does not specify that the PIC is responsible for completing the form, but the case law has specified that this is typically the PIC's responsibility. The certificate holder is responsible for ensuring that that the form is completed, but they can delegate this specific responsibility to the PIC. The action of any individual in filling out the form is an action of the certificate holder, regardless of whether it is the pilot, a dispatcher, or another employee. Should a provision be added to direct the pilot to fill the form out and make it his/her responsibility? The issue comes to light when inspectors are expecting to see a completed load manifest issued to the pilot, but this should be mitigated by the provisions in the certificate holder's manuals, which specify how the manifests should be completed, which can include providing an empty form to the pilot to complete.

Copies of the Manifest Research the purpose of the load manifest: track the individuals on board, predict the performance characteristics of the aircraft…etc.

What is the disposition of the copy of the load manifest for operations out of remote locations? The rule doesn't currently require a second copy or address its disposition. The intent may be to leave a copy with an individual if one is present. Options: AFIS, U.S. mail, onboard, under a rock, to any individual present, leave it to the discretion of the certificate holder (if this is done list examples of appropriate disposition), remove the requirement for a duplicate manifest, instead of having one process list several acceptable methods to transmit the information, leave the regulation as is, have the local FSDO approve the location for the copy so someone has knowledge of its location, place in fireproof container in the aircraft,…etc.

Remove the paper requirement for manifests; replace with information transmitted in an electronic format. This will include removing the words "duplicate" and "copy." However, for the original copy it should be paper to allow for computer problems. Have language like "make available to" to accommodate alternative means of transmission.

Above all have a system or process in place that will ensure that the information is available after a crash.

Proposed Passenger Name Requirement The name requirement for manifests has been mitigated by the TSA 12,500 lb rule. Requiring passenger names leads to privacy concerns and is not the prime safety concern; put passenger weights instead of names.

Split the discussion: Passenger Name Requirement. Do not include a Passenger Name Requirement out of 135.63 and allow it to be covered by TSA regulations and the NTSB.

Manifest Information Address the burdens imposed by 135.63(c)(3) maximum allowable takeoff weight computations. If removing (c)(3) also remove (c)(4) and require a statement by the pilot that the aircraft is within the limits for that flight configuration. However, there is a safety benefit in knowing the maximum limits when standard weights are used in weight and balance computations.

Single engine rotorcraft typically have effective loading schedules easily formulated, and the size of the fuselages make large CG changes less likely. As an example, the Bell 206 series of helicopter has a statement in the rotorcraft flight manual (RFM), stating in general that, "with normal crew, fuel, and passenger loading, the aircraft will remain within center of gravity limitations." This makes loading schedules easy to create, and these loading schedules can also include CG limits. Therefore, it is unnecessary to compute CG and CG limits when a loading schedule is utilized. It is recommended that 135.63 (c),(4) be included in 135.63 (c), (5), which states that center of gravity need not be computed if a loading schedule is utilized. It is further recommended that the word "approved" be added to the text to insure that the loading schedules are in the operator's general operations manual or company flight manual and approved by the principal inspector.

Notice N8400.50 with subject of Weight and Balance Procedures for Single Engine Aircraft Operated under 14 CFR Part 135 – Special Emphasis.

On October 08, 1997, a single engine, turbine airplane collided with terrain while climbing to 15,400 feet above mean sea level. The pilot and all eight passengers were killed. The NTSB determined that weight and balance may have played a role in this occurrence.

No load manifest was recovered from this accident. 14 CFR Section 135.63 does not require a single-engine aircraft to carry a load manifest. However, single-engine operators are required to conduct operations within an aircraft's weight and balance limitations.

Key Issues

1) Duplicate copy? If so, disposition?
2) Alternate means of compliance; paper vs. electronic.
3) Proposed passenger name requirement; send to NTSB?
4) Single-engine (to include multi-engine helicopters) manifest requirement?
5) Identify in the rule means of compliance for duplicate copy, identify means of compliance in the guidance, or combination of both.

Discussion on Key Issues

1) The information should be available to individuals outside the aircraft. Leave the process for distribution of this information up to the operator by both listing acceptable means now and adding a provision like "and other means acceptable to the Administrator."

Agree with the above comment regarding disposition of the manifest at the departure point. The 8400.10 should be revised to acknowledge that some remote operations, or lack of responsible persons, make it impractical to leave a copy of the

manifest at the departure location. The certificate holder's procedure for disposition of the manifest left at the departure point can be general, and not be specific to a location, because the number of departure points can be numerous and vary in capability for retaining flight manifests. It is not the intent of this recommendation to require a manifest to be left at locations where no facilities or persons are available to retain a manifest.

2) Acceptable means: prior to departure 1) leave the information at the departure point, 2) maintain the information at the base of operations, 3) transmit the information electronically or verbally to be stored at a location designated by the operator, 4) mail or equivalent delivery service, 5) and 6) other means acceptable to the Administrator.

Possible Resolutions

1) Address issues 1) and 4) only.
2) Remove "duplicate" and "multi-engine."
3) Add "turbine-powered."
4) Operators should realize the importance of adhering to 14 CFR Section 91.9 (a) and Section 135.99. Section 91.9(a) requires aircraft to be operated within published weight and center of gravity (cg) limitations. Section 135.399 requires compliance with approved takeoff and landing weight limitations. FAA should review single-engine operator's weight and balance procedures and performance operating limitations procedures as a special emphasis inspection.

Load Manifest Discussion:

The concern about the duplicate copy is centered around availability of the information in the case of a crash.

Add “turbine-powered.”

Ref. economic analysis

Does this provide safety on the actual flight, or is it primarily only for accident investigation? If it is an added safety benefit, why not require it for all aircraft?

Agree, as small piston rotorcraft and airplanes have the same CG concerns as turbines. The recommendation is that all aircraft regardless of category or class should be required to complete a load manifest.

Ensuring that the pilot actually does the weight and balance computations is an added safety benefit.

135.63(c): Change first sentence from “multi-engine aircraft” to “multi-engine and turbine powered aircraft”

Proposed change:

(c) For multi-engine aircraft and turbine powered airplanes, each certificate holder is responsible for the preparation and accuracy of a

load manifest in duplicate containing information concerning the loading of the aircraft. The manifest must be prepared before each takeoff and must include - …

Review the change in language as it applies to helicopters: the paperwork burden. Does the addition of another paperwork requirement add to safety? Guidance material will be key. Development and use of load schedule tables, with a documentation component, could replace this requirement. Does the addition of documentation really create a higher burden? Review of accident history may be useful in determining if this requirement is helpful in accident prevention. Weight distinctions could replace other aircraft distinctions for a cutoff.

Issues:

1) Performance of weight and balance (always required)
2) Documentation of performance (the issue)
3) What to do with the second copy

Questions:

1) Should we change the rule?
2) If so, how?

Recommendation: 135.63(c) - Change first sentence from “multi-engine aircraft” to “multi-engine and turbine powered aircraft”

Revised Rule Language

135.63 Recordkeeping requirements.

(c) For multi-engine and turbine powered aircraft, each certificate holder is responsible for the preparation and accuracy of a load manifest in duplicate containing information

concerning the loading of the aircraft. The manifest must be prepared before each takeoff and must include:

(1) The number of passengers;

(2) The total weight of the loaded aircraft;

(3) The maximum allowable takeoff weight for that flight;

(4) The center of gravity and the center of gravity limits of the loaded aircraft, except that the actual center of gravity and the center of gravity limits need not be computed if the aircraft is loaded according to an approved loading schedule or other approved method that ensures that the center of gravity of the loaded aircraft is within approved center of gravity limits. In those cases, an entry shall be made on the manifest indicating that the center of gravity is within limits according to a loading schedule or other approved method;

(5) The registration number of the aircraft or flight number;

(6) The origin and destination; and

(7) Identification of crewmembers and their crew position assignments.

(d) The pilot in command of an aircraft for which a load manifest must be prepared shall carry a copy of the completed load manifest in the aircraft to its destination, and;

(1) If adequate facilities and personnel are available at the departure point, a copy of the manifest shall be left at the departure location. The certificate holder shall establish a procedure describing the method of disposition of the manifest at the departure point.

(2) The certificate holder shall keep copies of completed load manifests for at least 30 days at its principal operations base, or at another location used by it and approved by the Administrator.

(OPS 8) Fleet Minimum Equipment Lists.

There are significant inconsistencies in the FAA and Industry regarding the applicability and format of fleet MEL's. There is also no centralized guidance regarding this issue. The proposed rule clarifies the role of fleet MEL's used by the certificate holder. In addition, it is recommended that changes are made to FAA Order 8400.10 to clarify application of the rule.

The proposed §135.179(a)(1) adds wording indicating that the use of a fleet MEL is permitted. In addition, it clarifies that the fleet MEL need only be make and model specific, not serial number specific to a particular airframe.

Proposed Rule Language

135.179

(a) No person may take off an aircraft with inoperable instruments or equipment installed unless the following conditions are met:

(1) The certificate holder has an approved Minimum Equipment List for that aircraft or a fleet Minimum Equipment List by make and model.

Recommended changes to FAA Order 8400.10

Change 8400.10, Chapter 4, Section 1, Paragraph 1073 (L) Minimum Equipment List (MEL)–

The MEL is derived from the MMEL for a particular make and model for an individual operator. The operator may have a single MEL for multiple aircraft listed in paragraph D85 of the operations specifications if they are the same make and model. The operator's MEL takes into consideration the operator's particular aircraft configurations, operational procedures and conditions with certain inoperative equipment.

Change 8400.10, Chapter 4, Section 1, Paragraph 1085 - Fleet Approval

An operator may have a single MEL for multiple aircraft of the same make and model as authorized in D-95.

An operator who has a single MEL for multiple aircraft may reflect equipment in its MEL that is not installed on all aircraft in its fleet. In this case, the items title in the operator's MEL need not reference any specific airplane identification (usually the registration number) unless the operator determines that there is a need to do so.

The MEL is not a configuration control document and any attempt to use the operator's MEL as a configuration control document penalizes the operator if his current MEL does not reflect the registration number. To preclude an operator from the opportunity to defer an item that is deferrable in the MMEL and is also incorporated in the operator MEL, because the registration or tail number works a hardship on the operator and the public.

(See AFS-200 Policy Letter 70 and 71 for full explanations)

Justification

Standardization and clarity within FAA and Industry.

Cost / Benefit Information

While difficult to quantify, MEL's have a long history of allowing certain items to be inoperative on aircraft without degrading safety. By adopting the proposed rule change, it is anticipated that more certificate holders will be able to more efficiently use MEL's while also reducing the workload at the FAA FSDO level associated with approving serial number specific MEL's.

–OPS 9 Manuals for flight crew 135.21 and 135.81 - Manuals made available to or furnished to personnel

The proposed rule and associated guidance is intended to clarify the differences that exist in the current rule between the requirement to "furnish" a manual versus a requirement to "make available" a manual. In addition to this clarifying issue, the proposed rule is modernized to recognize electronic means of manual publication and distribution.

Proposed Rule Language

Revise 135.21(d)

A current copy of the manual, or appropriate portions of the manual, shall be made available to maintenance personnel, ground personnel and flight crewmembers, for use during the performance of those duties, and furnished to the representatives of the Administrator assigned to the certificate holder.

Revise 135.21(e)

The certificate holder shall establish a procedure, acceptable to the Administrator, for persons listed in paragraph (d) of this section to ensure that the manual, either furnished or made available for use, is current.

Revise 135.21(g)

The manual must be available to the persons listed in paragraph (d) of this section in printed form, or other electronic form, acceptable to the Administrator, that is retrievable in the English language. If the certificate holder makes the maintenance portion of the manual available in other than printed form, it must ensure that there is a compatible reading device also available.

Recommended revisions to FAA Order 8400.10:

Revise 8400.10, Vol 3, Chapter 15, Section 2081, paragraph c) to read

Each employee to whom the manual or a user manual is furnished must keep it current. If a manual, or appropriate parts, is not furnished, but made available for use, there must be a procedure to ensure that that it is current."

When 8400.10 incorporates HBAT 99-07, recommend the definition of "current" be expanded to include the Company Manual required by 135.21.

Justification

Clarification and modernization of current rule.

OPS 10 Reporting Mechanical Irregularities

The proposed rule attempts to clarify when a mechanical irregularity must be recorded to be in compliance. It clarifies that an entry into the maintenance log of the aircraft must be done at the end of flight time for a specific flight. It does not need to be accomplished immediately or at any other specific time during flight. The proposal also simplifies the requirements that the PIC ascertain the status of each irregularity documented in the maintenance log prior to conducting additional flights.

Proposed Rule Language

135.65(b)

The pilot in command shall ensure that all mechanical irregularities occurring during flight time are entered in the maintenance log of the airplane at the end of that flight time. Before each flight the pilot in command shall ascertain the status of each irregularity entered in the maintenance log at the end of the preceding flight.

Justification

Clarification of existing rule.

(OPS 11) CVR Requirement when Autopilot is Inoperative

Issue: An air carrier operating a multiengine turbine aircraft with 6 passenger seats or more, who has single pilot authority (135.105), loses their autopilot, they require a CVR to continue operations because by operating rule they are now required to have two Part 135 qualified pilots. (Part 135.151)

Discussion:

The CVR regulation (§135.151) states that if by operating rule a multiengine, turbine-powered airplane requires two pilots, a CVR is required. Since this regulation did not take into consideration authorized single pilot operations in M/E turbine-powered airplanes, we have recommended FAR Part 135.105(a) be amended as stated in the recommendation section of this document. This amendment is needed because as the regulation now stands, an authorized single pilot turbine Part 135 operator who's autopilot fails is required by the FAR's (operating rule) to have a second in command. If a second in command is required you now need a CVR. We believe this was an oversight in the original drafting of the CVR regulation, and therefore, needs to be clarified by way of our amendment recommendation.

FAR Part 135.151 was a trickle down regulation from FAR Part 121.359 requiring Cockpit Voice Recorders (CVR's), as recommended by the NTSB. In Part 121 operations, single pilot authority was not an issue and therefore was not addressed. When Part 135.151 was written, it is assumed that the basic language of Part 121.359 was used in drafting Part 135.151, without giving consideration to the difference in operations of the on-demand Part 135 operator as compared to the scheduled Part 121 operator. This primary difference is that Part 135 (§135.105(a)) does allow operations without a second in command. We must then assume that the FAA when instituting this regulation (§135.151) never considered air carriers who have single pilot authority. Therefore, to clear up this oversight it is recommended that §135.105(a) be amended per the recommendation below, and in so doing, allows §135.151 to stand as written.

Autopilot

Instead of allowing single pilot operations in IFR without an autopilot, it may make more sense to merely get rid of the CVR requirement when the autopilot fails. This would allow continued flight without additional equipment requirements, but will require the redundancy of a second pilot. Also, another option may be to allow limited IFR operation to return the aircraft to home base.

Ref. that this is a turbine aircraft requirement, and therefore it may be better to change the CVR requirement.

Recommendation: §135.105(a) should be amended as follows.

"(a) Except as provided in §§135.99 and 135.111, unless two pilots are required by this chapter for operations under VFR, a person may operate an aircraft without a second in command, if it is equipped with an operative approved autopilot system and the use of that system is authorized by appropriate operations specifications. <u>If the approved autopilot system is inoperative, the aircraft is exempt from the requirements of §135.151, provided the approved autopilot system is deferred in accordance with §135.179 and all limitations associated with the approved Minimum Equipment List (MEL) are met.</u> No Certificate holder may use any person, nor may any person serve, as a pilot in command under this section of an aircraft operated in a commuter operation, as defined in part 119 of this chapter unless that person has at least 100 hours pilot in command flight time in the make and model of aircraft to be flown and has met all other applicable requirements of this part.

<u>(OPS 12) Part 135 Alternate Airport Requirements</u>

The proposal to clarify §135.223 is based on three factors: the current title (IFR: Alternate Airport Requirements) is misleading, the current subparagraph (b) introduces a great deal of additional complexity to the operational environment without returning any safety benefit, and the rule does not recognize the special capabilities of helicopters. The proposed rule revises the title of §135.223 to more clearly represent the intent of the rule. The revision to subparagraph (b) incorporates the language contained in §91.167 and §121.619(a). This significantly improves the understanding and utility of the rule in that it re-introduces the 1-2-3 concept when determining if an alternate airport is required. The proposed rule also captures the helicopter language contained in §91.167 to address their unique characteristics.

Justification

Simplicity is usually a good thing. By adopting the proposed rule, the requirements regarding the need for an alternate airport will be consistent between Parts 91, 121, and 135. This is particularly important for Part 135 certificate holders that are also program managers under Part 91K. While there may be circumstances where the applicable alternate requirements may be lowered by the proposed rule, there are also examples in which the proposed rule would raise those requirements. The current §91.167(b) and §121.619/623 have provided an acceptable level of safety for many years and it is reasonable to assume the same level of safety would be maintained by adopting the proposed rule.

Cost / Benefit Information

While this is primarily a clarifying change, the primary cost/benefit recovery would occur during the pilot training process. Due to the complexity of the current rule,

additional training time is required to teach a concept that is specific to Part 135. With adoption of the proposed rule, it is estimated that 15 training minutes per pilot per year could be recovered as a cost reduction.

(OPS 13) Clarification of Exclusive Use Definition

The current "exclusive use" regulation requires a certificate holder to maintain exclusive use of one aircraft for a minimum of 6 months, and is often misinterpreted at the FSDO level. The FAA has cited concerns that eliminating this rule would allow operators without access to aircraft to pursue certification. The proposed rule eliminates the "exclusive" element of the existing rule, and requires an operator to have a written agreement valid initially for at least 6 months for the use of an aircraft, and to maintain and ongoing agreement after the initial period has lapsed. This requirement should prevent unnecessary certification efforts. Additionally, the FAA has granted exemptions regarding this requirement that could be retired with the adoption of this proposed rule (reference Exemption No. 6158).

Detailed Explanation of Proposed Changes

The proposed § 135.25(b) would be revised to require the certificate holder have access to at least one aircraft for its kind of operation. This access may be accomplished through direct ownership, a lease with a minimum six consecutive month term, or through a written agreement with another person (a management agreement). As discussed earlier, ownership and lease meet current requirements as to possession and control. To reflect the same level of commitment, the proposed rule would allow the operator to enter into a management agreement subject to certain conditions.

§ 135.25 (b)(1) would be revised to require the written agreement to be for a minimum six consecutive month period (as the case with a lease). The intent is for the six month consecutive period to begin at conception of the agreement – not for there to be a requirement that the certificate holders always maintain a minimum of six months on an existing agreement. Once certificated, the certificate holder must always have at least one aircraft that meets the requirements of their operations specifications under contract at any given time.

§ 135.25 (b)(2) would be revised to ensure that all parties involved understand that the aircraft would be under the operational control of the certificate holder at any time it is being operated under Part 135.

§ 135.25 (b)(3) would be revised to ensure that all parties involved understand that the aircraft would be maintained in accordance with Part 135 whether operated under Part 135 or Part 91.

§ 135.25 (b)(4) and (5) would be revised to ensure that all parties involved understand that the aircraft must be listed on the certificate holder's operations specifications and that it cannot be listed on any other operator's Part 135 operations specifications and, to ensure that there is no confusion regarding common vs. non-common carriage, that the aircraft cannot be listed on any Part 125 operations specifications.

§ 135.25 (c) would be revised to ensure that the certificate holder has access to at least one aircraft authorized for each type of operation authorized but clarifies that the requirements of subparagraph (b) do not apply to all the aircraft listed in the certificate holder's operations specifications.

§ 135.25 (d) would be revised to address the unique nature of program managers conducting fractional ownership programs under Part 91, subpart K.

§ 135.25 (e) would contain the verbiage of the current subparagraph (d).

Proposed Rule Language

§135.25

(a) *No change.*

(b) Each certificate holder shall have the use of an aircraft that meets the requirements for the certificate holder's operation as authorized in the certificate holder's operations specifications. This use can be obtained through ownership or lease of at least a fraction of an aircraft, or through such other written agreements as may be acceptable to the Administrator. The written agreement must:

(1) Have a minimum of 6 consecutive months of duration remaining on the date initial certification is sought, in accordance with part 119. Thereafter, certificate holders must maintain at least one written agreement for the use of an aircraft that meets the requirements for their operation as authorized in the certificate holder's operations specifications;

(2) Provide that the certificate holder has operational control of the aircraft at all times when operated under this part;

(3) Provide that the aircraft be maintained in accordance with this part at all times;

(4) Provide that the aircraft must be listed in the certificate holder's operations specifications; and

(5) Provide that the aircraft cannot be listed in any other operations specifications of another Part 135 or Part 125 operator.

(c) For the purposes of paragraph (b) of this section, the certificate holder must have available for use at least one aircraft that meets the requirements for each kind of operation authorized. However, this paragraph does not prohibit the operator from using or authorizing the use of the aircraft for other than operations under this part or Part 125 and does not require the certificate holder to meet the requirements of paragraph (b) for all aircraft that the certificate holder uses.

(d) *[new subparagraph]* Paragraph (b) of this section does not apply to program managers as defined in Part 91, subpart K, that are also certificate holders under this part.

(e) *[previous subparagraph (d)] No change to existing rule.*

Justification

The FAA requirement for an "exclusive use" aircraft has been in existence since 1949. In July of 1981, the FAA removed the analogous requirement from Part 121 on the grounds that the rule was "an economic burden…..that cannot be justified on safety grounds". From a Part 135 perspective, the rule has not kept pace with the aviation industry – particularly as the rule relates to an aircraft management company or fractional ownership company. The rule continues to be a burden on the Part 135 industry that cannot be justified on safety grounds and the rule should be revised to remove the burden while addressing the historical concerns of the FAA.

The FAA has stated that the primary reason for the continued existence of this rule is that there was no suitable alternative to ensure that an operator did not become a "temporary" provider of charter services wherein their transient nature would decrease

the ability of the FAA to properly monitor the operator resulting in a negative impact on safety. The FAA further reasoned that the rule is a "stable base for certification" while admitting that "other means undoubtedly exist to require the commitment" of an operator, but "no other method is in effect". Therefore, the primary concern that must be addressed is that of commitment by the Part 135 operator.

There are essentially three ways a Part 135 operator can secure an aircraft for use in charter operations: ownership, lease, or through a management agreement.

In the case of ownership or a lease, the aircraft is purchased or leased directly by the certificate holder for use in its operations. There is no question as to the commitment required with these methods and they meet the current requirements of the rule since these aircraft would be, by definition, in the sole possession, control, and use of the certificate holder for flight. .

A management agreement is a vehicle in which the aircraft owner, by written agreement with the certificate holder, agrees to provide the aircraft for Part 135 operations when not being used by the owner for Part 91 operations. This is typically done to increase the utilization of the aircraft and to decrease overall operating expenses. In this instance, the aircraft is conformed and maintained in accordance with Part 135 and is listed in the certificate holder's operations specifications. In addition, the crewmembers are trained and checked in accordance with Part 135, and, when operated on a Part 135 flight, the aircraft is under the operational control of the certificate holder. This process involves significant commitment and financial investment by both the aircraft owner and the certificate holder, in addition to the investment of time to get an aircraft "on certificate".

The current rule allows that a certificate holder may meet the requirements of §135.25 (b) and (c) by means of a written agreement that provides for "sole possession, control, and use of it [an aircraft] for flight" for a period of at least 6 consecutive months. In the management agreement scenario, the aircraft is in the possession, control, and use of the certificate holder during a Part 135 flight. The only issue remaining is the necessity for "sole possession" of an aircraft and whether or not that is the true measure of commitment on the part of the certificate holder. Based on the arguments presented, it may be a measure of commitment, but not the only one. A management agreement of at least six consecutive months duration signifies the same level of commitment by the operator as an ownership or lease agreement. The risks of an operator being "temporary" are not any greater with a management agreement than with ownership or lease. In fact, one can argue that the easiest way to escape such commitments would be through ownership in that no other parties are involved – to escape one merely has to sell the aircraft. In lease and management agreements, third parties are involved that protect their interests if such agreements are terminated early – usually with significant financial penalties.

In addition to the changes proposed to encompass aircraft management companies, the rule should address the needs of the fractional aircraft companies that are Part 135 certificate holders as well. Part 91, subpart K contains numerous contractual requirements between the program manager and fractional owner. Recognizing the level of commitment established in that rule to become a program manager, there should be no requirement for an "exclusive use" aircraft for those certificate holders that are also program managers.

Cost / Benefit Information

No additional costs would be incurred by the FAA or Industry with the adoption of the proposed rule. However, adoption would provide for much needed financial relief for the Part 135 industry. Aircraft management companies are often forced to own or lease and maintain an aircraft that exists solely to meet the requirements contained in § 135.25. Fractional ownership companies are forced to own or lease and maintain a "core"[4] aircraft solely to meet the requirements contained in § 135.25. Exact figures vary due to the differing types of aircraft involved and further information can be provided at a future date.

(OPS 14) Emergency Equipment Requirements **FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.**

OPS 15—Management Requirements **FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.**

OPS 17—Weather Reporting for IFR Takeoff

With the adoption of the regulations that govern Fractional Programs, the FAA implemented regulations in Part 135 that allow "Eligible on Demand" certificate holders to conduct IFR operations to airports without weather reporting. However, that rule package did not address how departures from such airports could be accomplished. The ARC considered many options and points of view on this issue including whether such operations should be limited to "eligible on demand" certificate holders. Also included in

this discussion was the role of certified weather observers, advance navigation capability (RNP), and permitted Part 91 operations. After review of these issues, the ARC concluded that guidance material should be developed by the FAA to clarify how "certified weather observers" are utilized, that limitations should still exist for executing instrument approaches even is RNP capable, and that permitting "look-see" approaches as permitted by Part 91 was not in the best interest of safety.

Proposed Rule Language

§135.213(a)

(a) Whenever a person operating an aircraft under this part is required to use a weather report or forecast, that person shall use that of the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator. However, for operations under VFR, the pilot in command may, if such a report is not available, use information based on that pilot's own observations or on those of other persons competent to supply appropriate observations. For IFR takeoff operations, the information based on the pilot in command's observations may be used if there is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by that pilot's observation, and the pilot determines a take-off alternate as defined in §135.217.

§135.219

No person, except for eligible on-demand operators as defined in §135.4, may takeoff an aircraft under IFR or begin an IFR or over the top operation unless the latest weather reports or forecasts, or combination of them indicate that weather conditions at the

[4] A "core" aircraft is an aircraft the fractional provider solely owns or leases and has no fractional owners.

estimated time of arrival at the destination airport will be at or above authorized IFR landing minimums.

§135.225(g)

(g) If takeoff minimums are specified in Part 97 of this chapter for the takeoff airport, no pilot may take off an aircraft under IFR when the weather conditions are less than the takeoff minimums specified for the takeoff airport in Part 97 or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

§135.225(h)

(h) Except as provided in paragraph (i) of this section, if takeoff minimums are not prescribed in part 97 of this chapter for the takeoff airport, no pilot may takeoff an aircraft under IFR when the weather conditions are less than that prescribed in part 91 of this chapter or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

§135.225(i)

(i) At airports where straight-in instrument approach procedures are authorized, a pilot may take off an aircraft under IFR when the weather conditions are equal to or better than the lowest straight-in landing minimums, unless otherwise restricted, if--

(1) The wind direction and velocity at the time of takeoff are such that a straight-in instrument approach can be made to the runway served by the instrument approach;

(2) The associated ground facilities upon which the landing minimums are predicated and the related airborne equipment are in normal operation; and

(3) The certificate holder has been approved for such operations.

(4) For the purposes of this section, the weather conditions must be:

(i) Reported by the facility described in paragraph (a)(1) of this section, or;

(ii) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

Recommended Guidance Material

The ARC recommends that the issue of weather reporting required for landing result in the development of guidance by the FAA that will allow for the approval of weather reporting other than National Weather Service.

Justification

Logic would dictate that if a pilot can be granted the discretion to determine if flight visibility is adequate for landing when arriving at approach minimums, the same discretion can be safety allowed for takeoff. By requiring an instrument approach procedure to utilize this allowance, safety requirements are satisfied in that obstacle clearance requirements are known. In addition, the requirement for a takeoff alternate provides an additional safeguard for unforeseen events that occur after takeoff.

(OPS 18) Recency of Experience.

FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 19) Drug and Alcohol testing 135.251 & 135.255. FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 20) Landing Performance Requirement FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 21) Age 60 rule FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 22) Aligning Best Practices with Rules Recommendation: **FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 23) Commercial Pilot-Good Moral Character Certificate Requirement

FAA NOTE: This discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 24) Cabin Safety Crewmember and Passenger Service Specialist—Included in Ops 1 discussion.

(OPS 25) Transitioning from 135 to 121 No action.

(OPS 26) Operational ELT on Ferry Flights

The purpose of this revision is to clarify under what circumstances an aircraft that is otherwise required to have and ELT can be flown without one that is operable or installed.

Proposed Rule Language

91.207(e)(2)

(2) Ferry an airplane with an inoperative emergency locator transmitter, or with no emergency locator transmitter installed, from a place where repairs or replacements cannot be made to a place where they can be made.

Justification

Clarification of current rule.

14 CFR 91.207 requires that an emergency locator transmitter (ELT) be installed for a Part 91 ferry flight. This should not be required for holders of Part 121/135 certificates.

Summary:

This revision addresses a request that ELT requirements for aircraft being ferried be withdrawn. Two alternative recommendations are offered: A slight wording change in current regulations, and a recommendation that no change is necessary.

Discussion

1. FAR 91.207 provides various means by which the requirement for an ELT may be suspended, but they do not directly apply to FAR 121 or 135 aircraft that are not required to have an ELT installed.

2. FAR 91.207(f) and (g) essentially waive the requirement for an ELT in certain turbine powered or large airplanes.

3. (1) and (2) above appear to set ample precedent for the slight extension of the current rule this recommendation represents.

4. FAR 91.207(f)(1) actually says "*turbo-powered*" which could be confusing and construed to apply to "turbocharged" reciprocating-engine aircraft as well as those with turbine engines. Delete item 4 -- "turbo-powered" was an error in the Jeppesen regulations that has been corrected.

5. An equivalent level of safety can be achieved by requiring that aircraft being ferried without an ELT file flight plans with specific routings, utilize ATC radar traffic

advisories where available, operate under IFR, or be tracked by the operator's flight following or dispatch facility.

Can an addition to ferry flight permits solve the problem?

91.207(e)(2) Ferry an airplane with an inoperative emergency locator transmitter from a place where repairs or replacements cannot be made to a place where they can be made. No person other than required crewmembers may be carried aboard an airplane being ferried under paragraph (e) of this section.

Does a 135 aircraft (which is not required to have an ELT) need an ELT to fly under Part 91? Yes, unless it has a special flight permit, OR it is being repositioned so that an ELT may be installed, or repositioned for maintenance on the ELT.

Recommendation:

FIRST RECOMMENDATION:

Amend FAR 91.207(f) to include the following subparagraph:

(12) Aircraft currently on an FAR 121 or FAR 135 operator's Operations Specifications Aircraft Listing when that aircraft is being ferried in accordance with a Special Flight Permit, provided --

(i) an IFR or VFR flight plan is filed and activated for each flight leg or

(ii) the flight is monitored by the operator's flight following or dispatch system, and

(iii) Air Traffic Control radar traffic advisories are used when available.

SECOND RECOMMENDATION:

Amend FAR 91.207(f)(1) to read "turbine powered aircraft" rather than "turbo-powered aircraft" to eliminate ambiguity. Delete "second recommendation" -- "turbo-powered" arose from an error in the Jeppesen regulations that has been corrected.

Section 91.207 – turbo-jet powered aircraft did not have to have ELTs prior to December 2003

Recommendation: this issue will become moot January 2003, because all Part 135 aircraft will be required to have ELTs.

Look at the ramifications of 91.207(e).

91.207(f)(10) – operations with inoperative ELTs and ELTs removed for maintenance.

Recommendation

In this context, "ferry" means to operate an aircraft in accordance with a Special Flight Permit (Ferry Permit) issued either by the operator, or by a person/organization authorized by the FAA to issue such permits.

(1) It appears that the current wording of FAR 91.207 would allow any aircraft to be ferried under FAR 91 with an inoperative ELT, or no ELT installed. The first recommendation is to delete this proposal as unnecessary, since any aircraft could be operated under FAR 91 on a ferry permit with no ELT installed. This would be the most expeditious means of addressing this item, unless the original submitter can provide

additional information supporting the need for a change from FAR 91.207 as currently written.

(2) If it is concluded that 91.207 ***does*** require an ELT operate an aircraft on a ferry permit under FAR 91 that is not otherwise required to have an ELT, recommend re-wording

FAR 91/207(e)(2) to read:

"Ferry an airplane with an inoperative emergency locator transmitter, or one in which no emergency locator is required for normal operation, from a place where. . . ."

Another, even simpler possibility, is to note on the Ferry Permit (Special Flight Permit) documentation (FAA Form 8130-6 BlockVIII-D, if used, or the equivalent area in the operators' "Authorization to Conduct Ferry Flights" procedural documents), "No ELT installed in aircraft." If acceptable to the FAA -- and many aircraft have been ferried with much more severe equipment deficiencies -- this would eliminate the need for a regulation change.

OPS 27 Pilot Oxygen Mask Use Requirements

FAA Note: Rec Doc contains a wealth of background information which can be incorporated into this recommendation to provide additional background. Also need to discuss/ reconcile with recent part 121 rule change on wearing of a mask when one crewmember leaves his/her seat.

The proposed change would raise the altitude at which a crewmember of a two pilot aircraft would be required to use oxygen in non-emergency situations. As the rule is

presently written, a crewmember must wear an oxygen mask above FL 350. The proposed rule change would raise this altitude to FL 410 and would use essentially the same language as FAR 91.211(b)(ii).

Justification

The proposed rule harmonizes oxygen requirements with those currently contained in Part 91 and deemed safe.

Cost / Benefit Information

Cost benefit can be realized through less oxygen usage on routine flights and less wear and tear on pilot oxygen masks.

(OPS 28) Pyrotechnic Signaling Device

The carriage of pyrotechnic signaling devices on aircraft beyond power off gliding distance from shore has been a source of contention between Industry and FAA. Numerous exemption requests have been attempted without success. Industry believes these devices are inherently dangerous and pose significant safety and security concerns. Additionally, the requirement for these devices in large and multi-engine turbojet powered airplanes does not seem necessary to ensure safety.

They do not add safety value to the passengers or crew and introduces a dangerous device into the closed environment of an aircraft.

A final rule was issued for Part 121 on this topic. (Hennig Note)

Proposed Rule Language

91.205(h)

Exclusions. The pyrotechnic signaling device required by paragraph (b)(12) does not apply to large airplanes of U.S. registry operated under IFR or turbojet powered

multiengine civil airplanes of U.S. registry operated under IFR. Paragraphs (f) and (g) of this section do not apply to operations conducted by a holder of a certificate issued under part 121 or part 135 of this chapter.

Justification

The current regulations require certificate holders:

1. To carry a dangerous weapon (pyrotechnic signaling device) on board its aircraft that can incapacitate both flight crewmembers with one shot and will probably cause a fire;
2. To carry a dangerous weapon (pyrotechnic signaling device) on board its aircraft just in case a situation that is extremely rare (ditching or survivable accident) occurs;
3. To carry a dangerous weapon (pyrotechnic signaling device) on board its aircraft and make it available to passengers in case the crew does not survive the event;
4. To brief passengers on the location of the dangerous weapon (pyrotechnic signaling device).

The current rule adds no discernable safety value to passengers or crewmembers and in fact increases their risk. This is particularly true of Part 25 certificated turbojet aircraft in that they have guaranteed performance that further reduces the possibility that a pyrotechnic signaling device would be required. Additionally, the FAA has recently revised §91.205(b)(12) removing the requirement for Part 121 certificate holders to carry such devices. The same relief should be granted to Part 135 certificate holders.

Cost / Benefit Information

While saving would be realized by relief in this area, the primary benefit would be from a safety perspective. Adoption of this proposal would eliminate a dangerous weapon from the aircraft environment.

(OPS 29) Serving of Alcoholic Beverages

Summary:

The current rule creates a situation that makes it difficult or impossible for the certificate holder to comply. How does a crewmember serve a beverage in an aircraft that does not require a flight attendant? The ARC proposes that the rule be revised to allow the designation of a passenger to monitor alcoholic beverages as a realistic solution.

Proposed Rule Language

§135.121

(a) No person may drink any alcoholic beverage aboard an aircraft unless the certificate holder operating the aircraft has:

(1) served the beverage, or

(2) for operations that do not require flight attendant(s), authorized service of the beverage prior to flight by:

(i) expressly identifying the alcohol to be served;

(ii) designating the other crewmember(s) or passenger(s) responsible for the alcohol in flight; and

(iii) briefing all passengers aboard concerning the additional requirements of this section.

(b) No certificate holder, or passenger designated under paragraph (a), may serve any alcoholic beverage to any person aboard its aircraft if that person appears to be intoxicated.

(c) (no change)

Note: The phrase "other crewmember(s)" was added after Steering Committee approval to paragraph (a)(2)(ii) to capture the creation of the new cabin safety crewmember and passenger service specialist designations.

Justification

The situations that present the biggest challenge are those were a flight attendant or customer service representative is not on board. In these situations the passengers must either serve themselves, have access only to alcohol served prior to departure, or no alcohol can be served on the flight.

Although the most conservative approach would be to disallow alcohol on these flights this simply is not necessary to preserve the requisite level of safety. In many instances we give the pilot-in-command the necessary discretion to assess and address issues in flight; the decision to allow alcohol consumption in flight should be added to this list.

The PIC should be given the ability to gauge his passengers' ability to responsibly consume alcohol in flight. If the PIC determines that in flight alcohol consumption is not a risk he may designate a lead passenger, and give the lead passenger the alcohol or

access to it prior to departure. If the alcohol consumption becomes a problem in flight the PIC will always the authority to discontinue the flight.

If the PIC determines that allowing the particular passengers to have alcohol in flight may lead to in flight issues the PIC will have the authority to completely disallow alcohol on board, or limit the amount allowed on board.

(OPS 30) Technical Correction

A technical amendment is required in that §135.211(a)(2) refers to §91.175(f) when in fact it should refer to §91.175(i).

Proposed Rule Language

§135.211(a)(2)

(2) Allows an IFR approach and landing with flight clear of the clouds until reaching the prescribed initial approach altitude over the final approach facility, unless the approach is made with the use of radar under §91.175(i) of this chapter; or

(OPS 31) Pilot Record Retention - Harmonize with Pilot Record Improvement Act

There is an inherent disconnect between the recordkeeping requirements of Part 135 and the Pilot Records Improvement Act. The ARC proposes that an additional statement be added as an indicator that there are other considerations for how long records must be maintained by a certificate holder.

Proposed Rule Language

§135.63(b)

(b) Notwithstanding the requirements of the Pilot Records Improvement Act of 1996, as amended (codified at 49 U.S.C. 44703), each certificate holder must keep each record required by paragraph (a)(3) of this section for at least 6 months, and must keep each record required by paragraphs (a)(4) and (a)(5) of the section for at least 12 months.

(OPS 32) Manual Compliance. **FAA NOTE: This discussion moved to the "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 33) Child Restraints

Note: This issue goes to the FAA with 7 dissenting opinions in the Steering Committee vote. The FAA will make the final determination on what to do with this issue.

The ARC was unable to reach consensus on the treatment of infants less than two years of age. Current regulations allow such infants to be unrestrained in the aircraft, which is less protection than that required of cargo in the cabin. The Operations work group recommended and took the position that any restraint of an infant, regardless of the restraint's certification status, was better than no restraint at all based on the following attributes:

1) children under 2 need to be restrained
2) the restraint must be more than the parent's arms
3) the restraint may be provided by the parent or guardian, or the certificate holder, and
4) the certificate holder shall ensure that the restraint has been provided

5) the parent or guardian is responsible for determining the adequacy of the restraint/the certificate holder may make the determination that a restraint is inadequate/the certificate holder may reject inadequate restraints (adequacy of the restraint should be tied to whether the child will become a projectile, not whether the child will be safe in the restraint)

6) if the certificate holder deems that the provided restraint is a hazard to the safety of the flight, the certificate holder may reject the use of that restraint (we do not want to prevent certificate holders from making determinations about the adequacy of the restraint, but we do not want to require this determination to be made)

(OPS 34) Principal base of operations

FAA NOTE: This discussion moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 36) Changes to Security Regulations **FAA NOTE: This discussion moved to the "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 37) Emergency Exits on All Cargo Aircraft

The issue is an apparent regulatory discrepancy as to the minimum number of exits required in all-cargo aircraft operations between §135.87(c)(7) operating rules and §25.807(j)/§23.805(a) airworthiness rules. This discrepancy has resulted in uneven enforcement of the rules by FAA resulting in considerable financial impact on some certificate holders but not others. The ARC proposes to clarify the wording in §135.87(c)(7) to require that the aircraft must have two exits installed but only one must

be accessible for aircrew evacuation in an all-cargo operation which appears to be the intent of the rule. Corresponding sections within AC 25-18 which would conflict with this new rule would also need to be revised.

Proposed Rule Language

§135.87(c)(7)

Notwithstanding the requirements of §25.807 or §23.807, for cargo-only operations, paragraph (c)(4) of this section does not apply if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft if an emergency occurs, and;

(i) the aircraft type does not have a maximum payload capacity of more than 7,500 pounds;

(ii) the aircraft was type certificated before 1991.

Justification

The Part 135 reference seems to require only one exit be accessible by the flight crew while the references in Part 25 and Part 23 clearly require two exits. This has resulted in uneven enforcement and has caused very long discussions and many professional differences of opinion that can only be resolved with a change to the rules at the national level.

Cost / Benefit Information

A number of Lear Jet, Citation, and Hawker aircraft have been converted from passenger to all-cargo operations. Requiring crew access to both exits decreases the

payload by twenty percent without a significant increase in safety. The economic impact would be felt not only by the certificate holders but the shippers as well.

(OPS 38) Autopilot Minimum Altitudes for Use **FAA NOTE: This discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 39) Passenger Briefing Before Takeoff

Part 135.117(a) states that a passenger briefing will be conducted prior to each takeoff. The ARC believes that repeated briefings within a certain time span to the same passengers are counter-productive to safety. What is important is that the PIC makes sure the passengers are initially briefed, and briefed before each takeoff as offered and accepted by continuing passengers. It was also the opinion of the ARC that the regulation can only go so far as to explaining its purpose, and that updated guidance material needs to be prepared for the FAA field inspectors. This guidance material should include, but not be limited to, PIC changes, which the wording of the amendment to the regulation accounts for ("Each pilot in command"), that each new passenger will be briefed, and any continuing passenger will be offered a re-brief and then given if requested. Also, the guidance material should show that if within the 24-hour period before the actual takeoff, there is a break in time (such as an overnight), the PIC will offer a re-brief to the continuing passengers. If the continuing passengers decline the re-brief, the PIC is not required to brief.

The recommendation to revise §135.117(a) is to clarify that the pilot in command or other qualified crewmember <u>is not</u> required to perform a passenger briefing before

every takeoff if all of the passengers on board have previously been briefed. To ensure the passengers adequately retain the safety information, the revised paragraph requires that the passenger briefing be accomplished if the passengers have not been briefed in the previous 24 hours in the same aircraft. "Previous 24 hours" means the 24 hours preceding the time when the aircraft is boarded by passengers in preparation for their flight. "Same aircraft" means, the same make, model, and serial numbered aircraft.

As stated before, many on-demand flights include more than one flight segment. Therefore, the intent of this recommended revision to §135.117(a) is to ensure that when multiple flight segments are conducted with the same passengers, it is clear that multiple briefings do not need to be conducted. However, if additional passengers join the flight, or a previously briefed passenger request another briefing, a briefing must be completed.

Proposed Rule Language

§135.117(a)

(a) Each pilot in command of an aircraft carrying passengers shall ensure that all passengers have been orally briefed prior to each takeoff. If all passengers have received the required briefing in the same aircraft (make, model, and serial number) within the previous 24-hour period prior to the actual takeoff time, the briefing need not be repeated if a crewmember offers to repeat the briefing and all passengers decline. The briefing shall include-

Justification

The intent of the current regulation is to ensure all passengers have been orally briefed as per 135.117(a)(1 thru 8). Paragraph "a" of this regulation requires a passenger briefing before each takeoff, whether the passengers had been previously briefed or not.

It is the ARC's opinion that the regulation was written more from a Part 121, or Part 135 scheduled perspective, than from a Part 135 on-demand perspective. Many times on-demand passengers do not change throughout a flight, even a flight with several flight segments. Therefore, continual briefings to the same passengers on multi-segment flights become an annoyance to the passengers rather than a safety benefit.

(OPS 40) Manipulation of Controls **FAA Note: This discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 41) Icing Conditions and AFM Restrictions

This issue was raised because it appears that Inspectors within FAA do not interpret the word "adhere" in a standardized way when determining compliance with 135.227(a). In addition, many Part 135 pilots do not realize that the FAA approved Aircraft Flight Manual (AFM) may supercede the allowance to take off with polished frost as specified in 135.227(a)(1). The ARC proposes a revision to the rule to clarify that pilots must follow AFM restrictions related to operations in icing conditions.

Proposed Rule Language

§135.227

(a) No pilot may take off an aircraft that has frost, ice, or snow adhering to any rotor blade, propeller, windshield, wing, stabilizing or control surface, to a powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the following conditions:

(1) Unless otherwise prohibited in the Airplane Flight Manual required by §23.1581 or §25.1581 of this title, takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

It is also proposed that clarification be added to FAA Orders 8400.10 and 8300.10 to assist in clarifying this issue.

8400.10, Volume 6, Chapter 2, Section 10. Ground Deicing/anti-icing inspections, paragraph 293. Objective.

8300.10, Volume 2, Chapter 4, Evaluate an Operator's Deicing/Anti-icing Program, Section 1. Background, Paragraph 5. General.

Adhering is meant in the plain English definition of "holding fast." In other words, the mere presence of dry or wet snow on a surface does not necessarily mean that it is "adhering" if it can be wiped clean with a broom, a hand, or similar mechanical method. However, if precipitation is freezing to the surface, and requires scrapping to remove, it is adhering. Any snow laying on horizontal surfaces at the beginning of the takeoff run must reasonably be expected to blow off prior to liftoff. Although not regulatory, during the preflight inspection, snow not adhering should be removed from the aircraft.

Justification

The original Part 135 rule was published before AFMs were mandatory and the relationship between the AFM and applicable regulations is not always clear. In addition, some aircraft require in their AFM a clean wing prior to departure (for example: the Cessna 208).

(OPS 42) Cabin Safety Crewmember and Passenger Service Specialist

Aircraft that conduct Part 135 operations configured with 19 or less passenger seats are not required to assign a flight attendant to the flight per §135.107. However, many Part 135 certificate holders that operate business jets elect to use some variation of a cabin crewmember on aircraft that are not required to have a flight attendant by rule. This has created a regulatory vacuum in the treatment of these individuals. In addition, these individuals may or not be trained and the passengers on board are not cognizant the extent of assistance to expect from the cabin crewmember in an emergency.

The ARC proposal is very broad in that it proposes that the term “flight attendant” for Part 135 operations be replaced by the term “cabin safety crewmember” (CSC). Additionally, a new category of cabin attendant is proposed and is termed a “passenger service specialist” (PSS). The primary differences between the two positions are the extent of duties permitted and the extent of training and checking required.

Following are examples of similarities and differences between the services that these two cabin positions would provide:

	Cabin Safety Crewmember	**Passenger Service Specialist**

Crewmember of Certificate Holder	Yes	Yes
Training	Specific to aircraft type and in accordance with certificate holder's approved training program	Specific to the functions to be performed
Passenger Briefings	Yes	No
Use of Cabin Communication Systems	Yes	No
Seated in Cabin Attendant Seat (Jump Seat)	Yes	Yes
Ensure proper configuration of aircraft cabin for taxi, takeoff, landing	Yes	No
Ensure passenger compliance with lighted signs and safety instructions,	Yes	No
Firefighting	Yes	No; alert PIC
Evacuation	Yes	No
CPR/AED	Yes	Only if trained

Food & Beverage Service	Yes	Yes
Operate Galley Appliances	Yes	Only if trained/oriented (training may be done in aircraft by certificate holder prior to flight) includes circuit breaker procedures
Seated when Fasten Seat Belt Sign On?	No	Yes

To clarify the intent of the ARC, it is expected that a CSC will be trained and tested fully to the certificate holder's training program and also specific to an aircraft type. A PSS may only have general knowledge and therefore will not be permitted to do any safety related functions. It is important to note that in the Part 135 industry there are a great many "contract flight attendants". It is anticipated that if the ARC proposal were adopted, then those individuals could serve as CSC's if trained and tested to the certificate holder's training program. If that type of training and testing could not be accomplished, then they would have the option of serving as a PSS, not performing safety related functions, with minimal training.

Proposed Rule Language

Part 1

Cabin Safety Crewmember means an individual, other than a flight crewmember, who is assigned by the certificate holder conducting Part 135 operations, in accordance with the required minimum crew complement under the certificate holder's operations specifications or used in an aircraft during flight time and whose duties include but are not necessarily limited to cabin-safety-related responsibilities.

Passenger Service Specialist is an individual, other than a flight crewmember, who is assigned by the certificate holder to duty in an aircraft during flight time and whose duties are not cabin safety related.

§135.107 Cabin safety crewmember requirements.

No certificate holder may operate an aircraft that:

(a) has a passenger seating configuration, excluding any pilot seat, of more than 19 unless there is a cabin safety crewmember on board the aircraft; or

(b) has floor level exits equipped with an assisting means for emergency evacuation that deploys automatically, unless there is one cabin safety crewmember on board the aircraft for every four such exits.

§135.117

(d) Notwithstanding the provisions of paragraph (c) of this section, for aircraft certificated to carry 19 passengers or less, the oral briefing required by paragraph (a) of this section shall be given by the pilot in command, a crewmember other than a passenger service specialist, or other qualified person designated by the certificate holder and approved by the Administrator.

§135.123 Emergency and emergency evacuation duties.

(a) Each certificate holder shall assign to each required or used crewmember, excluding passenger service specialists, for each type of aircraft as appropriate, the necessary functions to be performed in an emergency or in a situation requiring emergency evacuation. The certificate holder shall ensure that those functions can be practicably accomplished, and will meet any reasonably anticipated emergency including incapacitation of individual crewmembers or their inability to reach the passenger cabin because of shifting cargo in combination cargo/passenger aircraft.

(b) The certificate holder shall describe in the manual required under §135.21 the functions of each category of required or used crewmembers, excluding passenger service specialists, assigned under paragraph (a) of this section.

§135.128(c)

(new subparagraph)

(c) During aircraft movement on the surface, cabin safety crewmembers required or used by the certificate holder must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to the safety of the aircraft and its occupants.

§135.150

(a) ***

(4) For each required floor-level passenger emergency exit which has an adjacent cabin safety crewmember seat, has a microphone which is readily accessible to the

seated cabin safety crewmember, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin safety crewmembers;

(5) Is capable of operation within 10 seconds by a cabin safety crewmember at each of those stations in the passenger compartment from which its use is accessible;

(6) Is audible at all passenger seats, lavatories, and cabin safety crewmember seats and work stations; and

(7) For transport category airplanes manufactured on or after November 27, 1990, meets the requirements of § 25.1423 of this chapter.

(b) ***

(5) Is accessible for use from at least one normal cabin safety crewmember station in each passenger compartment;

(6) Is capable of operation within 10 seconds by a cabin safety crewmember at each of those stations in each passenger compartment from which its use is accessible; and

(7) For large turbojet powered airplanes -

(i) Is accessible for use at enough cabin safety crewmember stations so that all floor-level emergency exits (or entryways to those exits in the case of exits located within galleys) in each passenger compartment are observable from one or more of those stations so equipped;

(ii) Has an alerting system incorporating aural or visual signals for use by flight crewmembers to alert cabin safety crewmembers and for use by cabin safety crewmembers to alert flight crewmembers;

§135.253

(d) Pre-duty use.

(1) No covered employee shall perform flight crewmember or cabin safety crewmember duties within 8 hours after using alcohol. No certificate holder or operator having actual knowledge that such an employee has used alcohol within 8 hours shall permit the employee to perform or continue to perform the specified duties.

§135.291

Except as provided in §135.3, this subpart—

(a) Prescribes the tests and checks required for pilot and cabin safety crewmembers and for the approval of check pilots in operations under this part; and

§135.295 Initial and recurrent cabin safety crewmember testing requirements.

No certificate holder may use a cabin safety crewmember, nor may any person serve as a cabin safety crewmember unless, since the beginning of the 12th calendar month before that service, the certificate holder has determined by appropriate initial and recurrent testing that the person is knowledgeable and competent in the following areas as appropriate to assigned duties and responsibilities -

§135.341 Pilot and cabin safety crewmember training programs.

(a) Each certificate holder, other than one who uses only one pilot in the certificate holder's operations, shall establish and maintain an approved pilot training program, and each certificate holder who uses a cabin safety crewmember shall establish and maintain

an approved cabin safety crewmember training program, that is appropriate to the operations to which each pilot and cabin safety crewmember is to be assigned, and will ensure that they are adequately trained to meet the applicable knowledge and practical testing requirements of §§ 135.293 through 135.301. However, the Administrator may authorize a deviation from this section if the Administrator finds that, because of the limited size and scope of the operation, safety will allow a deviation from these requirements.

(b) Each certificate holder required to have a training program by paragraph (a) of this section shall include in that program ground and flight training curriculums for -

(1) Initial training;

(2) Transition training;

(3) Upgrade training;

(4) Differences training; and

(5) Recurrent training.

(c) Each certificate holder required to have a training program by paragraph (a) of this section shall provide current and appropriate study materials for use by each required pilot and cabin safety crewmember.

(d) The certificate holder shall furnish copies of the pilot and cabin safety crewmember training program, and all changes and additions, to the assigned representative of the Administrator. If the certificate holder uses training facilities of other persons, a copy of those training programs or appropriate portions used for those facilities shall also be furnished. Curricula that follow FAA published curricula may be cited by reference in the

copy of the training program furnished to the representative of the Administrator and need not be furnished with the program.

§135.349 Cabin safety crewmembers: Initial and transition ground training.

Initial and transition ground training for cabin safety crewmembers must include instruction in at least the following—

***

Part 121, Appendix I

III. Employees Who Must be Tested. Each employee, including any assistant, helper, or individual in a training status, who performs a safety-sensitive function listed in this section directly or by contract for an employer as defined in this appendix must be subject to drug testing under an antidrug program implemented in accordance with this appendix. This includes full-time, part-time, temporary, and intermittent employees regardless of the degree of supervision. The safety-sensitive functions are:

A. Flight crewmember duties.

B. Flight attendant duties.

C. Flight instruction duties.

D. Aircraft dispatcher duties.

E. Aircraft maintenance and preventive maintenance duties.

F. Ground security coordinator duties.

G. Aviation screening duties.

H. Air traffic control duties.

I. Cabin safety crewmember duties.

Part 121, Appendix J

II. Covered Employees

A. Each employee, including any assistant, helper, or individual in a training status, who performs a safety-sensitive function listed in this section directly or by contract for an employer as defined in this appendix must be subject to alcohol testing under an alcohol misuse prevention program implemented in accordance with this appendix. This not only includes full-time and part-time employees, but temporary and intermittent employees regardless of the degree of supervision. The safety-sensitive functions are:

1. Flight crewmember duties.

2. Flight attendant duties.

3. Flight instruction duties.

4. Aircraft dispatcher duties.

5. Aircraft maintenance or preventive maintenance duties.

6. Ground security coordinator duties.

7. Aviation screening duties.

8. Air traffic control duties.

9. Cabin safety crewmember duties.

Justification

Terminology Change:

Several reasons have been cited for changing the regulatory name of a flight attendant in Part 135. The primary rationale for this is that Part 121 flight attendants are required to be certificated. This is a recent (October 2003) initiative mandated by Congress primarily for security purposes. Because of the substantial lack of understanding between Part 121 and Part 135 regulatory differences, this regulatory name change will help ensure Part 135 flight attendants are not subject to the Congressionally-mandated certification requirements. What was known as a Flight Attendant under Part 135 would now be known as a Cabin Safety Crewmember. This emphasizes the safety-related duties and authority that this crewmember will fulfill.

Definitions - Cabin Safety Crewmember vs. Passenger Service Specialist:

Part 135 operators face unique challenges, due to the nature of the charter business (i.e., the demands of the customers). These consumer demands are not related to the safety of the aircraft, but are customer service in scope. There may be times when a cabin safety crewmember is not required (or used) on a flight, yet a customer requests that services be provided during the course of the flight (e.g., serve the catering). In order to accommodate these expectations and clarify the responsibilities and limits of the certificate holder and the person providing the service, changes to the regulations will be required so that it is clear the individual is acting as a crewmember and a briefing is completed carefully articulating that the passenger service specialist is not on board to perform any safety functions (and, in fact, is not trained to perform safety duties). NOTE: the passenger service specialist may not always be an employee of the certificate holder; the passenger service specialist could be, for example, the charter customer’s nurse or

executive assistant. Because this is not a safety-sensitive position, no drug/alcohol testing would be required. The passenger service specialist is never required, but may be used on board any flight.

Any cabin safety crewmember is on board the aircraft primarily to perform safety duties. They may also, however, perform service functions (e.g., food and beverage service). Any cabin safety crewmember that is *required* <u>*or used*</u> would be subject to all applicable regulations, training, testing, etc. This is a safety-sensitive duty and, as such, drug/alcohol testing requirements would be in place.

Additional Requirement to Use Cabin Safety Crewmember(s):

In order to accommodate larger aircraft and aircraft with advanced emergency exits (e.g., arming doors to set for auto deployment, then) and evacuation procedures that operate under Part 135, § 135.107 would be changed so that one Cabin Safety Crewmembers would be required for every four floor level exists with automatically deploying exit assist (e.g., slides). If an aircraft has nineteen seats or fewer, and one, two, or three such floor level exits, no Cabin Safety Crewmember would be required. Similarly, an aircraft with four, five, six, or seven such floor level exits would require one Cabin Safety Crewmember and two would be required for an aircraft with eight, nine, ten, or eleven such exits.

<u>Cost / Benefit Information</u>

Research from ARG/US shows that while there are 2538 Part 135 Certificate Holders, 880 are turbine operators. 116 of these certificate holders have a least one large aircraft on their certificate. (2Q 2003). Many of these operators already provide the

training that is being proposed. This proposal will require extensive research for the actual numbers of affected operations and the financial impact.

(OPS 44) ETOPS **FAA NOTE: This discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 46) Crew Pairing **FAA NOTE: This discussion moved to the "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 47) Portable Electronic Devices **FAA NOTE: This discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 49) International Certificates

The original issue was whether or not International Crewmember Certificates, originally issued by ICAO, were still valid and therefore does §135.43 need to be rescinded. While no more certificates are being issued, there may be operators who still have them. It was pointed out that FAA participants on committee stated that this rule could be removed.

Since there is a great deal of confusion as to the status of these certificates, the ARC recommends that the FAA determine whether this rule is needed or not based on discussion and existence of operators who have the certificates. If the rule is no longer needed it should be rescinded.

Note: Rule still required because certificates are still valid. FAA may need to modify rule. (Hennig Comment)

(OPS 50) Operational Control Designation

The current rules require that the certificate holder designate operational control by naming each individual with that authority. It is impossible for a large organization to provide the name and title of each person authorized operational control and this requirement generates needless manual revisions. The ARC proposes changes to §135.23 and §135.77 to allow titles to be used in lieu of individual names.

Justification

The proposed rules would allow for a certificate holder to use position/title in lieu of individual names in its manuals. However, a listing with individual names and titles would still be required to be kept at the PBO or other suitable location. The current rule technically requires a manual revision each time the certificate holder adds or removes someone's operational control authority. This is a needless requirement that does not enhance safety in any way.

Cost / Benefit Information

Cost savings would be substantial in reducing the frequency and amount of manual revisions.

(OPS 51) Stowage of food during surface movement

The original request was to evaluate the feasibility of allowing limited food and beverage items (possibly in paper or foam containers) to be at passenger seats during

movement on the surface but recovered and stowed prior to takeoff. A literal reading of the rule, and its counterparts in Parts 91 and 121, seem to indicate that there is no allowance for food or beverage items at passenger seats during surface movement. However, FAA guidance material suggests otherwise. In HBAT 98-02 (paragraph 3.E.(2)(a)), it states :

"Check at the aircraft cabin that prior to movement on the surface, a flight attendant ensures all galley items are picked up and stowed with the exception of paper cups and plastic glasses as long as galley security is maintained in accordance with the Certificate Holder's design".

It is also noteworthy that in this era when Part 121 scheduled passenger air carriers are struggling financially and decreasing meal and beverage service on flights, they routinely make announcements encouraging passengers to bring whatever they would like to eat or drink on the flight with no apparent limitations. These items would obviously be available to those passengers during surface movement.

Based on reality and a review of the origin of the current rules and FAA safety concerns, the ARC believes and proposes that non-glass food and beverage containers should be permitted at passenger seats during surface movement (not including takeoff or landing).

Justification

There has never been an accident caused by passengers having service items at their seats during surface movement prior to takeoff. However, there are valid safety

concerns related to glass food and beverage containers being permitted in the event of an emergency. Therefore, a realistic rule would allow non-glass containers but prohibit glass containers.

(OPS 52) Takeoff Minimums for Foreign and Military Airports

The FAA recently removed the authorization previously contained in Ops Specs paragraph C079 that allowed lower than standard takeoffs at foreign and military airports citing that it was in direct conflict with 135.225(e) (now 135.225(f)).

135.225(f) currently contains the language:

Each pilot making an IFR take- off or approach and landing at a military or foreign airport shall comply with applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over that airport. In addition, no pilot may, at that airport --

(1) Take off under IFR when the visibility is less than 1 mile; or

(2) Make an instrument approach when the visibility is less than 1/2 mile.

It is unclear as to when these visibility restrictions were included in this section. Research indicates that this language has been in the rule since at least 1977 (135.185(d)). No basis for the current language is available.

The analogous rule in Part 121 (121.651) was revised in 1981 (46 FR 2280, Amendment No. 121-166) and incorporated the following language:

(f) Unless otherwise authorized in the certificate holder's operations specifications, each pilot making an IFR takeoff, approach, or landing at a foreign airport shall comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over the airport.

The preamble to that rule change contained the following comment:

Foreign Airports

Finally, a new § 121.651(f) is added to require a pilot making an IFR takeoff, approach, or landing at a foreign airport to comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over the airport, unless otherwise authorized in the certificate holder's operations specifications. This ensures that U.S. operators comply with appropriate foreign governmental regulations when conducting international operations. No specific comments were received on this section and it is adopted as proposed.

This section is applicable to Part 121 Flag, Domestic and Supplemental operators and was not addressed previous to the 1981 amendment.

The ARC recommends adoption of rule language that requires the certificate holder to be in compliance with the regulations imposed by the authority having jurisdiction over the airport.

Proposed Rule Language

135.225(f)

Unless otherwise authorized in the certificate holder’s operations specifications, each pilot making an IFR takeoff, approach, or landing at a military or foreign airport shall comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over that airport.

Justification

The visibility restrictions contained in 135.225(f) do not appear to be supported by any recognizable safety argument nor is it readily possible to determine what the historical decision was to include this limitation. It seems safer and far more prudent for the certificate holder to abide by the regulations applicable to the country and airport at which they are operating. In addition, Part 121 Supplemental operations are governed by areas of operation, not specific airport approvals, (as is Part 135), and can therefore operate at foreign airports in accordance with the authority having jurisdiction over that airport. Part 135 operators should be granted the same relief.

Cost / Benefit Information

The current regulation is resulting in significant numbers of flight delays when conducting foreign airport operations. This is particularly critical in the European environment where departure reservations are the norm. The actual economic impact is difficult to calculate, but it is estimated that one major operator experiences 5 – 10 delays (2 hours or greater) per month. At times, these delays result in loss of revenue from the affected flights due to duty time and other limitations.

(OPS 53) Requirement to Maintain Operations Specifications and Principal Base of Operation

The ARC recommends revision to the current rule to reflect §135.63(a) and the fact that IOPSS is now being deployed to Part 135 operators. There should no longer be a requirement to have a physical paper copy on premises – the “official” copy with signatures resides within IOPSS for participating certificate holders.

(OPS 54) Aircraft Proving Tests **FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 55) Exemption for Lost or Destroyed Certificate

One of foundational reasons for the ARC was to review current exemptions and incorporate them into the rule where appropriate. In this case, numerous exemptions have been granted allowing facsimiles or other means to temporarily substitute for pilot certificates or airman medical certificates, and aircraft airworthiness or registration certificates, when the originals have been lost or misplaced. Means to allow this process should be incorporated in regulations since these exemptions are routinely granted.

It should also be made clear in guidance material that this allowance is available to aircraft conducting Part 135 flight operations or flight operations directed by the certificate holder. This would include ferry and repositioning flights conducted under Part 91 by aircraft and crewmembers governed by the certificate holder's recordkeeping system.

The ARC proposes to create a new regulatory section to codify the existing exemptions.

Proposed Rule Language

§135.45

(new section)

In the event a Pilot Certificate, Flight Engineer Certificate, Airman Medical Certificate, aircraft Airworthiness Certificate, or aircraft Registration Certificate issued by the FAA is lost, stolen, mutilated, or missing, a facsimile document may be used temporarily in lieu

of the original certificate as provided in this section, in accordance with all the procedures and limitations stated below:

1. Facsimile certificates may not be used for flights to or from foreign countries, or in international airspace.

2. The operator must apply for and receive from its certificate-holding FAA Flight Standards District Office an amendment to its Operations Specifications authorizing the use of this section.

3. With respect to Airworthiness and Registration Certificates, the operator must develop a program that provides for continued operation of the aircraft using facsimile certificate(s). This program must be FAA-approved and instructions for its use must be included in the operator's manual required by §135.21. The program must include procedures for –

(a) Making an appropriate entry in the aircraft logbook when the airworthiness or registration certificate for the aircraft is lost, stolen, or mutilated.

(b) Ensuring that timely application is made to the FAA for a replacement certificate; and

(c) Providing for the temporary operation of the aircraft during the interim required to receive a replacement certificate from the FAA or recover the missing certificate, and install it on the affected aircraft.

(d) A requirement that the following statement be entered in the appropriate section of the aircraft logbook whenever the provisions of this section are exercised: "This aircraft is being operated without an [airworthiness] or [registration] certificate [as applicable] under the provisions of §135.45 for a period not to exceed three working days, not including weekends or Federal holidays, following the start of the next business day,

beginning [Time] [Date]. The signature, title, and station location of the person(s) authorized in (e) below must be affixed to this statement.

(e) Identification of the designated person(s) within the operator's organization authorized to enter the statement contained in (d) above

(f) Method(s) by which the facsimile documents required in (4) below will be transmitted to the affected aircraft.

(g) Provision in the operator's recordkeeping system to maintain current, accessible copies of Airworthiness Certificate and Registration Certificates for aircraft in the operator's fleet.

(h) Procedures to ensure the operator's FAA principal maintenance inspector is notified within one working day of a missing, stolen, or mutilated certificate and (if a replacement certificate is required) that timely application is made to the FAA for a replacement certificate in the case of an airworthiness certificate, or a duplicate certificate in the case of a registration certificate.

(i) Assignment of specific duties and responsibilities for utilization of these procedures by job title.

(j) Facsimile certificates may be issued in accordance with this section only for temporary replacement of missing or mutilated certificates that are current and in effect, and apply only to U.S.-registered aircraft listed in the operator's Operations Specifications.

4. Facsimile Registration or Airworthiness Certificates used in connection from this section will be produced from copies maintained by the operator as provided in (g) above, and are valid only until replaced by permanent FAA documents.

5. With respect to Pilot and Airman Medical Certificates, the Operator must develop a program for issuing a facsimile confirmation document to flight crewmembers who do not have in their personal possession their airman or medical certificates required by Section 61.3(a) and (c). This program must be FAA-approved and instructions for its use must be included in the operator's manual required by §135.21. The program must include –

(a) Assignment of specific duties and responsibilities for utilization of these procedures by job title.

(b) A method to ensure positive identification of the flight crewmember requesting the facsimile confirmation document.

(c) Procedures to insure that each flight crewmember who utilizes a facsimile confirmation document in accordance with this section complies with applicable regulations to request for a facsimile from the FAA confirming the existence of the applicable certificate within 72 hours of the initiation of any flight conducted under this section. The operator is authorized to make this application to the FAA on behalf of each applicable flight crewmember. The flight crewmember must provide a copy of the FAA facsimile to the operator within 24 hours of the receipt of that facsimile.

(d) It is the individual crewmember's responsibility to take timely action to obtain a permanent replacement pilot or medical appropriate, as appropriate.

(e) Facsimile confirmation documents issued by the operator are valid only until superseded by the FAA facsimile confirmation, or until the permanent certificate is recovered.

Justification

Numerous operators have such exemptions, granted individually, or via various trade associations. Building the process into the rule would --

- Simplify the rather tedious process used in this exemption to utilize a "facsimile" certificate (which requires faxing numerous pages to the user, including the entire text of the exemption and applicable operations specification)
- Eliminate the need for repeated renewal processing of multiple exemptions by the FAA
- Make the process available to all operators
- If the FAA desires to make this flexibility available outside of FAR 135 operations, similar language could be incorporated in Part 121, or in Part 91 subpart K utilizing management specifications.

Cost / Benefit Information

Cost benefit statistics may be difficult to estimate but cost savings will certainly be realized by increased availability of aircraft and crewmembers when certificate issues arise. Actual numbers TBD.

(OPS 56) Single Pilot Operations in Turbine Aircraft --see additional work on single pilot turbojets-------- FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 59) ICAO Harmonization- Takeoff Alternate

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 60) ICAO Harmonization- Computing Oil and Fuel

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 61) ICAO Harmonization- AFM and Human Factors

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 62) ICAO Harmonization- Seaplane Equipment

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 63) ICAO Harmonization- Route to be Flown

An issue regarding ICAO Harmonization was raised related to pilots demonstrating adequate knowledge of route to be flown for a flight.

The ICAO Standard states:

9.4.3.2 Each such pilot shall demonstrate to the operator an adequate knowledge of:

a) The route to be flown, and the aerodromes which are to be used. This shall include knowledge of:

1) The terrain and minimum safe altitudes;

2) The seasonal meteorological conditions;

3) The meteorological, communication and air traffic facilities, services and procedures;

4) The search and rescue procedures; and

5) The navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

b) Procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

The U.S. Difference is:

Pilots engaged in commuter and on-demand operations are not required to demonstrate an adequate knowledge in the areas listed in 9.4.3.2. The FAA requires commuter and on-demand pilots “before beginning a flight become familiar with all available information concerning the flight”.

After review by the ARC, it is recommended that §135.299(c) be rescinded in that it does not adequately contain appropriate information for the pilot to know prior to a trip and its placement in a crewmember checking regulation is inappropriate. The ARC recommends that §135.23(s) be created to correctly reference the information required by §135.247(c). Finally, §135.247(c) is created to adequately describe the information required prior to flight and meet the ICAO standard.

Proposed Rule Language

Rescind the current §135.299(c).

§135.23(s)

(new subparagraph)

Procedures for disseminating the information required by §135.247(c) to the pilot in command.

Note: current §135.23(s) will become §135.23(r).

§135.247(c)

(new subparagraph)

No certificate holder may use any person, nor may any person serve, as pilot in command unless the certificate holder has provided that person current information concerning the following subjects pertinent to the areas over which that person is to serve, and to each airport and terminal area into which that person is to operate, and ensures that that person has adequate knowledge of, and the ability to use, the information:

(1)Navigation facilities.

(2)Communication procedures, including airport visual aids.

(3)Kinds of terrain and obstructions.

(4)Minimum safe flight levels.

(5)Enroute and terminal area arrival and departure procedures, holding procedures and authorized instrument approach procedures for the airports involved.

(6)Congested areas and physical layout of each airport in the terminal area in which the pilot will operate.

(7)Notices to Airmen.

Justification

Clarification and ICAO harmonization.

(OPS 64) ICAO Harmonization—Corrective Lenses

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 65) No action.

(OPS 66) Combined with Operations 42.

(OPS 67) Carriage of Candidates in local, State and Federal elections (§ 91.321)

FAA NOTE: This discussion has been moved to "NO ACTION RECOMMENDED" section of this preamble.

(OPS 68) Flight in Icing Conditions

There are two (2) different mechanisms under which operators may fly in icing conditions. The first, and perhaps simplest, is that aircraft may operate in icing conditions under the authority provided by the aircraft certification...e.g.: "aircraft equipped in accordance with Section 34 of Appendix A...," commonly understood as "known ice" aircraft. The second, for Part 135 operators, derives from the regulations. FAR 135.227, "Icing Conditions: Operating Limitations" at paragraph (c) provides operators of aircraft not certificated under "Section 34 of Appendix A" the authority to operate into icing conditions if the aircraft happens to have installed and operating anti-icing and de-icing equipment listed. However, the identification of that equipment follows two specifications of the conditions under which such equipped aircraft may

operate; under IFR and under VFR. Those two specifications were numbered (1) and (2) respectively. They are printed in the regulation as follows:

"(c) Except for an airplane that has ice protection provisions that meet section 34 of Appendix A, or those for transport category airplane type certification, no pilot may fly --

(1) Under IFR into known or forecast light or moderate icing conditions; or

(2) Under VFR into known light or moderate icing conditions; unless the aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system."

The problem is that for decades readers both within industry and within the FAA have incorrectly interpreted the spacing of this text to indicate that the "list of equipment" provision only applies to VFR operations, and mistakenly believed that operations under IFR are not allowed under this rule. The FAA itself has sought to correct the misleading effect of the spacing, having published guidance to the contrary on at least 3 different occasions. Unfortunately, the incorrect interpretations continue today. Careful readers will note that both specifications (1) and (2) end with identical semi-colons to separate the text that follows the semi-colon. This indicates that both (1) and (2) are equally applicable to the following "list of equipment," and that operations under either (1) or (2) (that is, either IFR or VFR) are authorized for aircraft having the listed equipment. The ARC recommends that the current rule be revised to clarify its true intent.

(OPS 69) Activity Reporting—FAA NOTE: This discussion is moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 70) Flight Locating Requirements— FAA NOTE: This discussion is moved to the "NO ACTION RECOMMENDED" section of this preamble.

(OPS 71) Two Sets of Charts—No action was recommended, however, dissenting opinion needs to be addressed

The original issue questioned if §135.83 needs to be amended to require that two sets of charts be available to the flight crew. The general consensus of the Operations work group was that a requirement for two sets of charts would be impracticable due to space limitations in most aircraft, but in some larger aircraft there might be a requirement for two sets of charts or procedures to insure that both pilots had a clear understanding of the procedure being used.

During Steering Committee discussion, it was noted by two members that they believe that the standards of the current rule could be raised by defining how accessible – from a distance perspective – the charts need to be. However, no specific solution was offered.

After discussing the issue, the ARC proposes that no regulatory action is required. However, one dissenting member of the Steering Committee will provide a dissenting opinion for presentation to the FAA.

ALPA DISSENTING OPINION

Air Line Pilots Association, International (ALPA)

ALPA is opposed to the current regulatory language contained in 135.83, and the practice, that allows for only one set of approach charts to be used during a scheduled passenger flight requiring two pilots (pilot and co-pilot). It should be pointed out that two charts are highly recommended by the FAA and NTSB regardless of operating under Part 135 or 121. We contend that the idea that pilots share a single set of publications is unsafe.

Our long-standing position has been cited by the NTSB and is supported in intent by the FAA when they issued a Flight Standards Information Bulletin (FSIB) Air Transportation (FSAT) to specifically discuss this issue. In that document they cited the following:

"The NTSB observed similarities among the investigation findings of three accidents of scheduled passenger flights and concluded a contributing factor to the accidents was the lack, or unavailability of, separate sets of instrument approach charts for the pilots. The Board states in a 1993 Safety Recommendation that the practice of having only one approach plate available in an aircraft requiring two pilots increases pilot workload during the approach and increases the potential for the miscommunication of critical information."

The FAA went on to direct "The Principal Operations Inspectors (POI) shall immediately alert their assigned operators who operate airplanes requiring two pilots, by certification or operating rule, to the contents of this bulletin. POI's shall strongly encourage them to ensure appropriate instrument approach charts are available for each

pilot and develop crew coordination procedures regarding the use of the charts and associated approach procedures.

A. POI's shall emphasize that the use of a single instrument chart is not recommended. (Emphasis added) If the operator chooses to use only one approach chart, then the chart must be positioned in the cockpit so that each pilot can read and, if necessary, physically handle the chart. In addition, the operator must have crew resource management procedures for use of the chart, crew coordination procedures, and associated approach procedures.

B. POI's shall review operator manuals and training programs to ensure that procedures for use of instrument charts and crew coordination procedures during the instrument approach are addressed (NTSB Safety Recommendation A-93-35)."

It's clear from the FAA that they agree with the NTSB position that both pilots should have a separate set of instrument approach charts for their use while flying the aircraft. Therefore, regulatory language for 135.83 should be changed to reflect that position.

(OPS 72) Cockpit Emergency Checklist

The issue raised was should Part 135 require a cockpit emergency checklist in single engine airplanes without retractable landing gear? After review by the ARC, it was determined that, in view of the complexity of certain fixed-gear single engine aircraft (and their emergency procedures, specifically the C-208 series), that cockpit emergency checklists were (a) readily available for newer aircraft; (b) could be easily produced for

others, that such checklists should be required. Therefore, the ARC proposes a revision to the rule to require and emergency checklist.

Proposed Rule Language

§135.83

(a) The operator of an aircraft must provide the following materials, in current and appropriate form, accessible to the pilot at the pilot station, and the pilot shall use them:

(2) An emergency cockpit checklist containing the procedures required by paragraph (c) of this section, as appropriate.

Justification

Safety benefit.

Cost / Benefit Information

Cost should be negligible in that such information is readily available in aircraft flight manuals, pilot operating handbooks, or other such documentation.

(OPS 73) Proving Tests

FAA NOTE: This discussion was moved to the "NO ACTION RECOMMENDED" section of this document. Is this duplicative of OPS 54??

(OPS 74) Takeoff Alternate for 3 and 4 Engine Airplanes

This subject becomes an issue as a result of recommendations for an increase in the "cargo only" payload limits of Part 135. Certain three and four engine airplanes may be allowed to operate under this part. Currently, there are no provisions for an increase in

distance to a takeoff alternate for three and four engine airplanes as is permitted under Part 121.

Part 121 recognizes the distinction between the loss of a single powerplant in a two-engine airplane and an airplane with more than two engines. The proposed rule language incorporates §121.617, thereby providing an equivalent level of safety as Part 121. Although §135.217 refers to "aircraft" rather than "airplanes", since the takeoff alternate requirements are stipulated in terms of flying time rather than distance, we believe this paragraph would be appropriate to other future designed aircraft with more than two engines (i.e. airships, rotorcraft, or powered lift) should they be built.

Proposed Rule Language

§135.217

No person may takeoff an aircraft under IFR from an airport where weather conditions are at or above takeoff minimums but are below authorized IFR landing minimums unless there is an alternate airport within:

(a) Aircraft having two engines. Not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative.

(b) Aircraft having three or more engines. Not more than two hours from the departure airport at normal cruising speed in still air with one engine inoperative.

Justification

Conforming rule with Part 121.

(OPS 76) Takeoff and Landing Currency in Simulators

§135.247 doesn't explicitly allow simulator takeoffs and landings to count towards currency while §61.57 does explicitly allow simulator takeoffs and landings to count towards currency.

Some FSDOs have questioned whether simulator takeoffs and landings can count towards §135.247 currency requirements. Past interpretation suggests that simulator experience should count, but it makes sense to make the rule as explicit as the companion language in §61.57.

Therefore, the ARC recommends revision to the rule to allow simulator takeoffs and landings to clearly be counted for the purposes of Part 135 experience requirements.

Proposed Rule Language

§135.247

(a) No certificate holder may use any person, nor may any person serve, as pilot in command of an aircraft carrying passengers unless, within the preceding 90 days, that person has—

(1) Made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in a Level C or higher flight simulator.

(2) For operation during the period beginning 1 hour after sunset and ending 1 hour before sunrise (as published in the Air Almanac), made three takeoffs and three landings during that period as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in

a Level C or higher flight simulator, if the visual system is adjusted to represent the period described in this paragraph.

***

Justification

Clarification.

(OPS 77) Larger All-cargo Aircraft-Runway Requirement

It is possible that larger all-cargo aircraft may be permitted to operate under Part 135. The issue was raised if these aircraft should be allowed to utilize the 80% effective runway length as allowed by §135.385(f) and §135.387(b).

In the NPRM published in the Federal Register: September 17, 2003 (Volume 68, Number 180), the FAA cited public comment both in favor and against allowing an increase in the effective runway requirements of §135.385 and §135.387 to 85% from 60/70%. In response, the FAA concluded that the arguments in favor of the increase indicated "misconception regarding the basis and evolution of the current landing distance requirements."

Based on its consideration of the above issues, the FAA made changes in the final rule that "maintain the level of safety provided by the current 60 percent rule, while providing operators an alternative for seeking approval to use a higher percentage under certain conditions that maintain the level of safety deemed appropriate for these types of operations". The change consisted of designating an "Eligible On-Demand Operator" Eligible on-demand operators under Part 135 may apply for approval to plan for a full stop landing at the intended destination airport within 80 percent of the effective length of the runway if the program manager or certificate holder has an approved Destination Airport Analysis Program in its manual. The rule further modifies the alternate airport requirement and provides an 80 percent planning requirement at the alternate airport. The Destination Airport Analysis Program would establish additional runway

safety margins to be applied when the planned landing weight would use more than 60 percent, but less than 80 percent, of the effective runway length, and would be based on analysis of such factors as pilot qualifications and experience, airplane performance data, airport facilities and topography, runway conditions, airport or area weather reporting, appropriate additional runway safety margins, if required, or any other criteria that may affect airplane performance. The Analysis must be approved by the Administrator, not just ``accepted," and the operation must be authorized in the management specifications or operations specifications, as applicable.

None of the arguments or conclusions in the preamble were specific to large transport category airplanes with maximum payload capacities of 7,500 or less. In fact, the FAA stated that "…landing distances atypical of actual operations are still being achieved under Part 25. This holds true for all Part 25 airplanes, independent of size or intended type of operation."

With regard to public safety, the ARC believes that large turbine powered transport category "cargo only" aircraft operated under Part 135 with payloads greater than 7,500 lbs. present less risk to the public than aircraft flown with as many as 30 passengers.

Therefore, the ARC finds no reason that "larger" aircraft cannot use the provisions of the "80% rule" provided the same requirements are met. Therefore, no change is recommended to §135.385(f) and §135.387(b).

(OPS 78) Large Non-transport Category- Enroute limit

It was suggested that Large Non-Transport Category be allowed the same en route limitations of §121.201. After review of Part 135 by the ARC, it was found that §135.391 is identical to §121.201. Therefore, no additional rulemaking is required.

(OPS 79) Exception to SIC Requirements **FAA NOTE: Discussion moved to "NO ACTION RECOMMENDED" section of this preamble.**

(OPS 80) Fire Extinguishers-91.513(c)

There is a disparity between the fire extinguisher requirements of §91.513(c)(3) and §135.155(c) wherein the Part 91 rule is more restrictive than the Part 135 rule.

§91.513(c)(3) states:
At least one hand fire extinguisher must be conveniently located in the passenger compartment of each airplane accommodating more than six but less than 31 passengers, and at least two hand fire extinguishers must be conveniently located in the passenger compartment of each airplane accommodating more than 30 passengers.

§135.155(c) states:
At least one hand fire extinguisher must be conveniently located in the passenger compartment of each aircraft having a passenger seating configuration, excluding any pilot seat, of at least 10 seats but less than 31 seats.

There are a couple of issues here that warrant a rule change. First, there seems to be no definition of "accommodating" as contained in §91.513(c)(3). Historically, this rule has been unchanged since at least 1981 (formerly §91.193). Second, it is possible in this scenario to be completely legal for a Part 135 flight, carrying revenue passengers, but not legal to reposition the airplane under Part 91 depending on the location of fire extinguishers installed and their operational status.

The last major revision to Part 135 (43 FR 46742) in December, 1978, discussed this issue. The FAA proposal had been to have the Part 135 regulation be the same as the Part 91 companion. However, numerous comments were received objecting to this proposal and the FAA adopted the current language for the Part 135 rule. Additionally, adopting the Part 135 language will eliminate the vagaries of the definition of "accommodating" with "passenger seating configuration" which is a clearly understood standard.

Proposed Rule Language

§91.513(c)(3)

At least one hand fire extinguisher must be conveniently located in the passenger compartment of each aircraft having a passenger seating configuration, excluding any pilot seat, of at least 10 seats but less than 31 seats, and at least two hand fire extinguishers must be conveniently located in the passenger compartment of each aircraft having a passenger seating configuration, excluding any pilot seat, of more than 30 seats.

Justification

There are obviously no safety ramifications preventing the harmonization of these rules. The FAA determined, and history has validated, that the language contained in §135.155(c) provides an acceptable level of safety.

(OPS 81) Reduced Pilot Experience Requirements—No recommendation made.

Rotorcraft Work Group Recommendations:

(ROT 1) Separate Rule for Rotorcraft

The helicopter industry feels that, due to the unique operating characteristics of rotor wing aircraft and the varied missions they conduct, that a separate part, or subpart should address those needs.

Background – In the 1950's and 1960's, when the Air Taxi Industry was developing, the helicopter was an 'oddity' in civilian operations. It was engaged in very limited civilian use, and was generally out of the view of the general public…and the FAA. Even during the FAR 135 re-write in the late 1970's, the helicopter was an add-on to those rules. Again in 1995, FAR 119 and FAR 135 reorganization did not fully recognize the unique capabilities of the helicopter or its missions. Although ICAO (Annex 6, Part 3) and the European Community (JAA, JAR-OPS 3) recognized that the helicopter had become a major player in aviation and instituted helicopter specific regulations, the FAA continued to integrate helicopter regulation and guidance with airplanes. The result of this has been confusion, arcane requirements, and significant difficulty in compliance.

Key points of discussion – Helicopters do not perform like airplanes, do not need airports or runways, typically operate in congested, as well as remote locations, while performing specialized missions. They generally carry fewer passengers than airplanes, fly lower and slower, routinely operate in uncontrolled airspace, and normally fly within 200NM of a base of operations. Helicopters are becoming more complex, incorporating state of the art technologies. They fly single and dual pilot IFR using special instrument procedures unavailable to airplanes. They conduct executive transport, scheduled operations, SAR (Search and Rescue), Air Medical Services, Oil and Gas, ENG (Electronic News Gathering), fire support, law enforcement, paramilitary, and homeland

security operations. These missions are so far removed from the typical airplane operation, that to try to make their regulatory and guidance operation 'fit' into the current structure of FAR 135 is an exercise in frustration and confusion.

Options – The options for implementing a separate helicopter Air Taxi rule are:

1. A separate part similar to that published in ICAO or JAR-OPS 3.
2. A helicopter subpart that contains separate regulatory guidance similar to 14 CFR, Part 135, Subpart I.
3. A separate paragraph for each rule that affects helicopters and power-lift, or clarification of existing paragraphs where separation is not warranted.
4. Leave the rule as it is currently.

Supporting information – There is currently little or no regulatory guidance which recognizes helicopter characteristics/mission requirements as they pertain to; circling instrument approaches, terminal IFR, and enroute IFR operations, emergency equipment requirements EMS operations, elevated heliport/offshore helideck procedures, performance requirements, medical crewmembers, air tours, ENG, SAR, or cargo operations. These gaps in guidance forces operators to create and monitor their own standards, resulting in many levels of safety and confusion for customer/passengers.

Option specific discussion -

1. A separate part similar to that published in ICAO or JAR-OPS 3.

   Rotorcraft regulatory review in 1970s suggested a separate regulation for rotorcraft, but this was not accepted.

   A separate rule would help determine which parts of a regulation apply to an operator.

Separate regulation may impact certificate requiring re-issuance.

ICAO format is OK although the content is difficult.

May be a more difficult problem than other options.

New regulation would be a cut and paste.

New regulation may be cumbersome.

Must include Powered-Lift in solution.

Reasons for new regulation come from so many issues not currently addressed in FAR 135.

2. A helicopter subpart that contains separate regulatory guidance similar to 14 CFR, Part 135, Subpart I.

May be better to stay with current regulation which operators are familiar with.

Will have to add Powered Lift into the subpart.

135 works, but we can make it better staying within 135.

Putting rotorcraft in separate subpart will require duplicating information from other parts.

3. A separate paragraph if needed for each rule that affects helicopters and for each rule that affects power-lift.

It may be easier to modify each paragraph separating helicopter and powered lift within the paragraph.

Quicker and easier but effective and gives us a bigger “bang” for the buck in the time allotted.

We could write the additional paragraphs in clear language.

This option would keep the regulatory current numbering system intact.

4. Leave the rule as it is currently.

This is not a viable option as discussed earlier in the document.

Recommendation: The rotorcraft industry feels that, due to the unique operating characteristics of rotorcraft and powered lift that current Part 135 rules should be clarified to include separate subparagraphs, or clarifications if separate paragraphs are not warranted, to address those differences. (Option 3)

(ROT 10-4) Initial and Recurrent Pilot Testing Requirements

Background - -

FAR 135.293 states: "No certificate holder may use a pilot, nor may any person serve as a pilot, in any aircraft unless, since the beginning of the 12th calendar month before that se4rvice, that pilot has passed a competency check given by the Administrator or an authorized check pilot in that class of aircraft, if single-engine airplane other than turbojet, or that type of aircraft, if helicopter, multiengine airplane, or turbojet airplane, to determine the pilot's competence in practical skills and techniques in that aircraft or class of aircraft. The extent of the competency check shall be determined by the Administrator or authorized check pilot conducting the competency check. The competency check may include any of the maneuvers and procedures currently required for the original issuance of the particular pilot certificate required for the operations authorized and appropriate to the category, class and type of aircraft involved." The regulation also states: "For the purposes of this paragraph, type, as to a helicopter, means a basic make and model."

FAA Order 8400.10 requires that during the competency check, the pilot will be tested on an instrument approach.

Testing the helicopter pilot on an instrument approach creates several problems:

1. A helicopter pilot may be qualified to fly under FAR 135 without any instrument training.
2. A helicopter pilot may be qualified to fly under FAR 135 without holding an instrument helicopter rating.
3. A helicopter operator may be limited to VFR only operations.
4. The basic make and model of the helicopter may not be equipped for instrument flight.
5. The basic make and model of the helicopter may not be certified for instrument flight.
6. The operator's training program may not include training in instrument procedures.
7. The operator's training program may not include training in attitude instrument flying.
8. The helicopter pilot, without an instrument rating, will not carry instrument charts to use in an emergency.
9. If the helicopter pilot did have instrument charts, he/she would not be able to select the chart while flying the helicopter.
10. Testing the helicopter pilot on instrument procedures leads the pilot to believe he could actually do that procedure in an emergency.
11. Testing the helicopter pilot on instrument procedures and attitude instrument flying does not satisfy the NTSB recommendations for training to prevent low light/flat light related accidents.

Issue/problem: The current practice of testing a helicopter pilot on attitude instrument flying and instrument procedures is faulty and does not add to the safety of helicopter operations under FAR 135.

Key Points of Discussion.

Discussion 1: 135.293(c) was added to clarify the requirements set forward by FAA Order 8400.10. FAA Order 8400.10 requires that on a 135.293 check the pilot being checked must demonstrate the ability to get out of trouble in the event of being caught in inadvertent IMC conditions. The Check airman or FAA inspector must make the event realistic as possible so as to resemble an operation the pilot would actually accomplish. The group feels that this point needed clarifying. This requirement has been in the 8400.10 for some time but has been ignored by certificate holders and POI's alike. We feel that the requirement has to be listed in the regulation so as to accomplish the intent of the Order.

The old Paragraphs (c,d,e,f) were changed to (d), (e), (f), and (g) to allowed the addition of the new (c).

Paragraph (d) was changed to clarify the old paragraph. The old paragraph was misinterpreted most of the time by certificate holders and POI's alike to mean that the 135.297 instrument check could replace the 135.293 check without having to do the VFR maneuvers required by 135.293. We felt that the addition of adding "when all the requirements of 135.293 are met" clearly show the true intent of the paragraph.

Discussion 2: Changes to second part of recommendation: The group felt that recommendation document rotorcraft 4 should be incorporated into recommendation document rotorcraft 10 as its changes were dealing with the same regulation.

135.293 should be rewritten to remove make and basic model for helicopters.

In CFR 14 § 1.1 General definitions.

As used in Subchapters A through K of this chapter, unless the context requires otherwise: contains the following definition of Type:

(1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a specific make and basic model of aircraft, including modifications thereto that do not change its handling or flight characteristics. Examples include: DC-7, 1049, and F-27; and

(2) As used with respect to the certification of aircraft, means those aircraft, which are similar in design. Examples include: DC-7 and DC-7C; 1049G and 1049H; and F-27 and F-27F.

This definition clearly allows certification in aircraft that are similar in design.

Discussion 3:

CFR 14 § 135.293 (b) states:

(b) No certificate holder may use a pilot, nor may any person serve as a pilot, in any aircraft unless, since the beginning of the 12th calendar month before that service, that pilot has passed a competency check given by the Administrator or an authorized check pilot in that class of aircraft, if single engine airplane other than turbojet, or that type of aircraft, if helicopter, multiengine airplane, or turbojet airplane, to determine the pilot's competence in practical skills and techniques in that aircraft or class of aircraft. The extent of the competency check shall be determined by the Administrator or authorized check pilot conducting the competency check. The competency check may include any of the maneuvers and procedures currently required for the original issuance of the

particular pilot certificate required for the operations authorized and appropriate to the category, class and type of aircraft involved. For the purposes of this paragraph, type, as to an airplane, means any one of a group of airplanes determined by the Administrator to have a similar means of propulsion, the same manufacturer, and no significantly different handling or flight characteristics. For the purposes of this paragraph, type, as to a helicopter, means a basic make and model.

This paragraph treats helicopters differently than airplanes in that it allows "Any one of a group of airplanes determined by the Administrator to have similar means of propulsion, the same manufacturer, and no significantly different handling or flight characteristics." While for helicopters it is restricted to basic make and model. An example of the application of this rule is the BH412/212 aircraft. The 212 is manufactured by Bell has similar means of propulsion, and no significantly different handling or flight characteristics, yet under the current 135.293 rule we must do a competency in each aircraft to satisfy the rule. I feel that we should be allowed to do a competency in either aircraft and have it count for a check in the model series as it would be if we were discussing airplanes. For the purpose of this paragraph, type, as to helicopter, means the same manufacturer, make, model series, and no significantly different handling or flight characteristics.

Also, Section 1, paragraph 285, B, of Order 8400.10 (AIR TRANSPORTATION OPERATIONS INSPECTOR'S HANDBOOK) allows for certain families of airplanes. This information can be utilized as a guideline for the development of the training and checking programs under this requested exemption. Order 8400.10 reads as follows on this subject: *Multiengine, Turbopropeller, and SFAR Airplane Family. This aircraft*

family consists of turbopropeller airplanes and those airplanes certified under Part 23 in the normal category. In accordance with FAR 135.293(b), certain airplanes of particular make and model have been determined to be equivalent to other models in a series. Airplanes of an equivalent series may be considered a single type for purposes of training and checking. We believe that the Bell 212 and 412 series of aircraft easily fit into the FAA definition of "equivalent series", and can been handled as a single type for the purposed of testing, checking, and training.

Discussion 4:

(1) Although not specifically required by this paragraph, the FAA requires basic instrument skills be demonstrated during the annual check conducted under this rule. The inspector's handbook (8400.10) guides operators to include demonstration of a pilot's ability to fly the aircraft "solely by reference to instruments". I agree with this need, as experience indicates that numerous accidents have occurred due to the inability of pilots to control the aircraft when visual surface reference was lost. In order to make this requirement more evenly enforced it should become part of the rule. However, many aircraft are not equipped to fly with sole reference to instruments, and many pilots are not instrument rated. The rule must recognize this, and not place undue burden on pilots and operators who cannot accomplish instrument flight training requirements. Those pilots and operators should be given the option of putting procedures in place that allow a pilot to have a reasonable chance of escape from an inadvertent encounter with IMC conditions based on pilot qualification, aircraft configuration, and area of operation. The rule should require that the pilot demonstrate the ability to carry out this procedure. It should not be required that a non instrument rated pilot, or a pilot engaged in VFR only

operations, demonstrate procedures in which he is not qualified, such as ILS or GPS approaches.

(2) Section (c) is added to clarify the requirement of testing a pilot's ability to recover from inadvertent IMC. It is not the intent to test a pilot's instrument rating, proficiency or ability to use every piece of installed equipment to practical test standards. A commercial pilot with no instrument rating should not be tested to the practical test standards of completing an ILS approach simply because one is installed in the aircraft.

The intent of section (c) is to evaluate any pilot's ability to safely maneuver the aircraft into VMC conditions after an inadvertent encounter with IMC conditions. The terminology "operating environment" is used to include "low light" and "flat light" conditions.

Section (d) expanded to eliminate confusion. As it is currently written, completion of a 135.297 proficiency check would substitute for the 135.293 competency check, and the 135.293 competency check is more comprehensive. It requires checking in more comprehensive. It requires checking in more areas than a 135.297 proficiency check.

Supporting information #1:

Commercial pilot aeronautical experience requirements for helicopter are detailed in FAR 61.129. The requirements are included here to show that a commercial helicopter pilot needs only to have "10 hours of instrument training in an aircraft." The training does not have to be in a helicopter.

(c) For a helicopter rating. Except as provided in paragraph (i) of this section, a person who applies for a commercial pilot certificate with a rotorcraft category

and helicopter class rating must log at least 150 hours of flight time as a pilot that consists of at least:

(1) 100 hours in powered aircraft, of which 50 hours must be in helicopters.

(2) 100 hours of pilot-in-command flight time, which includes at least -

(i) 35 hours in helicopters; and

(ii) 10 hours in cross-country flight in helicopters.

(3) 20 hours of training on the areas of operation listed in § 61.127(b)(3) of this part that includes at least -

(i) 10 hours of instrument training in an aircraft;

(ii) One cross-country flight of at least 2 hours in a helicopter in day VFR conditions, consisting of a total straight-line distance of more than 50 nautical miles from the original point of departure;

(iii) One cross-country flight of at least 2 hours in a helicopter in night VFR conditions, consisting of a total straight-line distance of more than 50 nautical miles from the original point of departure; and

(iv) 3 hours in a helicopter in preparation for the practical test within the 60-day period preceding the date of the test.

(4) 10 hours of solo flight in a helicopter on the areas of operation listed in § 61.127(b)(3) of this part, which includes at least -

(i) One cross-country flight with landings at a minimum of three points, with one segment consisting of a straight-line distance of at least 50 nautical miles from the original point of departure; and

(ii) 5 hours in night VFR conditions with 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern).

Supporting information #2: Commercial pilot flight proficiency requirements for helicopter are detailed in FAR 61.127. The requirements are included here to show that the commercial helicopter pilot need not demonstrate instrument proficiency.

(x) General. A person who applies for a commercial pilot certificate must receive and log ground and flight training from an authorized instructor on the areas of operation of this section that apply to the aircraft category and class rating sought.

(b) Areas of operation.

. . .

(3) For a rotorcraft category rating with a helicopter class rating:

(x) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport and heliport operations;

(iv) Hovering maneuvers;

(v) Takeoffs, landings, and go-arounds;

(vi) Performance maneuvers;

(vii) Navigation;

(viii) Emergency operations;

(ix) Special operations; and

(x) Postflight procedures.

Supporting information #3: **NTSB SAFETY RECOMMENDATION**

On October 7, 2002 the National Transportation Safety Board issued Safety Recommendation A-02-33 through –35. The recommendation involves "flat light" which is the diffuse lighting that occurs under cloudy skies especially when the ground is snow covered. Under flat light conditions, there are no shadows cast, and the topography of snow-covered surfaces is impossible to judge. Flat light generally impairs a pilot's ability to perceive depth, distance, altitude, or topographic features when operating under visual flight rules (VFR). Whiteout is a similar phenomenon. Under these conditions, pilots may become spatially disoriented, unable to maintain visual reference with the ground, and unaware of their actual altitude. Accidents prompted the safety recommendation.

On June 9, 1999 a Eurocopter AS-350BA helicopter (N6099S) was destroyed near Juneau, Alaska. The helicopter was operated under FAR 135 as an on-demand sightseeing flight. The pilot and six passengers were killed. The pilot was not instrument rated. The NTYSB determined the probable cause as the pilot's continued VFR flight into adverse weather, spatial disorientation, and failure to maintain aircraft control. Factors associated with the accident [included] . . . flat lighting leading to whiteout conditions. Additional factors were the pilot's lack of instrument experience, inadequate certification and approval of the operator by the Federal Aviation Administration, and the FAA's inadequate surveillance of the emergency instrument procedures in use by the company.

On September 10,1999 a Eurocopter AS-350B-2 helicopter (N6007S) was destroyed when it crashed near Juneau. The helicopter crashed on a level surface while

flying near cruise speed in a level attitude. The helicopter was operated as a VFR, on-demand sightseeing flight under FAR 135. The commercial pilot and four passengers received minor injuries, and one passenger received serious injuries. The weather was overcast with localized snow showers, and flat light conditions. The commercial pilot was not instrument rated. The NTSB determined the probable cause to be the pilot's continued flight into instrument meteorological conditions and inadequate altitude/clearance. Factors in the accident were flat light and whiteout conditions, snow and snow covered terrain. An additional factor was the FAA's inadequate certification/approval of the operator's training manual that did not require the operator to provide instrument training or instrument flight proficiency checks to its pilots.

Also on September 10, 1999 a Eurocopter AS-350B-2 helicopter (N6052C) sustained substantial damage when it too crashed near Juneau, Alaska. This flight was operated under FAR part 91 on a search and rescue mission searching for N6007S described above. Flat light conditions made it difficult to determine the aircraft's altitude according to the pilot. Similar conclusions were drawn that flat light conditions contributed to the accident.

In a third accident on September 10, 1999, a Eurocopter AS-350B-2 helicopter (N6099Y) sustained substantial damage when it crashed near Juneau, Alaska. Like the crew of N6052C described above, N6099Y was searching for N6007S that had crashed earlier that day. In this case the pilot was instrument rated, but he had not been tested for instrument proficiency on the pilot's last FAR Part 135 helicopter flight check.

In a final example cited in the NTSB recommendation, a Bell 206B helicopter was destroyed when it crashed near Homer, Alaska. The helicopter was operated as a

VFR, on-demand charter flight under FAR part 135. The pilot was instrument rated but did not meet instrument currency requirements and had not been tested for instrument proficiency on his last FAR Part 135 helicopter flight check.

Since January 1997, flat light conditions have been mentioned in the probable cause for 23 aviation accidents investigated by the Safety Board, including the five helicopter accidents described in this letter. In addition whiteout conditions were mentioned in an additional 13 accidents. Nearly all these accidents occurred in Alaska. Although all but eight of the accidents involved fixed-wing aircraft, it is clear that flat light conditions occur relatively frequently in Alaska and create hazards for aircraft. The Board is concerned that, with the increasing popularity of helicopter tours in Alaska, additional safety measures are warranted for commercial helicopter operations there, where flat light and whiteout conditions are likely to occur. The US Forest Service reported in a draft report that the number of landings on the Juneau ice field increased from approximately 2,000 in 1985 to approximately 16,500 in 2000.

Evidence gathered during the investigation of the five accidents described above, raises the following concerns about commercial helicopter operations.

1. commercial helicopter pilots who operate in areas where flat light or whiteout conditions routinely occur are not required to be instrument rated or to demonstrate instrument competency during Part 135 evaluation flight checks.

2. commercial helicopter operators in these areas do not provide their pilots with the training necessary to operate safely in flat light conditions

3. radar altimeters that might aid pilots in recognizing proximity to the ground in flat light and whiteout conditions are not required in helicopters.

Helicopters may legally operate in visibility less than that prescribed for airplanes (see 14 CFR 135.205(b) and 135.207). Title 14 CFR 135.207 reads, "No person may operate a helicopter under VFR unless that person has visual surface reference or, at night, visual surface light reference, sufficient to safely control the helicopter." The Safety Board states that the accidents described in the safety recommendation letter demonstrate that flat light and whiteout conditions may arise without warning, thus creating the potential for losing sight of terrain. Further the accidents demonstrate that, in such conditions, helicopters may not always operate at airspeeds slow enough to avoid obstructions and terrain.

Currently the basic aeronautical training requirements contained in 14 CFR Part 61 require commercial and/or private helicopter pilots to receive 10 hours of instrument training in "an aircraft"; the CFR does not require instrument training for helicopter operations specifically, nor does it address the special hazards presented by flat light and whiteout conditions. 14 CFR 135.293(b) does require pilots to pass a competency check "to determine the pilot's competence in practical skills and techniques in that aircraft or class of aircraft [that is, helicopters]. The extent of the competency check shall be determined by the Administrator or authorized check pilot conducting the competency check." FAA Order 8400.10, Air Transportation Operations Inspector's Handbook, volume 3, chapter 2, section 7, paragraph 539, provides guidance for FAA principal operations inspectors (POIs) to use in reviewing and approving basic checking modules. Paragraph 539 of the order states that the minimum acceptable content of a Part 135 annual competency check for both fixed-wing and helicopter pilots should include some demonstration of "the pilot's ability to maneuver the aircraft solely by

reference to instruments." Accordingly the order specifies that competency checks for helicopter pilots (even those who conduct VFR only operations) should include instrument approaches to demonstrate that the pilots are able to take a reasonable course of action to escape an inadvertent encounter with IMC.

Although POIs are expected to follow FAA Order 8400.10, implementation of the instrument competency portions of paragraph 539 has occurred inconsistently and in some instances not at all. None of the operators involved in the accidents described in this letter had included, nor had their POIs required them to include a demonstration of IFR competency in their annual competency checks.

In the safety recommendation, the Safety Board is concerned that helicopter pilots who conduct commercial, passenger-carrying flights in areas where flat light or whiteout conditions routinely occur are not required to hold helicopter instrument ratings or to demonstrate IFR competency during initial and recurrent 14 CFR 135.293 evaluation flight checks. The accidents described in this recommendation letter might have been prevented if the pilots who were involved were instrument rated and instrument proficient. Therefore the Safety Board believed the FAA should require all helicopter pilots who conduct commercial, passenger carrying flights in areas where flat light or whiteout conditions routinely occur to possess a helicopter specific instrument rating and to demonstrate instrument competency during initial and recurrent 14 CFR 135.293 evaluation check flights.

The Safety Board also believes that the FAA should require all commercial helicopter operators conducting passenger-carrying flights in areas where flat light or

whiteout conditions routinely occur to include safe practices for operating in flat light and whiteout conditions in their approved training program

The National Transportation Safety Board recommended the following to the FAA:

1. Require all helicopter pilots who conduct commercial, passenger-carrying flights in areas where flat light or whiteout conditions routinely occur to possess a helicopter-specific instrument rating and to demonstrate their instrument competency during initial and recurrent 14 CFR 135.293 evaluation check flights (A-02-33).

2. Require all commercial helicopter operators conducting passenger-carrying flights in areas where flat light or whiteout conditions routinely occur to include safe practices for operating in flat light or whiteout conditions in their approved training programs (A-02-34)

3. Require installation of radar altimeters in all helicopters conducting commercial, passenger-carrying operations in areas where flat light or whiteout conditions routinely occur (A-02-35).

ITEM #4 FAA Inspectors Handbook 8400.10 Vol. 3 Para 539 states:

"As a matter of national safety policy, however, some demonstration of competency of the pilot's ability to maneuver the aircraft solely by reference to instruments will be included on each competency check. For VFR competency checks, this demonstration will be appropriate to the aircraft's installed equipment and the operating environment (see note 7 to figure 3.2.7.3. and note 4 to figure 3.2.7.4.)."

Note 4 to figure 3.2.7.4 reads " 4 POIs shall ensure applicants accomplish this event in an aircraft the operator uses in revenue operations (or in an appropriately equipped simulator or training device.) The event should reflect a realistic course of action the pilot might take to escape from an inadvertent encounter with IFR conditions. POIs should approve methods appropriate to the aircraft, equipment, and facilities available. When the pilot is authorized to operate an appropriately equipped aircraft and the check is conducted at a location where an ILS is operational, an ILS approach should be demonstrated. POIs may also approve a letdown on partial panel when this would be an appropriate course of action.

Recommendation: Add language to require a basic instrument, or recovery from inadvertent IMC to FAR 135.293 checks for VFR pilots.

(ROT 11) Alternate Airport Requirements

Discussion:

Background

Key points of discussion – The requirements of paragraph (b) are overly restrictive for helicopters. Deviations exist for other alternate weather requirements, but not this one. Helicopters generally utilize alternate airports geographically closer than airplanes, and in similar weather systems. The FAR 91 requirements have proven adequate in those operations allowed to utilize them, such as EMS flights operating under the AAMS/HAI exemption.

Statement of the Problem

Flight planning requirements (including alternate airport weather minima) for helicopters and other aircraft are virtually identical, even though their operating characteristics are substantially different. The only distinction between the flight planning requirements for helicopters and other aircraft is addressed in 14 CFR 91.167 and 91.169, which specifies different requirements for the amount of fuel helicopters and other aircraft must carry after completing a flight to the first airport of intended landing. Helicopters, however, fly shorter distances at slower airspeeds than most other aircraft, and they generally remain in the air for shorter periods between landings. A helicopter is therefore less likely to fly into unanticipated, unknown, or unforecast weather. The relatively short duration of the typical helicopter flight means that the departure weather and the destination weather are likely to be within the same weather system. This rule revises the flight planning requirements for helicopter IFR operations to take into account their unique operating characteristics.

Discussion

135.61 General reads:

"This subpart prescribes rules, in addition to those in Part 91 of this chapter, that apply to operations under this part."

It has always been the intent of FAR Part 135 to use Part 91 as the basic rule and Part 135 would amend or add to Part 91 as need for Part 135 operations. It is used also to clarify the meaning of certain Part 91 rules.

The preamble to FAR Part 91.167 and 91.169 was written to expressly allow the use of these regulations by FAR Part 135 operators,

Extracted from 91.167 and 91.169 preamble

The Aviation Rulemaking Advisory Committee (ARAC) was established by the FAA to provide industry information and expertise during the rulemaking process. In October 1991, an IFR Fuel Reserve Working Group of the ARAC, General Aviation Operations Issues, was assigned the task to "evaluate the advantages and disadvantages of revising the fuel reserve requirements for flight under instrument flight rules" (56 FR 51744; Oct. 15, 1991). Later the working group also evaluated: (1) The advantages and disadvantages of revised precision and non-precision instrument approach minima and alternate weather minima, considering the operational capability of the helicopter to decelerate before and during arrival at the Decision Height or Minimum Descent Altitude, including circling approaches; and (2) whether or not this capability reduces risk and the probability of a missed approach and the need to proceed to an alternate and meet the resulting regulatory alternate fuel requirement. The working group, which consisted of representatives from helicopter associations, helicopter manufacturers, helicopter pilot associations, helicopter operators, and government agencies, met numerous times between January 1992 and October 1997. As a result, ARAC submitted its recommendation to the FAA in November 1997.

ARAC recommended that the FAA revise the weather minima used to determine whether carriage of additional fuel to reach an alternate airport is needed when flying in IFR conditions. Specifically, ARAC suggested revising paragraph (b)(2) of § 91.167--Fuel requirements for flight in IFR conditions, to state that: "* * * weather reports or

prevailing weather forecast or combination of them indicate * * * for helicopters, at the estimated time of arrival, the ceiling will be 1,000 feet above the airport elevation or 400 feet above the lowest approach minima, whichever is higher; and * * * at the estimated time of arrival, the visibility will be at least 2 statute miles." The ARAC's suggested revisions would create different ceiling and visibility criteria for helicopters (as opposed to those for other aircraft), and would also change the requirement that those ceiling and visibility criteria be in effect for at least 1 hour before and 1 hour after the estimated time of arrival.

ARAC also recommended that IFR flight plan requirements for helicopters be amended by revising the alternate airport weather planning requirements and weather minima necessary when designating an alternate airport on an IFR flight plan. ARAC suggested that the FAA revise paragraph (b) of § 91.169--IFR flight plan: Information required, to state that the provisions of paragraph (a)(2) of that section would not apply if 14 CFR part 97 prescribes " * * * a standard instrument approach procedure for the first airport of intended landing and the weather reports or prevailing weather forecast or combination of them indicate * * * for helicopters, at the estimated time of arrival, the ceiling will be at least 1,000 feet above the airport or heliport elevation or 400 feet above the lowest approach minima, whichever is higher; and * * * at the estimated time of arrival, the visibility will be at least 2 statute miles."

135.61 General.

Special Instrument Approach Procedures

Prior to this rule change, § 135.223 (b) stated in part that, “Paragraph (a)(2) of this section does not apply if Part 97 of this chapter prescribes a standard instrument approach

procedure for the first airport of intended landing and, for at least one hour before and after the estimated time of arrival, the appropriate weather reports or forecasts, or any combination of them, indicate that –" This regulatory language does not provide for the use of special instrument approach procedures in determining an aircraft operator's ability to meet alternate airport requirements. This rule will permit an aircraft operator to use an authorized approach procedure in determining compliance with alternate airport requirements.

Special instrument approach procedures are not issued pursuant to part 97 but may be issued to an operator through inclusion in the operator's Operations Specifications or through a letter of authorization issued by the Administrator to a specific operator. These approach procedures are not published in part 97, but are developed under the authority of § 91.175 (a). The FAA has developed over 120 new helicopter non-precision Global Positioning System (GPS) instrument approaches to heliports since 1995, over 75% of them since October 1997. The FAA has determined that these approaches are not standard instrument approach procedures but "special instrument approach procedures" which require additional aircrew training prior to their use. Therefore, to permit aircraft operators to use special instrument approach procedures to comply with alternate airport requirements, the FAA has revised the language contained in § § 91.167 (b)(1) and 91.169 (b)(1), (c)(1), and (c)(2) to permit the use of these special approaches when issued to an operator by the Administrator.

Additional discussion: Committee members discussed at length whether the proposed changes should apply to powered-lift category and all associated classes that might be defined in the future or should this apply just to tiltrotor, the only

existing powered-lift. The group is concerned that using powered-lift in this regulation may allow additional classes to be defined, classes that should not be authorized the proposed alternate airport requirements. The group is also concerned that using tiltrotor in the proposed regulation is a problem since this is not a defined class for pilot certification nor is there a definition in FAR Part 1 for tiltrotor. Group did agree that this regulation may need to be revised in the future as new developments place additional aircraft other than the tiltrotor in the powered-lift category.

Options **1. Change the language 135.223 to allow the use of 91.167**

2. Leave the regulation as is. (Not acceptable)

Supporting information

Cost/benefit information

Recommendation: Change the language of FAR 135.223 to allow rotorcraft/power lift aircraft to use the FAR Part 91 requirements.

135.223 IFR: Alternate airport requirements.

(a) No person may operate a civil aircraft in IFR conditions unless it carries enough fuel (considering weather reports and forecasts and weather conditions) to--

(1) Complete the flight to the first airport of intended landing;

(2) Except as provided in paragraph (b) of this section, fly from that airport to the alternate airport; and

(3) Fly after that for 45 minutes at normal cruising speed or, for helicopters and powered-lift, fly after that for 30 minutes at normal cruising speed.

(b) Paragraph (a)(2) of this section does not apply if:

(1) Part 97 of this chapter prescribes a standard instrument approach procedure to, or a special instrument approach procedure has been issued by the Administrator to the operator for, the first airport of intended landing; and

(2) Appropriate weather reports or weather forecasts, or a combination of them, indicate the following:

(i) For aircraft other than helicopters and powered-lift. For at least 1 hour before and for 1 hour after the estimated time of arrival, the ceiling will be at least 2,000 feet above the airport elevation and the visibility will be at least 3 statute miles.

(ii) For helicopters and powered-lift. At the estimated time of arrival and for 1 hour after the estimated time of arrival, the ceiling will be at least 1,000 feet above the airport elevation, or at least 400 feet above the lowest applicable approach minima, whichever is higher, and the visibility will be at least 2 statute miles.

(ROT 14) Circling Approach Discussion:

135.297(b) currently reads: The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach, and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.

1. Helicopters do not need a runway to accomplish a landing following an instrument approach.
2. There is no requirement to demonstrate a circling approach in the PTS (Practical Test Standards) for helicopters and power-lift.

3. Extract from the preamble to FAR Part 91.169: The United States Standard for Terminal Instrument Procedures (TERPS) (FAA Order 8260.3B), Chapter 11. Helicopter Procedures, paragraph 1100.a, "Identification of Inapplicable Criteria," states in part, "circling approach and high altitude penetration criteria do not apply to helicopter procedures." The FAA in fact does not evaluate pilots in the performance of circling approaches during evaluation for any rating or check involving the piloting of a helicopter. Additionally, the Instrument Rating Practical Test Standards (PTS) (FAA-S-8081-4C), published by the FAA to establish the standards for instrument rating certification practical tests for airplane, helicopter, and powered lift category and classes of aircraft indicates that the circling approach task is appropriate only to airplane and airship instrument proficiency checks and ratings.

4. The circling approach is broken down into two parts:

   a. The circling approach to circling minimums (MDA), this is an IFR procedure. All aircraft may do this part of the circling instrument approach.

   b. The circle-to-land maneuver, this is a visual maneuver where the pilot must keep the airport in sight while maneuvering to land on a certain runway.

   The circle-to-land maneuver is only required to be completed by airplanes and airships. The helicopter and power-lift aircraft can after reaching minimums and having the airport in sight continue with a normal approach to their landing site, turning into the wind if needed.

Recommendation: Modify 135.297 to better encompass the helicopter and power-lift aircrafts unique capabilities.

135.297 Pilot in command: Instrument proficiency check requirements.

(a) No certificate holder may use a pilot, nor may any person serve, as a pilot in command of an aircraft under IFR unless, since the beginning of the 6th calendar month before that service, that pilot has passed an instrument proficiency check under this section administered by the Administrator or an authorized check pilot.

(b) No pilot may use any type of precision instrument approach procedure under IFR unless, since the beginning of the 6th calendar month before that use, the pilot satisfactorily demonstrated that type of approach procedure. No pilot may use any type of nonprecision approach procedure under IFR unless, since the beginning of the 6th calendar month before that use, the pilot has satisfactorily demonstrated either that type of approach procedure or any other two different types of nonprecision approach procedures.

(i) For aircraft other than helicopters and powered-lift: The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach to include the circle-to-land maneuver, and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.

(ii) For helicopters and power-lift aircraft: The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach to circling minimums (circle-to-land maneuver not required), and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.

(c) The instrument proficiency check required by paragraph (a) of this section consists of an oral or written equipment test and a flight check under simulated or actual IFR conditions. The equipment test includes questions on emergency procedures, engine operation, fuel and lubrication systems, power settings, stall speeds, best engine out speed, propeller and supercharger operations, and hydraulic, mechanical, and electrical systems, as appropriate. The flight check includes navigation by instruments, recovery from simulated emergencies, and standard instrument approaches involving navigational facilities that that pilot is to be authorized to use. Each pilot taking the instrument proficiency check must show that standard of competence required by § 135.293(d).

FAR 91.175: Pertinent parts of this paragraph need to be changed to reflect helicopter circling approach requirements, specifically relating to operations below MDA. The change should be worded as follows:

(c) Operation below DH or MDA. Where a DH or MDA is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA or continue an approach below the authorized DH unless -

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under part 121 or part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing, or for rotorcraft and powered lift the point of intended landing;

(ROT 20) Marker Beacon Off –shore Operations

Issue: FAR 135.165 Radio and Navigation Equipment: Extended Overwater or IFR Operations.

(b)4 requires a marker beacon for extended overwater and IFR operation. Marker beacon receiver should not be required.

(d)1 the relief for single long range navigation and communication applies to airplane only but should apply to all aircraft.

Discussion FAR 135.165(b)4:

FAR 135.165 Radio and Navigation Equipment: Extended Overwater or IFR Operations. The regulation requires a marker beacon for IFR or extended overwater operation. The marker beacon fixes the aircraft's position across the ground. Marker beacons are commonly found on Instrument Landing System (ILS) approaches. This requirement is unreasonable for over 600 aircraft operating offshore in today's environment and with today's equipment. The committee could not determine why a marker beacon had to be installed to conduct overwater operations more than 50 miles from a landing site when there are no marker beacons operating in the offshore environment.

One argument for removing the regulatory requirement is that a marker beacon receiver may be replaced by GPS. This is not true and was rejected as a reason to do away with the marker beacon receiver requirement. The Aeronautical Information Manual published by the US Government defines what equipment the GPS can replace, but the marker beacon is not listed. The reason for this is that the marker beacon is not a

point recognized or addressable by a GPS. GPS is not presently authorized as a substitute for marker beacon.

A counter argument was if marker beacons are only necessary in conjunction with an ILS, why isn't ILS required by this paragraph? The rule already requires two navigation systems, and this requirement has exemptions only requiring one.

There was a suggestion to change the wording to reflect navigation equipment appropriate to the facilities to be used. If no marker beacons are required for navigation, the equipment should not be required.

The requirement may remain from early days of cross country navigation using beacons for electronic course guidance.

The group concluded the marker beacon is required for IFR but should not be required for VFR extended overwater operations.

Discussion FAR 135.165(d)1:

One other conflict exists in the regulation, which will be corrected by rewording paragraph (d)(1) changing "airplane" to "aircraft" since rotorcraft should also be included.

In the future we expect to have technology that will further expand navigation and position fixing. The regulation will need to grow to accommodate the new technology as it develops. No action has been taken at this time to reword the regulation at this time.

Members are concerned that this regulation impacts airplanes and airships as well as rotorcraft since the paragraph addresses "aircraft". We must be careful if we change anything affecting other aircraft.

Background 135.165(b)4:

No historical information could be found to justify the requirement for a marker beacon receiver for extended overwater flight. (FAR 135.165(b)4)

Background 135.165(d)1:

The committee reviewed the need for exemptions to 135.165(d). Exemptions are held by various operators to allow a single long range navigation system. By changing paragraph 135.165(d) 1 from “airplane” to “aircraft”, the need for exemptions to this paragraph will be significantly reduced. Other categories of aircraft will be able to operate without exemption just as airplanes do now.

Options for 135.165 (b)4

1. Delete the marker beacon requirement completely.
2. Write separate paragraphs, one for extended overwater and one for IFR.
3. Add language that equipment appropriate for the facilites to be used must be installed.
4. Change paragraph (b)(4) to add wording “For IFR operations only, a marker beacon receiver.”

Supporting information for 135.165 (b)4

1. Option 1: Not recommended by the working group as the marker beacon is required for the ILS approach.
2. Option 2: Not necessary as there is a simpler solution.
3. Option 3: Adding this wording would make the regulation too vague.

4. Option 4: Recommended, as the requirement should remain for a marker beacon for IFR operations including IFR extended overwater. The marker beacon should not be required for VFR extended overwater.

Options for 135.165 (d)1

1. Option 1: Change the word “airplane” to “aircraft”.

Supporting information 135.165(d)1

1. Option 1: Changing this one word will include other aircraft categories.

Cost/benefit information

This recommendation removes a regulatory requirement for a piece of equipment to be installed in an aircraft. Whenever such a requirement is removed, there is a cost saving to the operator. With this change only operations that need to have a marker beacon receiver are required to have the receiver. This will save money for the operator. Removal of this equipment will not diminish the level of safety.

Recommendation FAR 135.165(b)4

Change paragraph (b)(4) to delete wording “marker beacon receiver.”

Recommendation FAR 135.165(d)1

Change “airplane” to “aircraft” since rotorcraft should also be included.

The new wording of the regulation would be:

135.165 Radio and navigational equipment: Extended overwater or IFR operations.

(a) No person may operate a turbojet airplane having a passenger seating configuration, excluding any pilot seat, of 10 seats or more, or a multiengine airplane in a commuter

operation, as defined in part 119 of this chapter under IFR or in extended overwater operations unless it has at least the following radio communication and navigational equipment appropriate to the facilities to be used which are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ground facility:

(1) Two transmitters,

(2) two microphones,

(3) two headsets or one headset and one speaker,

(4) a marker beacon receiver,

(5) two independent receivers for navigation, and

(6) two independent receivers for communications.

(b) No person may operate an *aircraft* other than that specified in paragraph (a) of this section, under IFR or in extended overwater operations unless it has at least the following radio communication and navigational equipment appropriate to the facilities to be used and which are capable of transmitting to, and receiving from, at any place on the route, at least one ground facility:

(1) A transmitter,

(2) two microphones,

(3) two headsets or one headset and one speaker,

(4) for IFR operations only, a marker beacon receiver,

(5) two independent receivers for navigation,

(6) two independent receivers for communications, and

(7) for extended overwater operations only, an additional transmitter.

(c) For the purpose of paragraphs (a)(5), (a)(6), (b)(5), and (b)(6) of this section, a receiver is independent if the function of any part of it does not depend on the functioning of any part of another receiver. However, a receiver that can receive both communications and navigational signals may be used in place of a separate communications receiver and a separate navigational signal receiver.

(d) Notwithstanding the requirements of paragraphs (a) and (b) of this section, installation and use of a single long-range navigation system and a single long-range communication system, for extended overwater operations, may be authorized by the Administrator and approved in the certificate holder's operations specifications. The following are among the operational factors the Administrator may consider in granting an authorization:

(1) The ability of the flightcrew to reliably fix the position of the *aircraft* within the degree of accuracy required by ATC,

(2) The length of the route being flown, and

(3) The duration of the very high frequency communications gap.

(ROT 21) Emergency Overwater Equipment Requirements

Issue: Establish a rule for aircraft equipment fit for offshore operations, and define the term “offshore operations” separate from Part 135.167, extended over water operations.

Discussion:

The current Part 135.167 rule does not apply to most helicopters operated in the offshore environment due to the current definition of extended over water flight. AC27-

801 and AC29-801 describe extended over water in regards ditching equipment as follows:

Ditching equipment is required for extended overwater operations (more than 50 nautical miles from the nearest shoreline and more than 50 nautical miles from an offshore heliport structure).

Additionally:

Extended Overwater - FAR Part 1 defines "extended overwater operation" for aircraft as an operation overwater at a horizontal distance of more than 50 nm from the nearest shoreline; and for helicopters, as an operation overwater at a horizontal distance of more than 50 nm from the nearest shoreline or more than 50 nm from an offshore heliport structure. The term "extended overwater operations" is used in defining the kinds of radio equipment required for navigation for flight operations conducted under FAR Parts 121, 125, and 135 (see overwater for FAR Part 91 requirements).

AC 90-92 discusses the term over water, and referrers to Part 91.511, but does not define it. The AC states:

OverWater - FAR 91.511 establishes the kinds of radio equipment required for navigation of large and of turbine powered, multiengine aircraft operated under FAR Part 91 more than 30 minutes of flying time or 100 nm from the nearest shore. This differs from the "extended overwater" definition found in FAR Part I (see the definition for extended overwater in this appendix).

Part 91.511 applies only to airplanes and states, in part:

91.511 Radio equipment for overwater operations.

(a) Except as provided in paragraphs (c), (d), and (f) of this section, no person may takeoff an airplane for a flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shore unless it has at least the following operable equipment:

AC-91-70 states**: Overwater** - § 91.511 of the FAR defines "overwater" as more than 30 minutes flying time or 100 NM from the nearest shore. This definition differs from the "extended overwater" definition found in FAR Part 1.

Neither extended overwater nor overwater requirements sufficiently address current offshore activity in U.S. Petroleum Exploration and Production, EMS, Air Tour, or Search and Rescue operations. Industry groups such as the Helicopter Safety Advisory Conference (HSAC), and Air Tour associations have attempted to address this issue.

Under current rules, a helicopter could theoretically operate 200 miles offshore and not be required to carry a life raft as long as it remained within 50 miles of a helideck, other offshore landing structure, or ship. Conversely, if that same helicopter operates 51 miles from a structure it is required to carry the full compliment of equipment required for extended overwater operations. In most helicopters, this is an impractical position. Externally deployable life rafts have been developed for many helicopter types, but these systems generally do not have the capacity to contain the equipment required by Part 135.167. The rule needs to support these systems which unquestionably enhance safety.

Therefore, as recognized by the FAA and helicopter industry groups, certain emergency equipment should be mandated for those aircraft operating in the offshore environment. Additionally, a definition of overwater, and offshore, particular to

helicopters should be developed. The current definition of extended overwater is acceptable, however helicopters should have different emergency equipment requirements in extended overwater operations. This new rule would also include overwater and/or offshore equipment requirements.

Group discussion on changes to Part FAR 135.166 Emergency equipment: Overwater, Extended Overwater, and Offshore Operations- Rotorcraft.

The new part is needed to separate the Helicopter from Airplanes as the two typically have different missions and capabilities.

Secondly we broke out the sections into Overwater and Extended Overwater. We discussed the different operations and the different equipment needed due to the fact that the recovery time can be different between the two operations.

The discussion started to clear up and define the intent of the new part.

This new part better delineates the equipment required for Overwater operations. Additionally there are new automatically deployable life raft systems currently being developed. These systems need to be more compact, and therefore the space for pyrotechnic signaling devices were removed from the raft and included in the equipment carried on board and is readily available.

The equipment required in the part was amended to better accommodate new technology that may provide better visibility on the water e.g. “streamers” that provide the same function as die markers.

In removing the ELT from the life raft, should the ELT be placed or carried by a pilot or passenger. The discussion led to adding the elt either in “the life raft or easily

removable for the aircraft. Additionally we removed the necessity to carry food in the Extended Overwater operation, but keep the requirement for water and de-salivation units.

Recommendation:

Change or Add to Part 1 (changes in red type):

Overwater: For airplanes, a flight more than 30 minutes flying time or 100 nautical miles from the nearest shore. For helicopters, a flight beyond autorotational distance from shore. As used in this section, "shore" means that area of the land adjacent to the water, which is above the high water mark and excludes land areas which are intermittently under water.

Offshore Operation: For rotorcraft, an overwater flight conducted more than 5 minutes flying time or 10 miles from the nearest shore, which includes an offshore takeoff, landing, or external load operation to or from a helideck or vessel.

Change Part 135.167 to read (changes in red type):

§ 135.167 Emergency equipment: Extended overwater operations – Aircraft Other Than Rotorcraft

{New-2003-21 (a) revised September 17, 2003, effective November 17, 2003}

(a) Except where the Administrator, by amending the operations specifications of the certificate holder, requires the carriage of all or any specific items of the equipment listed below for any overwater operation, or, upon application of the certificate holder, the Administrator allows deviation for a particular extended

overwater operation, no person may operate an aircraft other than a rotorcraft in extended overwater operations unless it carries, installed in conspicuously marked locations easily accessible to the occupants if a ditching occurs, the following equipment:

Create a new Part 135.166:

§ 135.166 Emergency equipment: Overwater, Extended Overwater, and Offshore Operations - Rotorcraft

Except where the Administrator, by amending the operations specifications of the certificate holder, requires the carriage of all or any specific items of the equipment listed below for any overwater operation, or, upon application of the certificate holder, the Administrator allows deviation for a particular extended overwater operation, no person may operate a rotorcraft in overwater, offshore, or extended overwater operations unless it carries, installed in conspicuously marked locations easily accessible to the occupants in the event of an emergency water landing, the following equipment:

(a) Overwater operations;

(1) An approved life preserver equipped with an approved survivor locator light for each occupant of the aircraft. The life preserver must be easily accessible to each seated occupant.

(2) One approved pyrotechnic signaling device.

(b) Offshore operations;

(1) An approved life preserver equipped with an approved survivor locator light for each occupant of the aircraft. Except for a patient carried on an emergency medical transport flight, the life preserver must be worn by each occupant.

(2) An approved survival type emergency locator transmitter, either automatically deployable, in the life raft, or easily removable from the aircraft. (After February 2009, the emergency locating transmitter must be an approved 406MHz type). Batteries used in this transmitter must be replaced (or recharged, if the battery is rechargeable) when the transmitter has been in use for more than 1 cumulative hour, or, when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery must be legibly marked on the outside of the transmitter. The battery useful life (or useful life of charge) requirements of this paragraph do not apply to batteries (such as water activated batteries) that are essentially unaffected during probable storage intervals.

(3) One approved pyrotechnic signaling device.

(4) Enough life rafts of a rated capacity and buoyancy to accommodate the occupants of the aircraft.

(i) Each life raft required by this paragraph must be equipped with or contain at least the following:

(1) One approved day/night signaling device.

(2) One life raft repair kit;

(3) One bailing bucket;

(4) One signaling mirror;

(5) One police whistle;

(6) One raft knife;

(7) One inflation pump;

(8) One 25 foot retaining line;

(9) One magnetic compass;

(10) One dye marker or equivalent;

(11) One fishing kit; and

(c) Extended Overwater operations;

(1) The equipment listed in paragraph (b) of this section;

(2) One flashlight having at least two size "D" cells or equivalent, and;

(3) Each life raft must be equipped with or contain at least the following:

(a) The equipment listed in (b), (1) thru (11) of this section;

(b) One radar reflector;

(c) One canopy (for sail, sunshade, or rain catcher);

(d) For each two persons the raft is rated to carry, two pints of water or one sea water desalting kit;

(e) One book on survival appropriate for the area in which the aircraft is operated

(4) The ELT required by (b)(2) of this section must conform to TSO 126 (406mhz).

(d) The equipment required by this section shall be maintained in accordance with Part 135.419.

FAA NOTE: Compare with Ops rec on pyrotechnics

(ROT 25) 135 Operations having to comply with 91

Discussion:

Over the years the Operators have voiced concerns on what regulations really governed their operations under FAR Part 135.

FAR Part 135.3 Rules applicable to operations subject to this part.

(a) Each person operating an aircraft in operations under this part shall -

(1) While operating inside the United States, comply with the applicable rules of this chapter; and

(2) While operating outside the United States, comply with Annex 2, Rules of the Air, to the Convention on International Civil Aviation or the regulations of any foreign country, whichever applies, and with any rules of parts 61 and 91 of this chapter and this part that are more restrictive than that Annex or those regulations and that can be complied with without violating that Annex or those regulations. Annex 2 is incorporated by reference in § 91.703(b) of this chapter.

What is misunderstood is the term, “applicable rules of this chapter” used in 135.3(a)(1). Chapter means “Chapter I - Federal Aviation Administration, Department of Transportation” which is all the Parts of Chapter I (FAR Part 1 through Part 199) .

This table is taken from e-CFRs at web address:

http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_14/14tab_00.html

Search Title	*Search Volume*	*Chapter*	*Browse Part*	*Regulatory Entity*
Title 14 Aeronautics and Space	1	I	1-59	Federal Aviation Administration, Department of Transportation
	2		60-139	
	3		140-199	
	4	II	200-399	Office of the Secretary, Department of Transportation (Aviation Proceedings)
		III	400-1199	Commercial Space Transportation, Federal Aviation Administration, Department of Transportation
	5	V	1200-1299	National Aeronautics and Space Administration
		VI	1300-1399	Air Transportation System Stabilization

FAR Part 91 is the basic rule that all pilots must follow to operate within the NAS system, then added to these rules are the specific rules which govern the different operations allowed (ie. FAR Part 121, Part 125, Part 133, Part 135), these rules add to Part 91 or explain to a higher degree the rules of Part 91. If a rule is not covered in Part

91 then a rule is added to the operating rules for the operation. If a rule is in Part 91 and it needs to be expanded it will be done in the operating rules of the operation concerned. To help stop the misinterpretations which are garnered over this misinterpretation 135.3(a)(1) was changed to show that Chapter means "Chapter I - Federal Aviation Administration, Department of Transportation."

Background

Options

1. Leave the verbiage as is. (Not acceptable)
2. Replace verbiage in 135.201 to reflect the requirement to also use Part 91.
3. Add verbiage in 135.1, 135.3, and 135.201 to reflect the requirement for operations under Part 135 to also use the rules in Part 91.

Recommendation: Change FAR 135.1, 135.3 and FAR 135.201 to read as follows:

135.1 Applicability.

(a) This part prescribes rules*, in addition to those in Part 91*, governing

……..

FAR Part 135.3 Rules applicable to operations subject to this part.

(a) Each person operating an aircraft in operations under this part shall -

(1) While operating inside the United States, comply with the applicable rules of this chapter (*Title 14 - Code of Federal Regulations, Aeronautics and Space Chapter I - Federal Aviation Administration, Department of Transportation, Parts 1 through 199);* and

(2) While operating outside the United States, comply with Annex 2, Rules of the Air, to the Convention on International Civil Aviation or the regulations of any foreign country, whichever applies,

and with any rules of parts 61 and 91 of this chapter and this part that are more restrictive than that Annex or those regulations and that can be complied with without violating that Annex or those regulations. Annex 2 is incorporated by reference in § 91.703(b) of this chapter.

135.201 Applicability.

This subpart prescribes operating limitations, in addition to those in Part 91 of this chapter, for VFR/IFR flight operations and associated weather requirements for operations under this part.

Steering Committee Discussion on November 20, 2003: If additional links need to be developed they should be identified as well. If listing Part 91, would you have to list other rules as well such as 119, proposed 136 (Air Tours) etc. Also, Part 121 probably has similar deficiencies. Would the plain language initiative be a better vehicle to accomplish this concept.

(ROT 27) Helicopter IFR requirements

Background

FAR Part 91 has always been the base rule used by all aviation regulations. FAR 135.221 states: No person may designate an alternate airport unless the weather reports or forecasts, or any combination of them, indicate that the weather conditions will be at or above **authorized** alternate airport landing minimums for that airport at the estimated time of arrival. Prior to the advent of Automated Operation Specifications this meant that you could use FAR 91.169 as standard alternate criteria or you could have lower than standard criteria approved in you operation specifications. With the advent of the

Automated Operation Specifications in 1991 the FAA created their own Alternate minimum criteria in which they were requiring Part 135 operators to comply with. Some operators refused to sign the Automated Operation Specifications as they were too limiting. With the change to FAR Part 91.169 separating helicopters from other aircraft the standard alternate criteria was lowered. This now gave better alternate criteria than that approved by the Automated Operation Specifications. The industry petitioned the FAA to use FAR 91.169 as the basis for a new Alternate Minimum Automated Operation Specification which would allow the same criteria as that authorized by 91.169. The reason for the petition was that the rewrite to FAR Part 91 was to allow FAR 135 operators to use the rule also. The preamble was written with this that intention. The petition was approved and the Operation Specification changed.

The arguments used in the preamble to FAR Part 91.167 and 91.169 are still valid for this change to FAR Part 135.221

Excerpts for Preamble:

SUMMARY: The FAA is amending instrument flight rules (IFR) for helicopters by revising alternate airport weather planning requirements, weather minima necessary to designate an airport as an alternate on an IFR flight plan, and fuel requirements for helicopter flight into IFR conditions. This action will provide operators with an additional margin of safety by easing access of helicopters to the IFR system, result in a reduction of noise heard on the ground, and increase the ability of operators to use helicopters more efficiently.

Background

The FAA issued a Notice of Proposed Rulemaking (NPRM) (63 FR 46834; Sept. 2, 1998) that proposed to amend the general operating rules for helicopters by revising alternate airport weather planning requirements, weather minima necessary to designate an airport as an alternate on an IFR flight plan, and the fuel requirements for helicopter flight into IFR flight conditions. The NPRM also proposed to withdraw Special Federal Aviation Regulation (SFAR) No. 29-4, Limited IFR Operations of Rotorcraft. The public comment period closed on October 2, 1998.

The FAA later issued a Supplemental Notice of Proposed Rulemaking (SNPRM) (64 FR 35902; July 1, 1999) that sought comments on modifications made to the NPRM in response to commenters' suggestions. The public comment period for the SNPRM closed on August 2, 1999.

Statement of the Problem

Flight planning requirements (including alternate airport weather minima) for helicopters and other aircraft are virtually identical, even though their operating characteristics are substantially different. The only distinction between the flight planning requirements for helicopters and other aircraft is addressed in 14 CFR 91.167, which specifies different requirements for the amount of fuel helicopters and other aircraft must carry after completing a flight to the first airport of intended landing. Helicopters, however, fly shorter distances at slower airspeeds than most other aircraft, and they generally remain in the air for shorter periods between landings. A helicopter is therefore less likely to fly into unanticipated, unknown, or unforecast weather. The relatively short duration of the typical helicopter flight means that the departure weather and the

destination weather are likely to be within the same weather system. This final rule revises the flight planning requirements for helicopter IFR operations to take into account their unique operating characteristics.

History

Over the past several years, there have been specific recommendations from industry, and from joint efforts of the FAA and industry regarding regulatory changes to safely expand helicopter access to the IFR system. The FAA has been addressing these recommendations by working with industry to identify regulations that prevent safe helicopter operations in the IFR environment.

Previous Rulemakings

In January 1975, the FAA issued Special Federal Aviation Regulation (SFAR) No. 29 (40 FR 2420; Jan. 13, 1975), which authorized the carriage, in rotorcraft IFR operations, of less than the 45 minutes, but not less than the 30 minutes, of additional fuel reserve, then required by § 91.23 (c) (now § 91.167(a)(3)), when approved by the Administrator. The SFAR also authorized the issuance of approvals for limited IFR operations for certain transport category rotorcraft that are certified to only operate under VFR. In 1979, the FAA undertook the Rotorcraft Regulatory Review Program (44 FR 3250; Jan. 15, 1979), which was a comprehensive review of rotorcraft operations and certification.

In an NPRM issued in 1985 (50 FR 10144; March 13, 1985), the FAA proposed to amend § 91.23 (now § 91.167) by reducing the fuel reserve requirement for helicopters from 45 minutes to 30 minutes. The FAA also proposed to amend the alternate airport IFR flight plan filing requirements by reducing the ceiling minimum for helicopters from

2,000 feet to 1,000 feet, and the visibility minimum for helicopters from 3 miles to 1 mile. No changes were proposed to § 91.83 (now § 91.169). As the FAA stated in the preamble to the 1985 NPRM, the basis for the proposed reductions was that a helicopter has the unique ability to reduce airspeed safely on approach to as low as 40 knots, and is therefore provided reduced visibility minima in part 97. The proposal also said that because the helicopter, with its reduced minima, has a better probability of completing the flight to the planned destination, it should be allowed a reduced fuel reserve. In the 1985 NPRM, the FAA also stated that it had gained sufficient experience with operations under SFAR No. 29 to conclude that reducing the required fuel reserve would not decrease the level of safety.

In 1986, the FAA issued a final rule (51 FR 40692; Nov. 7, 1986) that adopted the proposal to reduce the fuel reserve required under § 91.23. The FAA did not, however, adopt the proposal to reduce the ceiling and visibility minima because a report entitled "Weather Deterioration Models Applied to Alternate Airport Criteria (Report No. DOT/FAA/RD 81/92 (September 1981) had stated that "any reduction in alternate airport requirements should be offset by limiting the duration of the flight for which the reduced requirements apply" (p. 4-1). The findings in that report, however, were preliminary, and in the years that have passed since it was issued, the FAA's experience with helicopter IFR flight plan filing criteria indicates that the preliminary concern for reduced helicopter ceiling and visibility minima was overemphasized.

U.S. Army Practices

In 1982, the U.S. Army adopted reduced IFR alternate airport weather planning minima and alternate airport selection criteria for both helicopters and airplanes. The

Army's criteria of a ceiling 400 feet above the weather planning minimum required for the approach to be flown, and visibility one mile greater than the weather planning minimum required for the approach to be flown has been used for over 17 years and there have been thousands of flight hours with no mishaps associated with these weather planning criteria. The U.S. Army's experience demonstrates that reducing helicopter ceiling and visibility minima for IFR flight planning results in a level of safety equivalent to the current rule and offers greater operational flexibility for helicopter operators.

ELVIRA Workshop

In August 1993, a workshop conducted by the FAA with industry, called the Extremely Low Visibility Instrument Rotorcraft Approaches (ELVIRA) Workshop, resulted in a list of "Ten Most Wanted" changes (see "Extremely Low Visibility IFR Rotorcraft Approach (ELVIRA) Operational Concept Development, Final Report," Report No. DOT/FAA/RD-94/1,I. (March 1994)). The unprioritized list of 10 desired IFR system enhancements included "rotorcraft specific minima" for determining the need for, and availability of, alternate airports for flight plan filing purposes (ELVIRA final report, p. 3).

Since rotorcraft are for the most part range-limited, their destination airport and alternate airport will most likely be in the same air mass and consequently will have similar weather. In the ELVIRA final report (p. 34), the FAA noted that the current regulations result in a "severe penalty in the productivity of helicopters operating under IFR." In addition, the FAA observed that "with certain weather conditions it is often impossible for the helicopter operator to gain access to the current IFR system, while VFR flight is allowed. * * * [C]hanging this [the alternate airport minima] to 400-1 for a

[helicopter] precision approach and 600-1 for a [helicopter] non-precision approach procedure, will enable many more [helicopter] IFR operations to take place while maintaining the same level of safety" (pp. 34-35).

Petitions for Exemption

On February 23, 1995, Helicopter Association International (HAI) petitioned the FAA for an exemption from § 91.169 (c)(1)(i), which provides that alternate airport minima for a precision approach are a ceiling of 600 feet and visibility of 2 statute miles. The petition asked the FAA to allow lower alternate airport weather minima for IFR flight planning.

On April 24, 1996, HAI filed an amendment to its petition for exemption from § 91.169 (c)(1)(i), proposing, in part, to limit operations under the requested exemption to those conducted by certain operators named in the amended petition. The stated purpose of this amendment was the further "accumulation of data to prove the operational safety of the use of such minimums." In addition, the FAA has received 13 other petitions requesting amendments to 91.169 and 91.167 to allow helicopter operations with reduced alternate weather requirements. (With the issuance of the NPRM published on September 2, 1998, the FAA closed the docket on HAI's petition for exemption, and on the petitions submitted by HAI and others for various amendments to 91.169, 91.167 and related regulations.) 0

ARAC Actions

The Aviation Rulemaking Advisory Committee (ARAC) was established by the FAA to provide industry information and expertise during the rulemaking process. In October 1991, an IFR Fuel Reserve Working Group of the ARAC, General Aviation

Operations Issues, was assigned the task to "evaluate the advantages and disadvantages of revising the fuel reserve requirements for flight under instrument flight rules" (56 FR 51744; Oct. 15, 1991). Later the working group also evaluated: (1) The advantages and disadvantages of revised precision and non-precision instrument approach minima and alternate weather minima, considering the operational capability of the helicopter to decelerate before and during arrival at the Decision Height or Minimum Descent Altitude, including circling approaches; and (2) whether or not this capability reduces risk and the probability of a missed approach and the need to proceed to an alternate and meet the resulting regulatory alternate fuel requirement. The working group, which consisted of representatives from helicopter associations, helicopter manufacturers, helicopter pilot associations, helicopter operators, and government agencies, met numerous times between January 1992 and October 1997. As a result, ARAC submitted its recommendation to the FAA in November 1997. The FAA based the NPRM, published on September 2, 1998, and the SNPRM, published on July 1, 1999, on that ARAC recommendation.

ARAC recommended that the FAA revise the weather minima used to determine whether carriage of additional fuel to reach an alternate airport is needed when flying in IFR conditions. Specifically, ARAC suggested revising paragraph (b)(2) of § 91.167--Fuel requirements for flight in IFR conditions, to state that: "* * * weather reports or prevailing weather forecast or combination of them indicate * * * for helicopters, at the estimated time of arrival, the ceiling will be 1,000 feet above the airport elevation or 400 feet above the lowest approach minima, whichever is higher; and * * * at the estimated time of arrival, the visibility will be at least 2 statute miles." The ARAC's suggested

revisions would create different ceiling and visibility criteria for helicopters (as opposed to those for other aircraft), and would also change the requirement that those ceiling and visibility criteria be in effect for at least 1 hour before and 1 hour after the estimated time of arrival.

ARAC also recommended that IFR flight plan requirements for helicopters be amended by revising the alternate airport weather planning requirements and weather minima necessary when designating an alternate airport on an IFR flight plan. ARAC suggested that the FAA revise paragraph (b) of § 91.169--IFR flight plan: Information required, to state that the provisions of paragraph (a)(2) of that section would not apply if 14 CFR part 97 prescribes " * * * a standard instrument approach procedure for the first airport of intended landing and the weather reports or prevailing weather forecast or combination of them indicate * * * for helicopters, at the estimated time of arrival, the ceiling will be at least 1,000 feet above the airport or heliport elevation or 400 feet above the lowest approach minima, whichever is higher; and * * * at the estimated time of arrival, the visibility will be at least 2 statute miles."

Under § 91.169 (c), ARAC again suggested creating IFR alternate weather minima for helicopters performing precision and nonprecision approaches that would be different from those applicable to other aircraft. The new criteria would apply when it would be necessary to include an alternate airport in an IFR flight plan. Ceiling and visibility conditions at the alternate airport would be for "current prevailing weather forecasts * * * at the estimated time of arrival" (when no instrument approach procedure has been specified in 14 CFR part 97 for an alternate airport). The helicopter minima recommended by ARAC were as follows: For a "precision approach procedure * * * for

helicopters, [c]eiling 400 feet and visibility 1 statute mile;" and for a "nonprecision approach procedure * * * for helicopters, [c]eiling 600 feet and visibility 1 statute mile."

The FAA agreed with most of ARAC's recommendations, except the elimination of the requirement under § § 91.167 (b)(2) and 91.169 (b) that weather report and forecast data be in effect for 1 hour after the estimated time of arrival.

Discussion of Comments to the Original NPRM

General

The public comment period on the FAA's September 2, 1998 NPRM closed on October 2, 1998. Thirty-nine comments were received, all of which were generally supportive of the proposal. Commenters praised the NPRM for its potential to enhance safety by facilitating the expansion of helicopter operations under IFR in marginal weather conditions, thereby reducing weather-related accidents. Commenters also stated that adoption of the rule would enable operators to better utilize their IFR-equipped helicopters, transport clients more efficiently, and reduce noise on the ground. Seven commenters however stated that certain technical issues were not adequately addressed by the FAA in the proposal. These concerns are addressed in detail in the following discussion. In addition, since the FAA's economic analysis did not anticipate any cost of compliance or need for additional equipment or training, comments on both the quantitative and qualitative benefits of the proposal were favorable also.

Removal of SFAR No. 29-4

A number of commenters addressed the proposed removal of SFAR No. 29-4, Limited IFR Operations of Rotorcraft. One commenter stated that in the past, his company used the provisions of the SFAR to "prove IFR capabilities in a then non-IFR

certified helicopter," and the company "does not want to lose this capability." Two other commenters stated that the FAA should retain the provisions of the SFAR for a period of time (for either a year or a "reasonable time") after the other provisions of the NPRM are implemented as a final rule. The commenters believed that this course of action would have enabled the FAA and industry to determine whether the SFAR was needed or had outlived its usefulness. After that time, the FAA could better evaluate its removal. The FAA does not believe retaining the SFAR is necessary and is therefore removing it.

The SFAR was originally adopted to permit the FAA to collect operational data to study the feasibility of limited rotorcraft operations in IFR conditions. Since the adoption of the SFAR, the FAA has addressed the issue of helicopter IFR operations and issued regulations that govern both the certification and operation of helicopters under IFR. These regulations are found in Appendix B--
Airworthiness Criteria for Helicopter Instrument Flight, contained in both 14 CFR parts 27 and 29. Operational regulations permitting helicopters to engage in IFR operations are found in 14 CFR parts 91 and 135.

Paragraph 5 of SFAR 29-4 states that "new applications for limited IFR rotorcraft operations under SFAR No. 29 may be submitted for approval until, but not including the effective date of Amendment No. 1 of the Rotorcraft Regulatory Review Program. On and after the effective date of Amendment No. 1, all applicants for certification of IFR rotorcraft operations must comply with the applicable provisions of the Federal Aviation Regulations." The effective date of Amendment No. 1 was March 2, 1983. Concurrent with the effective date of Amendment No. 1, regulations establishing airworthiness criteria for helicopter instrument flight became effective. All new applicants for

certification of helicopter IFR operations must now comply with the provisions of Appendix B of parts 27 or 29, as applicable, and part 91. Because the FAA has established certification criteria and operational limitations for helicopters engaged in IFR operations, the need to prove IFR capabilities in a non-IFR certified helicopter is no longer warranted. The changes made to the regulations since the promulgation of SFAR No. 29 therefore no longer make its provisions necessary.

Alternate Airport Weather Minima

Commenters stated that the NPRM did not provide alternate airport weather minima reductions for helicopters when airports that have non-standard alternate airport weather minima are used as alternate airports. Prior to the adoption of this rule, standard alternate airport weather minima for all aircraft were stated in 14 CFR 91.169 (c)(1)(i) and (ii), (i.e., for a precision approach procedure a ceiling of 600 feet and a visibility of 2 statute miles; for a nonprecision approach procedure, a ceiling of 800 feet and a visibility of 2 statute miles).

The commenters stated that helicopter operators should not be subject to the same restrictions imposed on operators of other types of aircraft by the use of nonstandard alternate minimums. The commenters noted that these restrictions were generally imposed to facilitate the conduct of circle-to-land operations. Due to the ability of helicopters to fly any available instrument approach, regardless of wind direction, and to land at the approach threshold regardless of runway length by pivoting into the wind, if necessary, just before touchdown, the commenters asserted that helicopter operators should not be restricted by these non-standard alternate minimums. They further stated that helicopter operators therefore should be allowed to use lower-than-standard alternate

weather minima, regardless of whether standard or nonstandard alternate airport weather minima are specified on part 97 approach plates.

The FAA agrees with these comments. Historically, the FAA has permitted helicopter operators to use procedures different from those permitted to be used by other aircraft. For example, 14 CFR part 97 allows helicopters to utilize "copter procedures" or other procedures prescribed in subpart C of that part, and to use the Category A minimum descent altitude (MDA) or decision height (DH). Part 97 also authorizes helicopter operators to reduce the required visibility minimum to one-half the published visibility minimum for Category A aircraft, but in no case may it be reduced to less than one-quarter mile or 1,200 feet runway visibility range (RVR).

Alternate airport weather minima are established using the ceiling and visibility requirements for circling approaches as a minimum. The United States Standard for Terminal Instrument Procedures (TERPS) (FAA Order 8260.3B), Chapter 11. Helicopter Procedures, paragraph 1100.a, "Identification of Inapplicable Criteria," states in part, "circling approach and high altitude penetration criteria do not apply to helicopter procedures." The FAA in fact does not evaluate pilots in the performance of circling approaches during evaluation for any rating or check involving the piloting of a helicopter. Additionally, the Instrument Rating Practical Test Standards (PTS) (FAA-S-8081-4C), published by the FAA to establish the standards for instrument rating certification practical tests for airplane, helicopter, and powered lift category and classes of aircraft indicates that the circling approach task is appropriate only to airplane and airship instrument proficiency checks and ratings.

In the SNPRM, the FAA therefore proposed to change the language of § 91.169 (c)(1)(ii) to permit a helicopter operator to use an airport as an alternate airport provided the ceiling is at least "200 feet above and visibility 1 statute mile above the approach minima for the approach to be flown. * * *" The purpose of this change was to allow helicopters to use lower-than-standard alternate airport minima regardless of the approach to be flown while eliminating the need to alter current approach plates. In making this change, the FAA unintentionally increased the visibility requirements proposed in the original NPRM. To correct this, the FAA has revised the language of § 91.169 (c)(1)(i) in this final rule to correspond with the original intent of the NPRM. See "Discussion of Comments to the SNPRM" below.

Some commenters requested that the FAA specify separate alternate airport weather minima for precision and nonprecision approaches used by a helicopter operator. Specifically, a 400-foot ceiling and one mile visibility was proposed for precision approach procedures and a 600-foot ceiling and one mile visibility was proposed for nonprecision approach procedures. The FAA, however, has not specified separate alternate airport weather minima for precision and nonprecision approaches used by helicopter operators in this rule. This action will ensure that alternate airport approach minima are above actual approach minma in those situations where actual approach minima may be above values commonly associated with precision and nonprecision approaches. The changes recognize the unique operating characteristics of helicopters and remove the operational restrictions that occur by requiring helicopters to use alternate approach minima specified in current instrument approach procedures.

Special Instrument Approach Procedures

Prior to this rule change, § 91.167 (b) stated in part that, "paragraph (a)(2) of this section does not apply if--(1) Part 97 of this chapter prescribes a standard instrument approach procedure for the first airport of intended landing." Additionally, § 91.169 (b) stated in part that "paragraph (a)(2) of this section does not apply if part 97 of this chapter prescribes a standard instrument approach procedure for the first airport of intended landing." That regulatory language did not provide for the use of special instrument approach procedures in determining an aircraft operator's ability to meet alternate airport requirements. This rule will permit an aircraft operator to use an authorized approach procedure in determining compliance with alternate airport requirements.

Special instrument approach procedures are not issued pursuant to part 97 but may be issued to an operator through inclusion in the operator's Operations Specifications or through a letter of authorization issued by the Administrator to a specific operator. These approach procedures are not published in part 97, but are developed under the authority of § 91.175 (a). The FAA has developed over 120 new helicopter non-precision Global Positioning System (GPS) instrument approaches to heliports since 1995, over 75% of them since October 1997. The FAA has determined that these approaches are not standard instrument approach procedures but "special instrument approach procedures" which require additional aircrew training prior to their use. Therefore, to permit aircraft operators to use special instrument approach procedures to comply with alternate airport requirements, the FAA has revised the language contained in § § 91.167 (b)(1) and 91.169 (b)(1), (c)(1), and (c)(2) of the original NPRM to permit the use of these special approaches when issued to an operator by the Administrator.

Weather Reports and Forecasts

Certain commenters noted the FAA's inaccurate use of the terms "weather forecasts" and "weather reports," and the inconsistency between the way the terms "weather reports and forecasts and weather conditions" and "weather reports and/or prevailing weather forecast"' were used in the narrative format and tabular format proposed in § § 91.167 (b) and 91.169 (b) and (c) of the original NPRM. The FAA agrees that the phrases were used inconsistently in the original proposal and is therefore adopting the phrase "appropriate weather reports or weather forecasts, or a combination of them" in those paragraphs that pertain to the selection of an alternate airport. The final rule, however, retains the language proposed in § 91.167 (a) of the original NPRM. This language is substantively identical to that contained in current § 91.167 (a) and ensures consideration of "weather conditions" when determining fuel requirements for civil aircraft operations in IFR conditions, unless the provisions of paragraph (b) apply.

The language used in this final rule reflects current usage of the terms "weather forecasts" and "weather reports" by meteorologists and aviation industry personnel. It also includes the term "appropriate" when referring to weather reports and weather forecasts to indicate that an operator must consider current weather reports and current and valid weather forecasts when determining if a flight requires an alternate airport. Use of the term "appropriate" is consistent with references to weather reports and forecasts in other operating rules. Its inclusion should eliminate any ambiguity and ensure conformity in determining those reports and forecasts that should be considered by an operator when designating an alternate airport. Use of the term "appropriate" is also consistent with the

provisions of 14 CFR 91.103 which requires each pilot in command, before beginning a flight, to become familiar with all available information concerning that flight.

With regard to the use of weather forecasts, the FAA notes that although a weather forecast may be valid for a period as long as 24 hours, only the most current and valid weather forecast is considered "appropriate." In some instances a current weather forecast may be issued, however it may not be valid for the time period required to be considered by an operator when choosing an alternate airport. Such a report is not considered "appropriate." Any superceded weather report is not considered current and its use in determining an alternate airport is not considered appropriate.

The rule also does not include the descriptive term "prevailing" with the phrase "weather forecasts" because "prevailing" is used to refer to actual weather conditions observed at a station and not to weather forecasts. Its use in the context of the original proposal was therefore improper and has been deleted.

Format of the Regulatory Text

In response to the FAA's request in the original NPRM for specific comments on whether readers preferred a tabular or a narrative format in portions of § § 91.167 (b) and 91.169 (b) and (c), seven commenters addressed the subject. Three commenters preferred the tabular format; two preferred the narrative; and two stated that either format was acceptable. Upon further consideration, the FAA has decided not to use the tables in the form in which they were originally proposed because the format might be confusing to some people. The FAA is currently reviewing part 91 to see how tables and other plain language writing techniques could improve reader comprehension. Until this review is

completed, the FAA has decided to use the narrative format for § § 91.167 (b) and 91.169 (b) and (c), but might reconsider this decision in future rulemaking.

Technical Corrections

In the original NPRM, the FAA proposed distinct alternate airport weather minima for airplanes and helicopters. Aircraft other than airplanes and helicopters (e.g. airships) however may require access to the IFR system and require the need for an alternate airport. The FAA has therefore revised the language in the original proposal to provide different alternate airport requirements for helicopters and for aircraft other than helicopters, as opposed to airplanes, in this final rule.

Discussion of Comments to the SNPRM

The public comment period on the FAA's SNPRM closed on August 2, 1999. Six comments were received, all of which were generally favorable. Five commenters pointed out that the FAA changed the visibility minimum in § 91.169 (c)(1)(ii) when it sought to revise helicopter alternate airport weather minima by eliminating the distinction between precision and nonprecision approaches specified in the original NPRM. The original NPRM had stated the visibility for both types of approaches "will be 1 statute mile, but never lower than the published minima for the approach to be flown." However, the commenters stated, since visibility required for a typical helicopter ILS approach is 1/4 mile, that would require an airport with this type of approach to have a visibility of at least 1 1/4 miles to be considered an acceptable alternate airport. The original NPRM, however, would have permitted the designation of an airport that is forecast to have 1 mile visibility as an alternate airport on a helicopter instrument flight plan. The FAA agrees with the commenters and has changed the language in that section accordingly.

One of the commenters also stated that if an aircraft is equipped with the appropriate advanced equipment that enhances situational awareness and reduces pilot workload, the aircraft should be eligible for alternate minima that are lower than those the FAA proposed. The FAA believes the comment is outside the scope of this rulemaking action and, therefore, is adopting the alternate minima set forth in this final rule.

Technical Corrections

For the reasons previously specified in the discussion of "Weather Reports and Forecasts" under "Discussion of Comments to the Original NPRM," the final rule retains the language originally proposed in § 91.167 (a). This language is substantively identical to the language in current § 91.167 (a).

In addition, in § 91.169 (c)(2), the word "or" has been changed to "and." This change was made because the intent of the proposal was only to require the more restrictive VFR ceiling and visibility minima for the alternate airport if no instrument approach procedure had been published or issued.

Discussion of Dates

The Administrative Procedures Act (APA) (5 U.S.C. 553 (d)) requires publication of an amendment in the Federal Register at least 30 days before the effective date, unless good cause is determined. Because this final rule will increase safety by enabling more helicopter pilots to operate under IFR in marginal weather conditions without the restrictions imposed by the current regulations, the FAA has determined that there is no reason to delay the effective date for 30 days. The rule is therefore effective upon publication in the Federal Register.

Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has determined that there are no new requirements for information collection associated with this final rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and intends to file the following differences.

This rule does not prescribe that the weather at the airport of intended landing be at or above the operating minima at the estimated time of arrival. Paragraph 2.6.2.1 of ICAO annex 6, Part III, International Operations--Helicopters, Section III, International General Aviation, Chapter 2, Flight Operations, requires that the heliport of intended landing meet operating minima at the estimated time of arrival.

This rule would require helicopter operators to evaluate weather conditions at the airport of intended landing from the estimated time of arrival until one hour after the estimated time of arrival when determining whether an alternate airport is required. Paragraph 2.6.2.2 of ICAO Annex 6, Part III, Section III requires an operator to evaluate weather conditions at the heliport of intended landing from two hours before to two hours after the estimated time of arrival or from the actual time of departure to two hours after the estimated time of arrival or from the actual time of departure to two hours after the estimated time of arrival.

Paragraph 2.7.1 of ICAO Annex 6, Part III, Section III states that an alternate shall be required in an operator's flight plan unless the weather conditions specified in paragraph 2.6.2.2 of that section prevail or other specific conditions related to isolated heliports are met and a point of no return (PNR) determination is made, if applicable. The weather conditions for the selection of an alternate differ from those specified in paragraph 2.6.2.2, and the rule does not address isolated heliports and PNR determinations.

The FAA has not adopted the ICAO standards for the reasons discussed earlier in this preamble.

Regulatory Evaluation Summary

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, OMB directs agencies to assess the effect of regulatory changes on international trade. And fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation).

In conducting these analyses, the FAA has determined that this rule is not "a significant regulatory action" under section 3(f) of Executive Order 12866 and, therefore,

is not subject to review by the Office of Management and Budget. The rule is not considered significant under the regulatory policies and procedures of the Department of Transportation (44 FR 11034; February 26, 1979). This rule will not have a significant impact on a substantial number of small entities and will not constitute a barrier to international trade. This rule will not impose any additional equipment, training, or other cost to the aviation industry. Therefore, there will be no compliance costs associated with the rule. The FAA estimates that the rule will provide $58 million ($41 million, present value) in benefits over the next 10 years. In addition, there will be the non-quantified benefits which include a reduction in the level of aircraft noise experienced by individuals on the ground when helicopters fly at higher altitudes and possible savings in corporate personnel time associated with enhanced corporate flight operations.

The rule will not present a significant impediment to either U.S. firms doing business abroad, or foreign firms doing business in the United States. Furthermore, the FAA certifies that the rule will not have a significant economic impact on a substantial number of small entities. The rule does not contain any Federal intergovernmental or private sector mandate. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980, 5 U.S.C. 601-612, was enacted by the U.S. Congress to ensure that small entities are not unnecessarily or disproportionately burdened by Government regulations. The RFA requires a regulatory flexibility analysis if a rule has a significant economic impact on a substantial number of small business entities. FAA's interim regulatory flexibility policy and guidelines establish threshold

costs and small entity size standards for complying with RFA requirements. This guidance defines small entities in terms of size thresholds, significant economic impact in terms of annualized cost thresholds, and substantial number as a number which is not less than eleven and which is more than one-third of the small entities subject to the final rule.

This rule will impact entities regulated by part 91. The FAA has determined that there are no compliance costs associated with this rule. The FAA has also solicited comments during this rulemaking. No operators responded that they felt they would be negatively impacted from implementation of the rule. Only positive comments were received supporting the FAA's position that this rulemaking will not place any additional requirements on the aviation industry. Therefore, the FAA believes that there are no compliance costs associated with the rule. Accordingly, pursuant to the Regulatory Flexibility Act of 1980 (5 U.S.C. 605 (b)), the FAA certifies that this rule will not have a significant impact on a substantial number of small entities.

International Trade Impact Statement

The provisions of this rule will have little or no impact on trade for U.S. firms doing business in foreign countries and foreign firms doing business in the United States.

Federalism Implications

The FAA has analyzed this rule under the principles and criteria of Executive Order 13132, Federalism. The FAA has determined that this action will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the FAA has determined that this final rule does not have federalism implications.

Unfunded Mandates Reform Act Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), codified in 2 U.S.C. 1501-1571, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more (adjusted annually for inflation) in any one year. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit timely input by elected officers (or their designees) of State, local, and tribal governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that will impose an enforceable duty upon State, local, and tribal governments, in the aggregate, of $100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan that, among other things, provides for notice to potentially affected small governments, if any, and for a meaningful and timely opportunity to provide input in the development of regulatory proposals.

This rule does not contain any Federal intergovernmental or private sector mandate. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental assessment or environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this rulemaking action qualifies for a categorical exclusion.

Energy Impact

The energy impact of the notice has been assessed in accordance with the Energy Policy and Conservation Act (EPCA), Pub. L. 94-163, as amended (43 U.S.C. 6362) and FAA Order 1053.1. It has been determined that the final rule is not a major regulatory action under the provisions of the EPCA.

Options

1. Revise FAR Part 135.221 with language from 91.169.
2. **Leave regulation as it currently is. (Not acceptable)**

Supporting information

Cost/benefit information

No cost would be incurred with this change

Recommendation: Rewrite 135.221 as follows:

Unless otherwise authorized by the Administrator, no person may include an alternate airport in an IFR flight plan unless appropriate weather reports or weather forecasts, or a combination of them, indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the following weather minima:

(1) If an instrument approach procedure has been published in part 97 of this chapter, or a special instrument approach procedure has been issued by the Administrator to the operator, for that airport, the following minima:

(i) For aircraft other than helicopters and powered-lift: The alternate airport minima specified in that procedure, or if none are specified the following standard approach minima:

(A) For a precision approach procedure. Ceiling 600 feet and visibility 2 statute miles.

(B) For a nonprecision approach procedure. Ceiling 800 feet and visibility 2 statute miles.

(ii) For helicopters and powered-lift: Ceiling 200 feet above the minimum for the approach to be flown, and visibility at least 1 statute mile but never less than the minimum visibility for the approach to be flown, and

(2) If no instrument approach procedure has been published in part 97 of this chapter and no special instrument approach procedure has been issued by the Administrator to the operator, for the alternate airport, the ceiling and visibility minima are those allowing descent from the MEA, approach, and landing under basic VFR.

(3) Other than standard alternate airport weather minimums may be approved through the issuance of operations specifications.

(ROT 33) Helicopter Performance Requirements

Issue: Cat A requirements for aircraft over 20,000 lbs maximum takeoff gross weight. Recommendation was expanded to cover helicopter performance requirements.

Discussion:

The discussion was wide ranging, but covered the following points:

Powered-lift needs to be considered in any changes to these requirements. This was later changed, and Powered Lift was not considered in this proposal.

We can't do anything to cut out a segment of the industry by changing the regulations. Others disagreed by saying that just that has happened in the past for example, implementation of the commuter rule.

New helicopters coming out that will be caught by the requirement to operate always Category A because the aircraft was certified as Category A.

If we do nothing, there would be a penalty on new aircraft.

Annex 6 JAR Ops-3 will eventually apply, we need to look at the Annex 6 requirements at some point.

Currently no operating rules for helicopters based on performance. Operations are now being regulated by certification. Has the time come to develop performance rules based on type of operations.

Because it is so infrequent that an opportunity to change regulations that we need to take the biggest bite possible.

Taking the broader view is important, but is such a large problem that it could override the purpose of this committee.

We need operating rules for the types of operations to allow a Category B takeoff from an offshore rig for instance.

We might recommend that further work be done beyond this working group on performance classes or performance limitations.

There was also much discussion on the proposed revision whether this should be based on number of passengers or number of seats. Do we physically have to remove the seats or merely operate based on passengers on board? Would it be sufficient to block or placard seats to reach the reduced seat configuration.

Background 14 CFR Part 29.1 Applicability, requires that Rotorcraft with a maximum weight greater than 20,000 pounds and 10 or more passenger seats must be type certificated as Category A rotorcraft.

The size of current helidecks prohibit category A operations offshore as the rule is currently written. In order to operate in this environment the aircraft must perform category B operations. 14 CFR Part 29.1 as written hinders rotorcraft advancement. The current rule takes into consideration an aircraft performing to airports or a prepared hard firm surface. The current rule does not take into consideration the type of operations helicopters or powered-lift aircraft can do and maybe able to do in the future.

On January 15, 1951 the helicopter airworthiness rules were adopted as CAR Part 6-Rotorcraft Airworthiness

The standards were set for all types of rotorcraft to include helicopters without a weight restriction. During the years following the adoption of this rule, civil aviation started to use helicopters in commercial applications. Larger aircraft were being developed and the CAB decided that new rules covering the larger helicopters were needed in the interest of safety. On the 25th day of May 1956, CAR 7 Rotorcraft Airworthiness; Transport Categories rules were adopted. Effective 8/1/1956.

Excerpt from preamble to CAR Part 7:

Until the present time, all of the effective airworthiness requirements for rotorcraft were contained in Part 6 of the Civil Air Regulations. These requirements were based mainly upon experience with rotorcraft of relatively small size, and very little distinction was made between large and small rotorcraft or between rotorcraft intended for general and air carrier service.

Since the adoption of Part 6 the size and complexity of rotorcraft equipment have grown, and with each new design development in this field an attempt was made to accommodate the changes within the framework of Part 6. This became more difficult to do because when catering to the larger and more complicated rotorcraft the airworthiness provisions for smaller, more basic, rotorcraft became unnecessarily complex. Therefore, it has become apparent that the existing regulations in Part 6 are not suitable for the certification requirements applicable to both large and small rotorcraft and rotorcraft to be utilized in the transport category class require a set of provisions peculiar to their needs.

In recognition of this situation, the Board, in recent years, has conducted studies with the view to establishing airworthiness requirements for large rotorcraft which are intended to be used in air carrier service. These studies have resulted in a categorization of rotorcraft with corresponding airworthiness requirements. The three categories being established are the “Normal Category” for rotorcraft of 6,000 pounds or less maximum weight “Transport
Category A” for multiengine rotorcraft of unlimited weight, and
“Transport Category B” for single or multiengine rotorcraft of 20,000 pounds or less maximum weight. Rotorcraft certificated in either of the transport categories

will be eligible for operations in either scheduled or irregular passenger or cargo service.

Concurrently with the adoption of this new Part 7, the Board is adopting amendments to Part 6 of the Civil Air Regulations which make the part applicable to small rotorcraft in the normal category and which simplify and clarify the requirements for certification of such rotorcraft.

In the development of Part 7, consideration was given to the problem of whether specific airworthiness requirements for large rotorcraft should be adopted prior to obtaining significant operating experience in such rotorcraft types, or whether the considerations of the design of large transport category rotorcraft required an early determination of at least the broad objective standards for certification of such large rotorcraft. It is to be desired, and it is the Board's general policy, to have the benefit of experience in advance of adoption of regulations. However, much can be gained by initially establishing broad objective standards and giving the Administrator wide discretion in approving features of design which were not anticipated. Therefore, the Board considers it desirable to promulgate such standards at this time in the belief that safe operations are most assured where basic standards have been established.

After determining that the provisions of Part 6 were not suitable for the certification of large multiengine transport category rotorcraft, and after completion of the aforementioned studies; a notice of proposed rule making (20 F. R. 3114) was circulated as Civil Air Regulation Draft Release No. 55 -11 to solicit comment on the proposed categorization of rotorcraft. Comments received on the subject were almost universally favorable to the board's adopting objective standards immediately so that the design and construction of large rotorcraft could proceed under some pattern of

uniformity. The comment of one industry observer, however, while acknowledging that experience gained with transport category airplanes could provide guideposts for developing regulations for rotorcraft airworthiness in areas such as structures, design, and construction, expressed reservation as to whether performance requirements could be prepared on the same basis since there was insufficient operational experience with the types of rotorcraft envisaged in the transport -category classes.

In recognition of this valid comment, and because the Board does not intend to limit novel design features or operating techniques which may prove advantageous, the performance specifications in this part are limited in general to requirements for the scheduling of performance data. There are included, however, two quantitative requirements: One is the minimum one-engine-inoperative climb for Transport Category A rotorcraft; and the other, a minimum hovering ceiling for Transport Category B rotorcraft. These climb requirements are expressed in terms of rates of climb. Among the comments received on the proposal were recommendations that these minima be expressed in terms of gradient of climb. While this recommendation has substantial merit, it is considered advisable to retain the more familiar expression for the present and to study the matter at the next Annual Airworthiness Review, since consideration of factors of minimum speed or acceleration may be necessary. It is considered that for the time being the two quantitative requirements are reasonable minima. However, in order to define more fully the level of performance for the rotorcraft, it will be necessary to implement the performance data scheduled under this part with operating limitations relating to the measured performance of the rotorcraft, the dimensions of the heliport used, the adjacent obstacles, and the routes traversed. Because it is considered desirable

to obtain experience in the operation of transport category rotorcraft before establishing by regulation specific operating limitations, it is contemplated that in the interim, for air carrier operations and for other operations over highly congested areas, the Administrator will determine that the operations in question are limited in such a manner as to assure a safe operation. Performance operating limitations will, however, be developed and included in the Civil Air Regulations as rapidly as the state of the art permits.

In considering this part, a maximum weight limitation had to be established for Transport Category B rotorcraft. The limit set in the notice of proposed rule making was 17,500 pounds. This limit has been raised to 20,000 pounds upon advice that some manufacturers now have design studies for single-engine rotorcraft which are expected to go over 17,500 pounds. This weight limit appears adequate to assure safety to all Transport Category B rotorcraft and is sufficiently high to include all reported single-engine designs now being developed by the manufacturers.

Another important problem to which the Board gave particular consideration is that of fire protection for structures, controls, and other components of the rotorcraft. The fire protection requirements for Transport Category A rotorcraft are intended to permit extinguishment of a fire and the continuation of the flight to a suitable airport. The Category B requirements, on the other hand, are intended to protect the rotorcraft and its occupants during an immediate descent and landing. The difference in the requirements is considered consistent with the approach taken with respect to the performance requirements applicable to each category.

The issue of appropriate maneuvering load factors for maneuvering conditions (structural requirements) is of significance. The maneuvering load factors included are

the 3.5 positive and 1.0 negative, which are the same as in Part 6. The values are unchanged due to lack of substantiation of other values; however, because certain comments questioned the necessity for such high values for transport rotorcraft, this is being made a matter for further study.

Interested persons have been afforded an opportunity to participate in the making of this part (20 F. R. 3114), and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, the Civil Aeronautics Board hereby adopts Part 7 of the Civil Air Regulations (14 CFR Part 7) to read as follows, effective August 1, 1956:

One commenter states “As the preamble to original CAR 7 shows, if the helicopter manufactures had designed a single engine aircraft with a maximum gross weight of 25000 lbs the limit would most likely have been set at 25000 instead of the 20000 lbs as written today. As the preamble clearly shows there were no studies done as there were no aircraft yet certified at these weights to study. Missions which the helicopter could and could possibly do were not taken into consideration as the industry had not been developed as of yet.”

Manufactures and private parties have had request for exemptions to 14 CFR Part 29.1 to allow operations of certain models of helicopters to be allowed to operate Category B above this weight limit but have been denied due to the restriction of 20000lbs written in the current 14 CFR Part 29.

The offshore helicopter industry is moving farther and farther offshore in support of the Petroleum Industry. To be able to safety and economically continue to operate, this

rule needs to be rewritten or an exemption needs to be added to 91.9(e), an alleviation similar to 91.9(d) to grant authority for - "an aircraft certified under Part 29 and having a maximum passenger seating configuration of 19 or less seats may perform category B landings and take-offs at a heliport constructed over water if a safe ditching can be accomplished and if the aircraft is amphibious or equipped with floats or other emergency floatation gear adequate to accomplish a safe emergency ditching on open water." If this can not be done then 14 CFR Part 29.1 either needs to increase the Category B weight restriction to a more realistic number or be rewritten to allow takeoff and landings from elevated heliports under Category A to use drop down height to reach Vtoss as the JAR's allow.

Options:

1. Change 91.9(e) to allow exemption for offshore heliports.
2. Change 29.1 to allow a higher Cat B weight.
3. Change 29 and 135 to allow reject to sea under Cat A.
4. Add performance requirements to Part 91 and 135.

The Rotorcraft group debated and decided the best way to correct this problem was to add performance requirements into both Part 91 and Part 135.

The Rotorcraft group feels that FAR Part 29 which is a certification regulation should not be used as an operational rule. FAR Part 29 tells a manufacturer what requirements they have to meet to have their aircraft certified. FAR Part 29 was not intended to tell operators how they were to operate the aircraft. Since the FAA had not

written performance rules in FAR Part 91 or 135 everyone used the certification rules as the operational rules. The group felt that a way to take the certification rules out of operations is to write into the rules performance requirements.

The group opened a discussion of Rotorcraft 33, Revision 6. Initiated Revision 7 with lots of discussion surrounding the 10-19 pax CAT A/CAT B discussion. The group consensus was to require that any helicopter configured with 20 or more passenger seats will operate Category A.

The work group discussed several issues with regard to congested area requirements vs non-congested.

The basic consensus of the group as that for all operations with 10-19 passenger seats, regardless of area of operation, that the helicopter will be weight limited by second segment climb. The group felt that requiring full Category A for congested area takeoff and landings would be too restrictive for current helicopter models operating with 10-19 pax today.

The group was moving along nicely until a discussion as to imposing this agreed requirement for 10-19 passengers on Part 91 operators instead of just Part 135. It was decided that performance requirements for Part 91 and Part 135 should be identical. It was undecided as to whether 135 should just reference Part 91 or remain independent.

There was some discussion as to whether 135.183(c) would be confusing since there are now takeoff and landing performance requirement in 135.184. Should 135.183 only apply to airplanes? The consensus was that all the helicopter requirements should be moved to 135.184 and roll in the .183 requirements into .184.

The discussion was wide and varied with respect to the requirement for floatation equipment regardless of passenger capacity. It was conceded that no one would operate under Part 135 offshore without floatation capability. The intent is not to require floatation for multi-engine en-route or if single engine able to reach land with an engine failure. The intent is to require floatation for any offshore takeoff or landing.

The group decided to add performance requirements for helicopters and powered-lift aircraft into FAR Part 91 under the Transport Aircraft section only. The group felt that any aircraft certified to transport standards should be held to a higher operational safety standard.

Comments were made that the H-V diagram was not specifically developed for landing, but for hover, takeoff, and enroute.

There was much discussion and differing views regarding requiring more than 9 passenger scheduled helicopter operations to operate full Category A procedures. Some members felt there was no justification for this severe limitation, especially in light of there being virtually no heliports capable of supporting Category A operations. Additionally, it was felt by a number of workgroup members that the rule as proposed would drive operators to smaller, less capable aircraft in order to avoid the restrictions imposed by the proposal. The group is split on this issue. Currently, the scheduled rule will remain in the proposal, and go out for comment.

The group agreed on deleting Powered Lift from the current performance language. There are still too many uncertainties regarding Powered Lift performance to write appropriate language. Some FAR 91 recommendations may be made to allow initial Powered Lift operations.

Discussion concerning performance requirements for helicopters with 20 or more passengers included allowing flights with no passengers to be excluded from performance limitations. Language has been included to this effect.

There was a minority opinion that 135.184(3) should contain language that would require that scheduled operations with 10-19 passengers should meet the requirements of proposed regulation. It was agreed that there would be a grandfather clause that would require the implementation at some future date. There are currently no scheduled helicopter operations but there some recent interest within the industry to begin such operations. Some committee members strongly felt that without incorporating a higher level of safety for scheduled operations we are breaking with the concepts put forward for similar fixed wing operations for the protection of fare paying passengers. In addition, if the stringency for scheduled operations is not introduced, there will be no incentive for helicopter manufacturers to improve the single engine power to weight ratio's and the industry will continue to operate aircraft that do not have guaranteed engine out performance during takeoff and landing phases.

The original proposed language was as follows:

(3) For helicopters configured with 20 or more passenger seats or configured with 10 or more passenger seats, and used in scheduled operations, unless;

(a) The helicopter is Type Certified as Category A and;

(b) The gross weight of the helicopter at take-off does not exceed the maximum gross weight, for the take-off altitude and temperature, such that in the event of engine failure recognized at or before the take-off

decision point, the helicopter is able to land within the rejected takeoff distance available or, in the event of the engine failure recognized after the take-off decision point, to continue the takeoff, clear all obstacles, and meet the climb requirements of 2(b) above.

(c) The helicopter should be able, in the event of an engine failure while enroute, continue to the intended destination or alternate without flying below appropriate minimum flight altitudes.

(d) The gross weight of the helicopter on landing does not exceed the maximum gross weight, for the landing altitude and temperature, such that in the event of engine failure recognized at or before the landing decision point, the helicopter is able to land within the landing distance available or to perform a balked landing, clear all obstacles and, meet the climb requirements of 2(c) above. In the case of an engine failure occurring after the landing decision point, the helicopter should be able to land and stop within the landing distance available.

Grand father date here for 10-19 scheduled. Intent would be to require 2nd segment climb capability until some future date and then require full engine out accountability after such date.

Discussion around 20 or more passenger helicopter requirements included:

- Adopting a stance similar to JAR-OPS Performance Class 2e, ie; using a safe forced landing requirement in lieu of current Category A language.

- Splitting helideck procedures from other 20 or more passenger operations.
- Requiring full category A (Performance Class 1) for these operations.
- Splitting on demand and scheduled operations, and requiring a higher standard for scheduled operations.
- Several commentors stated that requiring full category A (PC1) for these operations were impractical due to lack of adequate heliport/helideck facilities and the significant weight penalties required for vertical category A maneuvers.
- It was consensus that if the ability for executing a safe forced landing is required in lieu of full category A landing ability that the affected aircraft would be equipped with HUMS or other equivalent component monitoring and exceedence monitoring equipment. There may also be additional maintenance requirements for aircraft operating to this proposed rule.
- The aircraft operating under this rule would also be required to be designed with crash resistant fuel systems, seating and other later certification requirements.

It was decided to retain Category A (full engine out accountability) performance requirements for helicopters configured with 20 or more passengers seats. This is currently more restrictive than JAR-OPS 3.

The information provided below is from the JAR-OPS 3 NPA 38 working paper regarding performance is included to support the fact that the proposal for helicopters

with more than 20 passenger seats is more restrictive than current JAR-OPS proposals. It is presented as a dissenting view to the Rotorcraft Work Group's current proposal.

7.4 Operation with Exposure - the alleviation and the requirement

When operating with exposure, there is alleviation from the requirement to establish a safe-forced-landing area (which extends to landing as well at take-off); however, the requirement for obstacle clearance - AEO in the take-off and from DPATO OEI in the climb and en-route phases - remains (both for take-off and landing).

The take-off mass is obtained from the more limiting of the following:

- the climb performance of 150 ft/min at 1000 ft above the take-off point; or
- obstacle clearance (in accordance with 6.3 above); or
- AEO hover out of ground effect (HOGE) performance at the appropriate power setting.

(AEO HOGE is required to ensure acceleration when (near) vertical dynamic take-off techniques are being used. Additionally for elevated heliports/helidecks, it ensures a power reserve to offset ground cushion dissipation; and ensures that, during the landing manoeuvre, a stabilised HOGE is available - should it be required.)

7.4.1 Operations to elevated heliport/helidecks

PC 2 operations to elevated heliports and helidecks are a specific case of operations with exposure. In these operations, the alleviation covers the possibility of:

- a deck-edge strike if the engine fails early in the take-off or late in the landing; and
- penetration into the HV Curve during take-off and landing; and
- forced landing with obstacles on the surface (hostile water conditions) below the elevated heliport (helideck).

The take-of mass is as stated **Error! Reference source not found.**above and relevant techniques are as described in ACJ OPS 3.520(a)(3) and 3.535(a)(3)

Note: It is unlikely that the DPATO will have to be calculated with operations to helidecks (due to the absence of obstacles in the take-off path).

7.4.2 Additional requirements for operations to Helidecks in a Hostile Environment

For a number of reasons (e.g. the deck size, and the helideck environment – including obstacles and wind vectors), it was not anticipated that operations in PC 1 would be technically feasible or economically justifiable by the projected JAA deadline of 2010 (OEI HOGE could have provided a method of compliance but this would

have resulted in a severe and unwarranted restriction on payload/range).

However, due to the severe consequences of an engine failure to helicopters involved in take-off and landings to helidecks located in hostile sea areas (such as the North Sea or the North Atlantic), a policy of Risk Reduction is called for. As a result, enhanced Class 2 take-off and landing masses together with techniques that provide a high confidence of safety due to: deck-edge avoidance; and, drop-down that provides continued flight clear of the sea, are seen as a practical measures. As accident/incident history indicates that the main hazard is collision with obstacles on the helideck due to human error, simple and reproducible take-off and landing procedures are recommended.

In view of the reasons stated above, the future requirement for PC 1 is replaced by the new requirement that *the take-off mass takes into account: the procedure; deck-edge miss; and drop down appropriate to the height of the helideck*. This will require calculation of take-off mass from information produced by manufacturers reflecting these elements. It is expected that such information will be produced by performance modelling/simulation using a model validated through limited flight testing.

7.4.3 Operations to Helidecks for Helicopters with a MAPSC of more than 19

The original requirement for operations of helicopters with a MAPSC of more than 19 was PC 1 (as set out in JAR-OPS 3.470(a)(2)).

However, when operating to helidecks, the problems enumerated in 7.4.2 above are equally applicable to these helicopters. In view of this, but taking into account that increased numbers are (potentially) being carried, such operations are permitted in PC 2 (JAR-OPS 3.470(a)(2)) but, in all helideck environments (both hostile and non-hostile), have to satisfy, the additional requirements, set out in 7.4.2 above. END

Changes to the FAR's:

FAR 91.9(c) is added to allow helicopters and powered-lift aircraft taking off or landing at heliports or vessels located over water to make momentary flight through the prohibited range of the limiting height-speed envelope established for the helicopter or powered-lift aircraft if that flight through the prohibited range takes place over water. The helicopter or powered-lift aircraft must be amphibious or equipped with floats or other emergency flotation gear adequate to accomplish an emergency landing on open water.

FAR 91.9(d) is added to allow helicopters or powered-lift aircraft taking off or landing at a heliport located in a remote (non-congested) area to make momentary flight through the prohibited range of the limiting height-speed envelope established for the helicopter or powered-lift aircraft if that flight through the prohibited range

takes place over an area where the aircraft is able to land so as not to create a hazard to persons or property on the ground.

FAR 91.605 The section title "Transport category civil airplane weight limitations" **was changed to include helicopters and powered-lift aircraft by changing airplane to aircraft. The title now reads "Transport category civil aircraft weight limitations." 91.605(d)(1) was add to require transport category civil helicopters that are configured with 20 or more passenger seats to use approved Cat A procedures and Cat A performance at all times.**

91.605(d)(2) was added to establish a second stage climb requirement for helicopters and powered-lift aircraft configured with 10 to 19 seats. This requirement will go into effect on July 1, 2009 to allow operators time to upgrade their current aircraft to meet this requirement or purchase aircraft that will meet this requirement.

91.605(e) and (f) are added for the requirement that helicopters or powered-lift aircraft have to have floats or be amphibious with exceptions to operate over, off of or onto helidecks or vessels located over water.

135.183 title was changed to show that this rule is an airplane only rule now. Where "aircraft" was written in this rule was changed to read "airplane".

135.183(d) was deleted as this was a helicopter only rule and was moved into 135.184.

FAR 135.184 was added to the regulations to establish performance requirements for helicopters.

135.184(a) was added to show that all helicopters configured with 20 or more passenger seats operated as commuter or on-demand shall always operate using approved Cat A procedures and Cat A performance.

135.184(b) was added to establish a second stage climb requirement for helicopters and powered-lift aircraft configured with 10 to 19 seats.

135.184(c) was added to establish a second stage climb requirement for helicopters configured with 10 to 19 seats and operated as on-demand. This requirement will go into effect on July 1, 2009 to allow operators time to upgrade their current aircraft to meet this requirement or purchase aircraft that will meet this requirement.

135.184(d) was added to allow the same deviations to the requirement for floats or for being amphibious as were allowed in 135.183 before.

135.184(d)(2) was rewritten from the old rule to clarify that the helideck or vessel must be on or near land where only the landing or takeoff path is over water.

135.184(d) was add to require all helicopters and powered-lift aircraft taking off or landing to a helideck or vessel not on land or near land to be required to have floats installed or the aircraft to be amphibious.

Supporting information

JAR 29.60 Elevated Heliport Take-Off Path: Category A

Date: December 1, 1999

(a) The elevated heliport take-off path extends from the point of commencement of the take-off procedure to a point in the take-off path at which the rotorcraft is 1000 ft above the take-off surface and compliance with JAR 29.67 (a) (2) is shown. In addition -

(1) The requirements of JAR 29.59(a) must be met;

(2) While attaining VTOSS and a positive rate of climb, the rotorcraft may descend below the level of the take-off surface if, in so doing and when clearing the elevated heliport edge, every part of the rotorcraft clears all obstacles by at least 15 ft;

(3) The vertical magnitude of any descent below the take-off surface must be determined; and

(4) After attaining VTOSS and a positive rate of climb, the landing gear may be retracted.

(b) The scheduled take-off weight must be such that the climb requirements of JAR 29.67 (a)(1) and JAR 29.67 (a) (2) will be met.

(c) Take-off distance will be determined in accordance with JAR 29.61.

JAR-OPS 3.490 - Take-off

Date: February 1, 1999

(a) An operator shall ensure that:

(1) The take-off mass does not exceed the [maximum take-off mass specified in the Helicopter Flight Manual's category A performance section for the pressure altitude and the ambient temperature at the heliport of departure. (See IEM OPS 3.490(a)(1) and 3.510(a)(1).)

(2) For Non-elevated Heliports the take-off mass is such that:

(i) The rejected take-off distance required does not exceed the rejected take-off distance available; and

(ii) The take-off distance required does not exceed the take-off distance available.

(3) For Elevated Heliports and Helidecks the take-off mass does not exceed the maximum take-off mass specified in the Helicopter Flight Manual for the take-off procedure being used and is such that the helicopter is capable of:

(i) In the event of a critical power unit failure being recognised at or before the take-off decision point TDP, rejecting the take-off and landing on the elevated heliport or helideck; and

(ii) In the event of a critical power unit failure being recognised at or after TDP, continuing the take-off, clearing the elevated heliport or helideck and thereafter clearing all obstacles under the flight path of the helicopter by a vertical margin of at least 35 ft up to the end of the take-off distance required. Obstacle clearance margins in excess of 35 ft may be specified by the Authority at a particular heliport. (See IEM OPS 3.490(a)(3)(ii).)

(b) When showing compliance with sub-paragraph (a) above, account shall be taken of the following parameters at the heliport of departure:

(1) The pressure altitude;

(2) The ambient temperature;

(3) The take-off procedure to be used; and

(4) Not more than 50% of the reported head-wind component or, if such data is provided, not less than 150% of the reported tail-wind component.

(c) The part of the take-off up to and including TDP shall be conducted in sight of the surface such that a rejected take-off can be carried out.

Cost/benefit information

The changes to section 91.9 are cost neutral or provide cost savings as they clarify when floatation equipment is required and do not substantially change operating or equipment requirements.

The change to section 91.103 is cost neutral as it codifies existing requirements.

The changes to sections 91.605 and 135.184 will have minor economic impact due to slight payload reductions in certain aircraft types. However, after June 30, 2009 the cost impact would increase for those older aircraft unable to meet the higher performance requirements. It is difficult to determine the cost impact as the number of aircraft impacted is impossible to accurately estimate; but is expected to be small. The restrictions to aircraft with more than 20 passengers seats currently has no cost impact, as the only aircraft currently conducting this type of operation meets the requirement, and it is expected that future aircraft in this passenger capacity will also meet the requirement.

All the proposed revisions enhance safety by adding performance requirements to helicopter operations similar to those practiced internationally, and accepted as a safety higher standard.

(ROT 43) Landing Minima

Issue: 135.219 should show that only visibility is required for landing minimums.

Discussion: 135.219 should be rewritten to include the word "visibility" in the text. As shown below the intent since 1967 has been that visibility is the only controlling factor to begin an instrument approach.

Supporting information

Background In 1967 FAR Part 67 (TERPS) was rewritten and helicopter only procedures were added. At this time the requirement for ceiling to be used as a landing limit was removed. Until the rewrite to the Instrument Flying Handbook in (2001) a copy of AC90-1A was printed in the Instrument Flying Handbook. This was the only place that the history of the 1967 change was printed. The regulation states: 135.219 No pilot may takeoff an aircraft under IFR or begin an IFR or over-the-top operation unless the latest weather reports or forecast, or any combination of them, indicate that weather conditions at the estimated time of arrival at the next airport of intended landing will be at or above authorized IFR landing minimums. The term "authorized IFR landing minimums" has been misinterpreted since it was incorporated into the regulation. AC90-1A explained the 1967 change as follows:

3. <u>DISCUSSION OF MAJOR CHANGES</u>.

a. <u>Minimum Descent Altitude (MDA) / Decision Height (DH) Concept</u>.

(1) IFR landing minimums. FAR sections 91.116 and 91.17 (Now 91.175), effective November 18, 1967, contain new rules applicable to landing minimums. Ceiling minimums are no longer prescribed in approach procedures as a landing limit. The published visibility is the required weather condition for landing as prescribed in 91.116b. FAR 91 now allows approach down to the prescribed minimum descent altitude (MDA) or decision height (DH), as appropriate to the procedure being executed, without regard to reported ceiling.

(2)

Changes:

135.219

The following change was made:

Add reference to 135.225 to paragraph.

The word “visibility” was added to clarify that visibility is the only limit for starting an instrument approach.

Options

1. Leave 135.219 as is and continue with incorrect interpretations for the FAA Law Judges.
2. Change 135.219 to add the word “visibility” in the text. Preferred option.

Cost/benefit information

No cost associated with this change.

(ROT 44) Starting Instrument Approach Criteria

Issue: 135.225 should be rewritten to allow an IFR takeoff from an airport used in an eligible on-demand operation.

135.225 IFR: Takeoff, approach and landing minimums. Needs to have a reference that Visibility is the only criteria required to start an instrument approach when using paragraph (a).

Discussion:

After Rotorcraft 29 was submitted to the Steering Committee the new Fractional rule came out it changed FAR 135.225. This document is combined to Rotorcraft 29 to make the changes already approved by the Steering Committee and correct a problem created by the new eligible on-demand operation rule.

Background In 1967 FAR Part 67 (TERPS) was rewritten and helicopter only procedures were added. At this time the requirement for ceiling to be used as a landing limit was removed. Until the rewrite to the Instrument Flying Handbook in (2001) a copy of AC90-1A was printed in the Instrument Flying Handbook. This was the only place that the history of the 1967 change was printed. The regulation states: 135.225(b) No pilot may begin the final approach segment of an instrument approach procedure to an airport unless the latest weather reported by the facility described in paragraph (a)(1) of this section indicates that weather conditions are at or above the authorized IFR landing minimums for that procedure. The term “authorized IFR landing minimums” has been misinterpreted since it was incorporated into the regulation. AC90-1A explained the 1967 change as follows:

3. <u>DISCUSSION OF MAJOR CHANGES</u>.

a. <u>Minimum Descent Altitude (MDA) / Decision Height (DH) Concept</u>.

(1) IFR landing minimums. FAR sections 91.116 and 91.17 (Now 91.175), effective November 18, 1967, contain new rules applicable to landing minimums. Ceiling minimums are no longer prescribed in approach procedures as a landing limit. The published visibility is the required weather condition for landing as prescribed in 91.116b. FAR 91 now allows approach down to the prescribed minimum descent altitude (MDA) or decision height (DH), as appropriate to the procedure being executed, without regard to reported ceiling.

FAR Part 135.225 was rewritten during the Part 91 Subpart K rule making process. The change added a new type of operation called the eligible on-demand operation. This allows paired crews to use airports that do not have approved weather stations as legal destinations. The one thing the new rule did not do is give the crew a way to depart the airport after they did an approach to it. One way to fix this is to allow the aircraft flight crew to make their own determination of the takeoff weather and a requirement to have a takeoff alternate airport listed in the flight plan. From talking with the FAA personnel involved, with the writing of this rule, it was always their intent that the crew would be able to depart IFR after arriving at the airport. Flight Crews have been able to make their own weather determination for VFR under Part 135 for quite some time. If an airport has an instrument approach procedure published under Part 97 or one issued to the operator by the administrator than that airport should not be restricted under Part 135 to approaches only. The tasks of this group it to rewrite the rule to allow flexible operations with out lowering safety. To allow an aircraft access to the IFR environment instead of scud running in poor weather is raising the safety bar not lowering it.

Changes:

The following changes were made:

(a)(2) was modified to add the word “visibility” to clarify that visibility is the only limit for starting an approach under (a)

(b)(1) Was modified to clarify the requirement for an alternate airport to be listed.

(i) Was added to allow the Flight Crew of an eligible on-demand operation a way takeoff from an airport without a weather reporting station at the takeoff location. It was also added to make it clear that the flight crew had to have a takeoff alternate listed in their flight plan.

FAA Note: THE FOLLOWING SECTION CONSOLIDATES ITEMS THAT WERE DISCUSSED BUT NO RECOMMENDATION IS BEING MADE TO CHANGE THE RULE—THESE ARE EXTRACTED FROM, AND ARE DUPLICATIVE OF SOME OF THE ABOVE SECTIONS—RECOMMEND CONSOLIDATING ALL “NO ACTION” ITEMS HERE.

NO ACTION RECOMMENDED SECTION:

Issues Considered by the Part 135 ARC That Do Not Require Rulemaking

A number of other issues were considered by the ARC that have been resolved by other rulemakings, are beyond the scope of this charter, or for other reasons are not appropriate to rulemaking. The FAA presents these recommendations here to inform the public that they were considered in the ARC process.

(AER 8) Oxygen for Medical Use

Discussion

It is estimated that there are currently in excess of one million people in the country today that require supplemental oxygen to support activities of daily living. This group is growing in numbers every year due to changes in medical therapy and an aging population. (www.homeoxygen.org)

This issue was proposed by a commenter to see if there could be some means to "preclude the imposition of the regulatory maze which accompanies the current references to the "requirements of Title 49 CFR Parts 171, 172, and 173" found in 135.91."

Commenters have noted: "Although the present regulation (135.91) is fairly straightforward, it references other regulations are so complex that most operators reject passengers needing medical oxygen in flight rather than attempting to gain approval. Many potential passengers requiring medical oxygen have all but given up on air travel."

Further, references have been made regarding the costs for carrier provider supplemental oxygen equipment, difficulties in training of carrier personnel, and to other sometimes conflicting regulations make it virtually impossible to establish a simple system to inspect and approve passenger provided and carried oxygen tanks and equipment.

While a number of Part 121 carriers now provide supplemental oxygen for passengers that request support during transport, the number of scheduled carriers providing this service is variable, the service is disjointed, and costs can be substantial. A number of barriers have been identified for the use of portable oxygen by on-demand passenger travel which largely fall into 3 areas:

1) Security:

Currently, the FAA and TSA do not allow passengers to carry portable oxygen equipment in their baggage. Passenger supplied oxygen tanks need a prior screening process to assure they are in fact medical oxygen.

A tank manufacturer also notes that “Although the sections of the 49 CFR regulation identify that medical oxygen cylinders for personal use can be taken on passenger aircrafts, the Aviation Consumer Protection Division (ACPD) of the DOT also states in its "Consumer Guide To Air Travel" in section 5 under "Hazardous Items" that it is illegal to carry on board or check in your luggage any of the following hazardous materials: specifically noting oxygen cylinders (unless they're empty).” (http:/www.catalinacylinders.com)

2) Health:

It is difficult to assess without a complete medical work-up whether the stress of altitude will further compromise a patient with cardio-pulmonary or respiratory disease creating the potential of major in-flight medical emergency due to either physiologic de-compensation or ability to predict the total amount of supplemental oxygen needed. As noted by the American Medical Association (AMA):

Conclusions. Commercial air travel exposes passengers to altitude-related hypoxia, which can have serious consequences for passengers with cardiopulmonary disease. Patients at risk of potential hypoxemia during flight should be evaluated before flight to determine their ability to travel safely by air. Supplemental oxygen may be needed to maintain adequate tissue oxygenation and prevent hypoxemic complications. Medical guidelines are available to help physicians evaluate and counsel cardiopulmonary patients

who wish to travel by commercial airlines. Uniform standards are needed to specify procedures and equipment for the use of medical oxygen in airports and aboard commercial aircraft. Revision of federal regulations should be considered to accommodate oxygen-dependent passengers and permit them to have an uninterrupted source of oxygen from departure to destination." (AMA Lyznicki JM, Williams MA, Deitchman SD, Howe JP III, for the Council on Scientific Affairs. Medical oxygen and air travel. *Aviat Space Environ Med.* 2000;71:827-831. (August)

Air carriers need an organized system to assess passenger physiologic risk but the American Medical Association has made it clear regulatory barriers to accommodating scheduled airline passengers requiring medical oxygen compromises their quality of life and can be overcome. See http://www.ama-assn.org/ama/pub/article/2036-2369.htmlFAR

The following statement, recommended by the Council of Scientific Affairs, was adopted by the AMA House of Delegates as AMA policy at the AMA 1999 Interim Meeting. Policy H-45.983 is amended to read: "The AMA (1) supports the accommodation of passengers requiring medical oxygen therapy on scheduled commercial aircraft and in airports; (2) recommends that regulatory agencies, medical specialty societies, commercial air carriers, airport authorities, and other interested parties develop a coordinated system, with uniform guidelines specifying acceptable procedures and equipment for the use of medical oxygen in airports and aboard commercial aircraft, that will permit passengers to schedule oxygen with the least possible administrative and financial difficulty and to have available to them an uninterrupted source of oxygen from departure to destination; and (3) urges that any revised system to improve the

accommodation of passengers requiring medical oxygen ensure the safety and security of other airline passengers and airport personnel."

3) Technical:

Currently carrier personnel must inspect passenger carried supplemental oxygen to assure that the equipment including packaging, tank design and testing, and regulator meet current standards. As there is no specific standard setting body that certifies approved systems for airline travel it is extremely difficult for carrier personnel to assure that a passenger carried system meets design standards.

Concerns as to the risk of fire hazard via oil/oxygen contamination and the potential of oxygen bottle explosion from loss of cabin pressure at high altitudes have also been identified although a full risk analysis is not referenced by the FAA.

There is further confusion as to hazmat standards in HMR; 49 CFR Parts 171-180), specifically 49 CFR 173.302(a)(5). Although oxygen is not a flammable gas there is widespread misinterpretation of applicable rules regarding portable oxygen cylinders and hazardous material regulations.

In addition to required tank external packaging and storage, supplemental oxygen dependent passengers on long distance may require multiple tanks of oxygen due to limited tank capacity. A potential new system has been developed that may alleviate capacity problems. Information about a system that has had approval pending for quite some time may be reviewed at http://www.airlineoxygen.com/agreement.htm

As noted by the AMA, passengers requiring medical oxygen need to be supported through the entire travel process including ground interface at either end of journey or at intermediate stops further complicating the problem.

Further information regarding compressed oxygen cylinders carried aboard aircraft may be found at http:/www.catalinacylinders.com/medtravel.html

Adequate safeguards of approved tank manufacturers, labeling, and hydrostatic testing need to be developed.

Conclusion:

The FAA has previously commented "(U) unfortunately, there are no industry wide standards, voluntary guidelines, or regulations specifying standard equipment for this purpose." The lack of regulation has lead to widespread variation passenger oxygen use policies, costs, and applicable equipment in interpretation of 135.91(a)(1) Oxygen for Medical Use by Passengers. (correspondence Robert Garner, PhD- Environmental Physiology Research AAM-630 FAA-CAMI to George Vichos Airline Oxygen Systems, Incorporated March 20, 2001)

Further, there are conflicting Federal interpretations of what are possible. A tank manufacturer notes on their website the complexity of this issue and recommends that individual passenger work out a system with the air carrier prior to travel:

The tank manufacturer concludes: "With regards to passenger aircrafts, traveling with a charged medical oxygen cylinder on a passenger aircraft is allowed by DOT regulations in the CFR, is not allowed by the ACPD of the DOT in its Guide, and may be allowed or declined by the rules and regulations of the specific passenger airline carrier. Prior to traveling, please contact your specific passenger airline carrier for their position on traveling with medical oxygen cylinders. (http://www.airlineoxygen.com)

After review, it may not be possible to create a simple, verifiable system that overcomes the regulatory maze created by the sub-references in 135.91.

Recommendation:

At this time there does not seem to be a mechanism to modify the current regulation. The lack of a single set of standards, inconsistency in Federal air carrier and hazmat regulations as well as changes in technology will continue to make it difficult to impossible for an air carrier employee to assess the safety of passenger carried equipment. With the continued increase in the population of supplemental oxygen dependent travelers further work needs to be done in this area.

The working group notes that the FAA recently published a notice of proposed rule making [Federal Register: July 14, 2004 (Volume 69, Number 134) Page 42323-42327] that would establish a SFAR permitting the use of carry-on Personal Oxygen Concentrator (POC) under certain circumstances

(FAA NOTE: Update this with current status of this SFAR)

(AWG 9) Certification for Icing

SUMMARY OF ISSUES:

1) Certification to the parameters of part 25 appendix C does not approve an aircraft for flight into severe icing

Section 135.227(e) allows transport category airplanes to fly into severe icing conditions. This seems to be inconsistent with Part 25 ice protection certification standards in Section 25.1419 and Appendix C because it only considers certain types of icing conditions and does not necessarily address all potential severe icing conditions.

It is important to recognize that Part 25 certification does not approve an aircraft for flight into severe icing. The purpose of Appendix C is to provide a standard set of conditions in which to demonstrate aircraft performance in icing conditions. The Aviation Rulemaking Advisory Committee (ARAC) Ice Protection Harmonization Working Group (IPHWG) has submitted recommendations to FAA and JAA which contemplating adding Supercooled Large Droplets (SLD) to the meteorological conditions of part 25 appendix C. Therefore, the AWG recommends no action be taken by the 135ARC.

2) Training for Flight in Icing

- **Pilots should train recovery from ice induced stalls techniques -** AWG recommends that this observation be forwarded to the training work group.
- **Pilots should exit severe icing immediately -** AWG recommends that this observation regarding the need for training to identify and exit severe icing be forwarded to the training work group.

3) The desirability of thorough Pilot reports

PIREPS: The AWG agrees that complete and thorough PIREPS are of considerable value. Icing terminology is being standardized by the ARAC Ice Protection Harmonization Work Group (IPHWG) for use in the AIM. As part of this effort, the PIREP's will be reformatted to improve meteorological reporting. As this PIREP activity is being addressed by outside activities, the AWG recommends no action be taken by the 135ARC.

RECOMMENDATIONS:

1) Certification for Flight in Icing - The ARAC Ice Protection Harmonization Working Group (IPHWG) has submitted recommendations to FAA and JAA which address this issue. Therefore, the AWG recommends no action be taken by the 135ARC.

2) **Training for Flight in Icing -** AWG recommends that these observations be forwarded to the training work group.

3) **Thorough PIREPS for Flight in Icing** – The ARAC IPHWG is addressing PIREP formatting and standardization of icing terminology. Therefore, the AWG recommends no action be taken by the 135ARC.

(AWG 12) Seat Removal and Installation

Submittal to the Docket

Is an STC required to remove seats from an aircraft in order to haul cargo, when no other changes are made to the design and operation of the aircraft, in airplanes with a continuous cockpit and fuselage cargo bay, which were obviously intended by their manufacturers to be used for mixed or cargo only operation, but not designated as cargo aircraft at certification. Many such aircraft are being utilized on-demand for both passenger operations and for all cargo operations.

Discussion

The Alaska Air Carriers Association believes that it is not necessary to have and STC or 337 to remove some or all seats from an aircraft to haul cargo. Since seat removal is not a major alteration under Part 43, then seats should be able to be removed as needed so long as there is a method for the flightcrew to determine the weight and balance in all seating configurations.

AWG Discussion

Unless specifically provided for in the Aircraft Flight Manual, the removal of seats is a change in the type design of an aircraft. In accordance with Part 21 certification procedures, a FAA design approval is required, such as a 337 Field Approval or STC

Paragraphs § 135.3(a)(1) and § 135.25(a)(2) require that the aircraft comply with the applicable rules and airworthiness requirements of chapter I, 14 CFR, this requirement is explicit in that the aircraft must meet its certification basis, (whether CAR 4b, CAR 3, part 25 or part 23) to be operated under part 135. Therefore, the aircraft must first meet its certification basis/type design before it is eligible for operation. This means that it would not be possible to simply incorporate a procedure in the operator's manual to perform seat removal/installation because the aircraft would not meet its type design. The operating rules do not and cannot override the certification basis for the aircraft.

Operators requiring the flexibility to change the configuration of the aircraft by removing/installing seats when needed can obtain a conversion STC, which is design to permit swapping back and forth. The STC covers installation configurations and the conversion procedures.

Unless specifically provided for in the Aircraft Flight Manual, the removal/installation of seats is a change in the type design of an aircraft and would require a design approval (TC/STC/337). Since existing requirements and guidance are adequate, the AWG recommends no action be taken by the 135ARC.

(AWG 17) AMT rating

FAR Part 65 Subpart D

Consider establishing maintenance technician "type ratings" for aircraft at or above a defined level of complexity. (i.e. type-rating by product, systems, privileges, etc)

Discussion

Issue submitted to the docket:

Establish a higher certification option for mechanics. Transport Canada's system requires maintenance technicians to be type-certified for transport category airplanes in order to have any sign-off privileges.

The FARs already recognize that the differences in operating characteristics between different types of high-performance aircraft are substantial enough to require pilots have specialized training and exhibit proficiency in that type. Those skills must also be regularly demonstrated through proficiency checks. The increasing complexity of modern aircraft also requires different and specialized maintenance skills dependent on the type of aircraft. To assure continued airworthiness and safety of these aircraft, maintenance technicians should be able to quantify their abilities through type ratings.

RAA Comments:

The AMT/AMT(T) mechanics and repairmen NPRM (docket no. 27863) was withdrawn because most in the aviation industry thought it was a bad idea. It remains a bad idea. RAA sees no reason for it to be resurrected; we particularly oppose the concept because our members operate both type of airplanes, transport and non-transport. The proposal therefore conflicted with the "one level of safety" policy implemented by the Commuter Rule. The AMT(T) curriculum added 573 classroom hours. Total classroom hours were approaching that of a BS degree and it was suggested at a time when it was difficult to encourage young people to enter the technician trade. Those days (of

shortages of mechanics) will return. Adding more classroom time to the Part 147 curriculum is not the answer. Updating the curriculum is something everyone can agree on. All aircraft produced today are "high performance "aircraft. I doubt that any student enters a Part 147 school with aspirations of learning "dope and fabric" techniques. The GAO recently issued a report recommending changes to the current curriculum (GAO-03-317). All agree that a curriculum update, not a new certificate is what is needed.

AWG Discussion:

The Airworthiness Working Group (AWG) discussed the issue of "Type Ratings" for Maintenance Technicians at length. The subject of ratings for mechanics is already identified in FAR Part 65.73 explaining that ratings are issued as (a)(1) Airframe and (a)(2) Powerplant. The limitations of such ratings are further identified in FAR Part 65.81 General Privileges and Limitations. FAR Part 65.81 explains, "A certified mechanic may perform or supervise the maintenance, preventative maintenance, or alteration of an aircraft…for which he is rated…" "However, he may not supervise the maintenance, preventative maintenance or alteration of, or approve and return to service, any aircraft…for which he is rated unless he has satisfactorily performed the work concerned at an earlier date." The AWG believes that although FAR Part 65.81 is vague, any revisions would best be served in the area of *how* a mechanic maintains his rating and not the addition of aircraft "type specific ratings". Furthermore, a "higher level" of certification already exists through Inspection Authorization. FAR's Part 65.91, 65.92, 65.93 and 65.95 detail the requirements and privileges of Inspection Authorization.

There are three (3) submitted comments to Docket 202-13923 that reference type-ratings for maintenance technicians. Document 202-13923-72 (8) asks for "Higher

certification options for mechanics". Document 202-13923-76 states that "Training programs for maintenance personnel should be approved rather than merely accepted. In addition rest and duty limits for maintenance personnel should be tightened up in Part 121 and added to Part 135". In reviewing these comments and the existing regulations, the AWG makes the following recommendation:

1. The industry will not be better served by establishing specific "Type Ratings" for Maintenance Technicians. The cost and administrative complexity of specialized type ratings is not necessary because the desired safety benefits can actually be achieved through appropriate training standards for Maintenance Technicians.

2. No action be taken with regard to AWG-17 to consider establishing maintenance technician type-ratings. The commenter's concerns are valid but will be more accurately addressed in AWG-02 regarding enhancements to Maintenance Technician Training Programs, and AWG-03 Maintenance Technician Duty/Rest Time.

Decision

After reviewing the referenced materials, AWG decided NOT to pursue a type rating for maintenance technicians because the desired safety benefits are actually achieved through appropriate training, not a new system of certification/type rating. AWG-02 will make recommendations to strengthen/enhance Part 135 maintenance technician training programs.

(EQU 3) VOR Check every 30 days

VOR checks are required every 30 days per 14 CFR 91.171. Modern FMS multi sensor navigation systems do not rely on VORs as a primary navigation source and

constantly check VORs against other navigation sources. Operators of aircraft with modern FMS multi sensor navigation systems should have an alternate means of compliance to the 30-day VOR check.

Discussion:

Referenced Subpart

§ 91.171 VOR **equipment check for IFR operations.**

(a) No person may operate a civil aircraft under IFR using the VOR system of radio navigation unless the VOR equipment of that aircraft –

(1) Is maintained, checked, and inspected under an approved procedure; or

(2) Has been operationally checked within the preceding 30 days, and was found to be within the limits of the permissible indicated bearing error set forth in paragraph (b) or (c) of this section.

(b) Except as provided in paragraph (c) of this section, each person conducting a VOR check under paragraph (a)(2) of this section shall –

(1) Use, at the airport of intended departure, an FAA-operated or approved test signal or a test signal radiated by a certificated and appropriately rated radio repair station or, outside the United States, a test signal operated or approved by an appropriate authority to check the VOR equipment (the maximum permissible indicated bearing error is plus or minus 4 degrees); or

(2) Use, at the airport of intended departure, a point on the airport surface designated as a VOR system checkpoint by the Administrator, or, outside the United

States, by an appropriate authority (the maximum permissible bearing error is plus or minus 4 degrees);

(3) If neither a test signal nor a designated checkpoint on the surface is available, use an airborne checkpoint designated by the Administrator or, outside the United States, by an appropriate authority (the maximum permissible bearing error is plus or minus 6 degrees); or

(4) If no check signal or point is available, while in flight –

(i) Select a VOR radial that lies along the centerline of an established VOR airway;

ii) Select a prominent ground point along the selected radial preferably more than 20 nautical miles from the VOR ground facility and maneuver the aircraft directly over the point at a reasonably low altitude; and

(iii) Note the VOR bearing indicated by the receiver when over the ground point (the maximum permissible variation between the published radial and the indicated bearing is 6 degrees).

(c) If dual system VOR (units independent of each other except for the antenna) is installed in the aircraft, the person checking the equipment may check one system against the other in place of the check procedures specified in paragraph (b) of this section. Both systems shall be tuned to the same VOR ground facility and note the indicated bearings to that station. The maximum permissible variation between the two indicated bearings is 4 degrees.

(d) Each person making the VOR operational check, as specified in paragraph (b) or (c) of this section, shall enter the date, place, bearing error, and sign the aircraft log or other record. In addition, if a test signal radiated by a repair station, as specified in paragraph (b)(1) of this section, is used, an entry must be made in the aircraft log or other record by the repair station certificate holder or the certificate holder's representative certifying to the bearing transmitted by the repair station for the check and the date of transmission. (Approved by the Office of Management and Budget under control number 2120-0005)

Working Group Discussion

Part 91.171 provides two methods of compliance: (a)(1) allows an operator to maintain, check, and inspect VOR equipment of that aircraft under an approved procedure while (a)(2) requires the more traditional 30 day check. Recording of VOR checks as identified in .171(d) is only applicable to (a)(2). Section (a) (1) already allows the operator the option to develop a procedure to maintain, check, and inspect VOR equipment through an approved continuous airworthiness maintenance and inspection program.

Since operators already have the option to develop a procedure to maintain, check, and inspect VOR equipment that can provide an alternate means of compliance to the 30 day VOR check requirement, there is no reason to revise this section.

Reference also the AFS 300 website faa.gov/avr/afr/afs300/analysis.cfm for a discussion of Air Carrier Compliance with 30 Day VOR Checks. This document advises that air carriers have the option to develop a procedure to maintain, check, and inspect

VOR equipment through their approved continuous airworthiness maintenance and inspection programs.

Recommendation: The Equipment and Technology Working Group's recommendation is to leave the language in 91.171 unchanged. There are provisions in the current rule that provide operators with an option to the traditional 30 day VOR check.

(EQU 5) TAWS

Why is a turboprop with 9 seats required to have TAWS and a piston aircraft with 9 seats not required to have TAWS?

Discussion:

*Submitter's verbiage: "*FAR 135.154 (b) (2). Same argument as above (*submitter is referencing item 4 not being addressed by the AW group. Basically the submitter is making a case in item 4 that they should not be required to have a CVR (Cockpit Voice Recorder) for a piston powered 9 or less aircraft).* Our Beech 99 aircraft are of the speed range and payload capacity as Piper Navajo and Cessna 400 series piston engine aircraft. I believe that pushing operators into piston-powered aircraft, especially in Alaska, due to the excessive expense associated with retrofitting an aircraft with TAWS B is not in the interest of public safety. I suggest that (b) (2) simply be deleted."

This issue questions the patchwork approach to the addition of safety driven regulations through artificial classifications in the CFR.

It is the feeling of the Equipment &Technology Working Group that TAWS has been demonstrated as a proven safety device and should not be eliminated for small turboprop aircraft.

We believe that the upgrade costs are justified by the increase in safety and the saving in operations.

§ 135.154 Terrain **awareness and warning system.**

(a) *Airplanes manufactured after March 29, 2002:*

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(b) *Airplanes manufactured on or before March 29, 2002:*

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with

an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.
(Approved by the Office of Management and Budget under control number 2120-0631)

(c) *Airplane Flight Manual.* The Airplane Flight Manual shall contain appropriate procedures for --

(1) The use of the terrain awareness and warning system; and

(2) Proper flight crew reaction in response to the terrain awareness and warning system audio and visual warnings.

[Doc. No. 29312, 65 FR 16755, Mar. 29, 2000]

The Equipment and Technology Working Group found that TAWS is a safety improvement for all aircraft operated under Part 135. To remove the TAWS requirement for turbine aircraft with 6 to 9 seats would be a reduction in safety, therefore, it is recommended that the Part 135.154 (b) (2) not be changed.

(EQU 7) Electronic Flight Bags

How can Part 135 and related CFR parts be revised to include EFB technology?

Discussion:

References:

AC 120-76A.

DO-257A, MOPS for the Depiction of Navigational Information on Electronic Maps

TSO C165, Electronic Map Display Equipment for Graphical Depiction of Aircraft Position

AC 120-76 provides an acceptable means for operators conducting flight operations under 14 CFR Part 91, 121, 125, 129, and 135 to obtain both certification and approval for the operational use of EFBs.

A RTCA Group is working specific guidance for the certification of EFB. This rewrite of the Ops FARs and guidance should allow the use of various electronic means included in the RTCA guidance without forcing paper back into the cockpit.

Specific Issues:

Back-up publications still required? AC 120-76A discusses this and presents different approaches for getting to a paperless cockpit.

Is AC 120-76A adequate for Part 135 approvals? Yes

Does AC 120-76A cover future growth of EFB to get to a paperless cockpit? Yes

Does Part 135 require revision or update? No (I would believe that this should be a YES. See 135.21 paragraphs d and e require the manual that EFB may emulate to be up to date.

The Equipment and Technology Working Group reviewed 135. 21(d) and (e) and does not believe there is a need to revise these two sections. AC 120-76A specifies in Section 12 e (1), (2) that EFB databases must be updated and the operator have an established revision control procedure.

Is there adequate guidance for Inspectors? Yes

After a review of AC 120-76A, it is the position of the Equipment and Technology Working Group that AC 120-76A is a very thorough document and is adequate to address the approval and operational issues regarding EFB.

Recommendation: It is the conclusion of the Equipment and Technology Working Group that no changes are required to Part 135 to permit the use of Electronic Flight Bags in aircraft.

(EQU 8) Enhanced Flight Vision Systems

References-

1. NPRM dated FEB 2003 (docket no. FAA-2003-14449; Notice No. 03-03)
2. 14 CFR 91.175- Takeoff and Landing under IFR
3. 14 CFR 121.651-
4. 14 CFR 135.217
5. 14 CFR 135.225
6. Comment to NPRM from Robert E. Maynard, Atlanta FSDO, Tng, Center Pgm. Mgr., dated 19 MAR 03
7. Final rule, Federal Register Vol. 69, No. 6, 9 JAN 04.

Definition-

EFVS uses imaging-sensor technologies that provide a real-time visual image of the forward external scene topography.

Working Group Discussion

The final rule (Federal Register Vol. 69, No. 6, 9 JAN 04) allows the use of EFVS in aircraft but limits the operation of EFVS to straight-in landing operations below DH or

MDA. The rule states that if the pilot determines that the enhanced flight visibility observed by use of a certified enhanced flight vision system is not less than the visibility described in the standard instrument procedure being used the pilot may descend below DH or MDA, i.e., EFVS doesn't change the minimums for an approach, but allows the pilot to take advantage of the enhanced visibility provided by the system to acquire the visual references necessary for landing.

This new rule does not approve the use of EFVS for CAT II and CAT III approaches. The FAA states that any future use of EFVS for CAT II and CAT III operations must comply with existing regulatory requirements applicable to CAT II and CAT III operations. EFVS will also have to comply with existing advisory material concerning the stringent reliability, redundancy and other criteria for equipment used in CAT II and CAT III operations.

The new (EFVS) rule does not give relief for dispatch requirements, takeoff requirements or initiating an approach past the FAF when weather is forecasted or reported below minimums for Part 121 and Part 135 operations. The rulemaking effort that resulted in this new EFVS rule specifically limited the scope to operations below DH or MDA and specifically did not address dispatch requirements, takeoff requirements or initiating an approach past the FAF. The Equipment and Technology Working Group believes that any relief that could be offered by EFVS from the regulatory requirements for dispatch requirements, takeoff requirements or initiating an approach past the FAF are additional and significant areas of study and beyond the scope of this ARC.

Recommendation: The final rule (Federal Register Vol. 69, No. 6, 9 JAN 04) allows the use of EFVS in aircraft but limits the operation of EFVS to straight-in landing operations.

It is the recommendation of the Equipment and Technology Working Group that no changes are necessary to Part 135 to permit the use of EFVS. To expand the use of EFVS beyond that permitted by the final rule is beyond the scope of this ARC.

(EQU 23) Use of datalink in lieu of weather radar

Discussion:

The Equipment and Technology Working Group has been asked by the Airworthiness Working Group to look at the feasibility of permitting datalink weather information to be used in place of traditional weather radar and thunderstorm detection systems. Datalink weather is a rapidly growing technology and in the future may offer the same level and quality of weather information to the pilot as traditional weather radar and thunderstorm detection systems.

Currently, 14 CFR Part 135.173 and Part 135.175 specify the requirements for onboard weather radar and thunderstorm detection systems. These sections are repeated below in the background section:

It is the position of the Equipment and Technology Working Group that the following general specifications/considerations must be satisfied for any datalink system to be considered as a future replacement for weather radar and thunderstorm detection systems:

- Presentation of the information to the pilot must be equal to or better than current weather radar and weather detection systems
- Weather information must be provided to the pilot at a refresh rate acceptable for safe operation of the aircraft in all phases of flight.

- Reliability must be at least equal to current weather radar and weather detection systems
- The integrity of the data must be established to the satisfaction of the Administrator
- Data providers must be "approved" by the Administrator to insure reliability and quality of the data.
- Reliability, quality and transmission of data must be independent of weather conditions
- The ground-based infrastructure must be such that a loss of an uplink site will not affect the integrity of the system and that the loss will be transparent to the pilot.
- Datalink weather must be available for extended overwater operations.
- Latency of transmitted/received data must be understood and addressed

Background

Current Rules

§ 135.173 Airborne thunderstorm detection equipment requirements.

(a) No person may operate an aircraft that has a passenger seating configuration, excluding any pilot seat, of 10 seats or more in passenger-carrying operations, except a helicopter operating under day VFR conditions, unless the aircraft is equipped with either approved thunderstorm detection equipment or approved airborne weather radar equipment.

(b) No person may operate a helicopter that has a passenger seating configuration, excluding any pilot seat, of 10 seats or more in passenger-carrying operations, under night VFR when current weather reports indicate that thunderstorms or other potentially

hazardous weather conditions that can be detected with airborne thunderstorm detection equipment may reasonably be expected along the route to be flown, unless the helicopter is equipped with either approved thunderstorm detection equipment or approved airborne weather radar equipment.

(c) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms or other potentially hazardous weather conditions that can be detected with airborne thunderstorm detection equipment, required by paragraph (a) or (b) of this section, may reasonably be expected along the route to be flown, unless the airborne thunderstorm detection equipment is in satisfactory operating condition.

(d) If the airborne thunderstorm detection equipment becomes inoperative en route, the aircraft must be operated under the instructions and procedures specified for that event in the manual required by §135.21.

(e) This section does not apply to aircraft used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(f) Without regard to any other provision of this part, an alternate electrical power supply is not required for airborne thunderstorm detection equipment.

[Doc. No. 16097, 43 FR 46783, Oct. 10, 1978, as amended by Amdt. 135–20, 51 FR 40710, Nov. 7, 1986; Amdt. 135–60, 61 FR 2616, Jan. 26, 1996]

§ 135.175 Airborne weather radar equipment requirements.

(a) No person may operate a large, transport category aircraft in passenger-carrying operations unless approved airborne weather radar equipment is installed in the aircraft.

(b) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar equipment, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment required by paragraph (a) of this section is in satisfactory operating condition.

(c) If the airborne weather radar equipment becomes inoperative en route, the aircraft must be operated under the instructions and procedures specified for that event in the manual required by §135.21.

(d) This section does not apply to aircraft used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(e) Without regard to any other provision of this part, an alternate electrical power supply is not required for airborne weather radar equipment.

<u>E-mail from Garrett Livack of the FAA</u>

Excerpt from e-mail dated 24 SEP 04 from Garrett Livack of the FAA to Clyde Jones, FAA Part 135 ARC Representative and EQU Team member:

"Some more thoughts. I re-read what you sent me carefully. Sounds OK as written, but there are issues of latency and other performance attributes

that will need to be addressed. The IDEAL forum to do this is right around the corner, especially if you would let me share the bulleted items on page one with a new RTCA SC on AIS DL. (An e-mail response is requested with an OK or not OK message). As FYI, AIS / FIS includes weather PLUS aeronautical data such as NOTAMs. For your planning, RTCA is presently planning to develop a document on tactical use of FIS / AIS, and that is EXACTLY what you are proposing to make use of in your draft.

Second point.... Onboard weather radar does not work very well on the ground. Satellite weather data link on the other hand, works as soon as you are out of the hanger. Several years ago, PAN AM lost a B-727 after takeoff near Kenner, LA, because the crew did not "see" all the weather in the area. Sat weather data link (such as WSI or WXWorx) would have worked better than the onboard weather radar on the 727. Something to think about.

Third point. This proposal is limited to replacement of onboard weather radar only. I suggest that another excellent use of AIS / FIS DL is to provide graphical and textual NOTAMS in-flight. I think that this data link use will do a much better job than via voice or via just ACARS. If you want, I can share with you a graphical TFR data link requirements document. I believe that having up to date charts via graphical and overlay depiction data link will be much safer than having the crew page through many pages of fine point-size NOTAMS. Just a suggestion."

Additional EQU Working Group Discussion

The EQU Working Group initially considered adding language to § 135.173 and § 135.175 that would permit the use of Datalink weather equipment "…as approved by the Administrator." However, after discussing all the questions that remain outstanding regarding Datalink weather equipment, it was concluded that Datalink weather equipment as a replacement for current technology onboard weather equipment is a number of years into the future. At this time inserting language into the rules to allow for the optional installation of Datalink weather equipment is considered premature and of no added value. The FAA already has procedures to introduce new rules via the Federal Register. When the technology for Datalink has matured and the technical and operational questions have been adequately addressed then the FAA can introduce the rule.

It should also be noted, as outlined in the G. Livack e-mail above, that "…RTCA is presently planning to develop a document on tactical use of (Datalink)." We consider this input as further support for our decision to not propose a rule change at this time.

While it may be premature to consider Datalink weather equipment as a replacement for current weather radar and thunderstorm detection systems, it is more likely that Datalink weather equipment will be considered as a supplement for current weather radar and thunderstorm detection systems at some point in the "near" future. Most, if not all, of the Datalink issues noted earlier in this Recommendation Item would still have to be satisfied. Even as a supplemental system, the Equipment and Technology Working Group believes inserting language into the current rules to "allow" Datalink weather equipment is premature and adds no value.

FAA Note: This language is NOT incorporated into the regulatory language section. It could be premature to add this language when datalink is not developed as described above. Therefore, this entire discussion has been moved to the "NO ACTION RECOMMENDED" section of this preamble.

Revision A- Additional discussion following Steering Committee meeting of 18 NOV 04

The Equipment and Technology Working Group had follow-up telecons to discuss the comments made by several Steering Committee members at the 18 NOV 04 meeting to add enabling language to this Recommendation Item. The Working Group still feels that the addition of this enabling language adds no value since there are other avenues open to operators that wish to install datalink weather on their aircraft. That being said, there is also no downside in proposing enabling language. The Equipment and Technology Working Group proposes the following language change:

Revision A- Proposed Language (Revisions shown in bold blue font for clarity)

§ 135.173 Airborne thunderstorm detection equipment requirements.

(a) No person may operate an aircraft that has a passenger seating configuration, excluding any pilot seat, of 10 seats or more in passenger-carrying operations, except a helicopter operating under day VFR conditions, unless the aircraft is equipped with either approved thunderstorm detection equipment**,** ~~**or**~~ approved airborne weather radar equipment**, or an approved datalink system capable of identifying and displaying thunderstorm activity to the pilot.**

§ 135.175 Airborne weather radar equipment requirements.

(a) No person may operate a large, transport category aircraft in passenger-carrying operations unless approved airborne weather radar equipment is installed in the aircraft.

(b) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar equipment, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment required by paragraph (a) of this section is in satisfactory operating condition.

(c) If the airborne weather radar equipment becomes inoperative en route, the aircraft must be operated under the instructions and procedures specified for that event in the manual required by §135.21.

(d) This section does not apply to aircraft used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(e) Without regard to any other provision of this part, an alternate electrical power supply is not required for airborne weather radar equipment.

(f) An approved datalink system capable of identifying and displaying thunderstorm activity or other potentially hazardous weather conditions to the pilot may be used in place of airborne weather radar equipment.

Conclusion

It is the recommendation of the Equipment and Technology Working Group that emerging technology will eventually provide an alternate means of providing weather radar and thunderstorm detection capability to the flightdeck, however, what that technology will be and how to define all the requirements is beyond the scope of this Working Group. The Equipment and Technology Working Group recommends no change to § 135.173 and § 135.175.

21 JAN 05

The Equipment and Technology Group recommends the preceding proposed language to enable the use of datalink weather systems in aircraft once the technology matures to the point where it will provide the weather information to the pilot that is equal to or better than that provided by current technology airborne weather radar systems.

(OPS 3) Weight and Balance

The output of the Weight and Balance ARC was reviewed to ensure that issues surrounding estimated versus actual passenger weights was addressed and found adequate as described in Advisory Circular 120-27D.

(OPS 4) Harmonization between 135 and JAR OPS 1

There are a number of manufacturers developing light business jets intended to replace the current fleet of small, propeller driven airplanes. There are not consistent regulations in place between countries to facilitate certification or operation of these

aircraft (i.e. CFR's versus JAR-OPS 1). This issue was reviewed and no action is recommended because it is beyond the purview of the ARC to promulgate regulatory changes to EASA which is where the logical changes would be required since they do not recognize Part 135 type operations.

(OPS 14) Emergency Equipment Requirements

Executive Summary:

The commenter cites two accidents resulting in ditching. Both aircraft were multi-engine reciprocating powered. The commenter suggests that the requirement to carry life rafts while conducting flights less than 50 NM (less than extended over-water operations) from shore is excessive. The commenter concludes by recommending that the 50 NM life raft requirement be reduced to 20 NM. The Operations working group believes that the 50 NM requirement is adequate as written and should be retained. The FARs already require an aircraft to be able to maintain minimum enroute altitudes with an inoperative engine and the issue is not one of life rafts but of aircraft loading, performance, preflight planning, and maintenance as to why the aircraft ditched.

Our recommendation is that FAR 135.167 and FAR 1 definition of "extended over-water operation" are acceptable as written, and no rule changes are required.

Discussion:

Part 135 requires aircraft to carry lifejackets for all passengers for flights over water. However, life rafts are not required if flights are maintained within 50 miles of land. Recently, Air Sunshine, a 402C with ten (10) passengers aboard, "ditched" 5 miles from Treasure Cay, Abacos after departing Ft. Lauderdale International (FLL). This was

an engine out and altitude could not be maintained until reaching the airport. The pilot did a superb job of ditching in 4-5 foot seas. No life raft was onboard and two passengers, a child and an adult perished in the accident. Others were rescued by the USCG.

As you know, any water ditching is wrought with trauma and potential shock to the crew and passengers, along with other potential injuries. In this case there were children on board as young as 3 years old and the fact that, if a raft had been available, it would have allowed the children to get in it and not have to fight the 5-6 foot seas that others were battling after the plane ditched.

There was another incidence of a pilot on a 402B several months ago that ditched east of Marathon and was picked up by a fishing boat. I talked to him within 12 hours of the accident, since I had to administer post accident drug & alcohol testing as required by the FAA 49CFR40 drug abatement program. He mentioned that the raft on board his aircraft sunk with the plane, since it was in the back cargo area and weighed over 30lbs. So, if it is not available and easily accessible, then it does little good.

I am sure that you would agree with me that any ditching over water and any distance from land is tough to deal with in only a life jacket. I can understand the weight problems associated with these rules, but fifty (50) miles from land for a Part 135 operation seems a bit outlandish, especially when normally aspirated airplanes usually fly at altitudes of less than 10,000 feet and have a glide path of only 20 miles at that altitude, based on optimum weight and other criteria. I would propose, that this mileage be cut down to a maximum of 10-20 miles, for example. And even that, may not be enough to ensure the survivability of crew and passengers.

The Alaska Air Carriers Association only supports this measure on life jackets for flights exceeding 20 miles from a shoreline.

If we propose a change to this regulation it is unlikely that the mileage requirement would be increased. The focus would likely be on how much of a reduction is necessary.

What do the individuals need at certain distances from shore?

Recommendation:

It is the recommendation of the Ops Working group that no action be taken at this time. The regulations are adequate as written as the outcome of the incidents cited would not have been altered. The cited instances appeared to pertain to aircraft loading and performance more than emergency equipment.

(OPS 15) Management Requirements 119.67

This issue was raised regarding the situation where a carrier transitions from a Part 135 “nine or less” operator to a Part 121 carrier and the management personnel specified in Part 119 appear to no longer qualify for their positions even though they may have worked in that capacity for many years. After considerable deliberation, it was decided that there is currently a deviation mechanism in place to allow for a Part 135 management person to be acceptable for a Part 121 operation based on their individual experience. It was agreed that any change to the rule that would mandate acceptability could reduce the level of safety. Therefore, no rule change is proposed.

(OPS 18) Recency of Experience

Discussion:

This recommendation document was delivered to the operations working group prior to Part 91K being adopted. Since the adoption of Part 91K included amending certain Part 135 regulations, §135.247 was one of the regulations amended and became a final rule November 17, 2003. The new (as amended) §135.247 does give some relief to the recent experience issue, and was reviewed by the FAA during the FOARC recommendation review period. Therefore, it is the belief of this working group that any further request for amending this regulation would be futile. Based on this belief, the operations working group recommendation is as stated below.

Part 135.247(a)(2) was requested to be amended to eliminate the requirement that 3 take off and landings be made in category, class, and type. It was the desire of the person submitting this recommendation document to have this requirement reduced to just category, and class. However, the FAA has since taken action on this regulation through the recommendations of the FOARC, and the regulation has been amended as the result of Part 91K becoming effective. Although we would have liked for the amendment to be less restrictive, it is doubtful that any additional requests for further amending this regulation would be granted.

Recommendation:

Since the adoption of Part 91, subpart K addresses the issues presented in this recommendation document, it is recommended that this recommendation document be closed with no further action.

(OPS 19) Drug and Alcohol Testing

Discussion: The presented issue revolved around the use of non-drug/alcohol tested maintenance technicians in situations where none were available. The recently adopted Part 91, subpart K, and related Part 135 changes adequately resolves this issue.

Recommendation: With the adoption of Part 91, subpart K and related Part 135 changes, no further action is required. It is recommended that this recommendation document be closed with no action.

(OPS 20)—Landing Performance Limitations

The original concern was that the landing distance requirements that apply in §135.385 to larger aircraft do not apply to smaller aircraft operated under Part 135. A review of the current rule, and more importantly, a review of the revised language that was implemented through the creation of 14 CFR 91, subpart K, resulted in the ARC determining that the current rule language contained in §135.385 was adequate and no change was necessary.

(OPS 21) Age 60, **§ 121.383(c)**

Discussion:

Discussion within the operations working group and comments to the docket support the majority working group members' opinion that the Part 135/125 ARC mandate does not allow up to address this recommendation document. As our Chairman stated in the discussion section below, changes solely to Part 121 regulations that are not related to Part 135 regulations, are not within the scope of this ARC, and should be

subject to a separate rulemaking process. Therefore, the operations working group recommendation is as stated below.

This recommendation document was generated by a question, "why is their an age 60 rule in Part 121 and not in Part 135?" Although the question is valid, it is not within the scope of this committee to deal Part 121 regulations. Our mission is to rewrite existing Part 135 regulations to better reflect current times and technology. Part 135 does not have an "age 60" regulation as does Part 121, therefore, there is no Part 135 regulation to rewrite.

(OPS 22) Aligning best practices with rules

Recommend this issue be closed with no action. Including best practices in the rules is inherent in the aviation rulemaking committee process because industry is a participant.

(OPS 23) Commercial Pilots Good Moral Character

Discussion: Complaint is that commercial pilots can have felonies on their record and still fly. The implicit suggestion is that commercial pilots should also have a good moral standing requirement like pilots with an ATP. The standard for revocation under good moral character is a pattern of behavior.

If this requirement is added to commercial pilot certificate requirements then the committee should also determine exactly which felonies and offenses should cause a problem.

This is not within the scope of the ARC's review. Issue is closed without action.

(OPS 32) Manual Compliance

The issue that was discussed related to FAA enforcement of standards that exist in a certificate holder's manual that exceed regulatory requirements. After considerable deliberation the ARC reviewed this issue and decided that additional rulemaking was not required. However, the ARC does recommend that FAA develop addition guidance materials to clarify that enforcement cases cannot be initiated for the failure of certificate holders to meet standards contained in their manuals that exceed FAA regulations.

(OPS 34) Principal Base of Operations

The original issue stated that clarification of this rule is necessary to prevent off-shore operators from having a PBO in another country. The ARC reviewed this issue and finds that no regulatory action is required. 14 CFR 119.47(a) requires that each certificate holder must maintain a principal base of operations (PBO), although it may also designate a main operations base and a main maintenance base which may be at the same, or different, location. There is no requirement for FAA approval of the location of the PBO, although the PBO must be identified in the certificate holder's Operations Specifications. Thus, it is true that there is no prohibition on location of a PBO in another country.

However, the original issue states that this could be done by "off-shore operators." However, 14 CFR 119.33(a)(1) provides that a person may not operate as a direct air carrier unless it is a "citizen of the United States." The term "citizen of the United States" is a term of art defined in 49 USC § 40102(a)(15). With respect to a

corporation, a "citizen of the United States" must be a corporation organized under the laws of the United States, one of the States, the District of Columbia, or a US territory or possession. This requirement would seem to preclude "off-shore operators" from becoming certificated as an air carrier in the first place. Thus, it does not seem enough of a problem to warrant a change in the current regulations.

(OPS 36) Changes to TSA Regulations

The original issue requested clarification of the regulations referred to by §135.125: screened/non-screened baggage, and storage of weapons. After consideration by the ARC, it was determined that §135.125 referenced regulations promulgated by the Transportation Security Administration and outside the scope of the ARC.

(OPS 38) Autopilot Minimum Altitudes for Use

The original issue considered by the ARC regarding the use of autopilot systems and what extent regulatory language was necessary to mandate minimum altitudes, etc. versus allowing the Aircraft Flight Manual to be the only controlling requirement. After significant consideration, the ARC believes the current rule as written is adequate and provides for the requisite flexibility.

(OPS 40) Manipulation of Controls

The original issue was requesting clarification as to who can manipulate the controls besides the pilot and co-pilot. After review by the ARC, any allowance to allow someone other than a fully qualified pilot-in-command or second-in-command to

manipulate the controls of an aircraft conducting Part 135 operations would be a material decrease in safety and cannot be supported. Therefore the ARC recommends no change to the current rule.

(OPS 44) ETOPS

The ARC reviewed this issue in light of the expected FAA rulemaking action regarding ETOPS operations under Part 135 and concluded that no action was needed at this time. Issues regarding emergency equipment were addressed in other proposals.

(OPS 46) Crew Pairing

The original issue was to explore the current rules under 14 CFR 91 subpart K and changes to Part 135 related to crew pairing requirements. The ARC concluded that the Part 135 changes made as a result of the fractional rulemaking package that created "eligible on-demand" operators adequately addressed this issue.

During review by the ARC Steering Committee, the FAA has also committed to include (if not done so by technical correction prior to this rulemaking effort) correction to §91.1055(b)(2) and §135.4(b)(2) regarding deviations issued for aircraft new to a program manager's or certificate holder's fleet. The current language limits deviation authority to when a new "category and class" of aircraft is added. This language should also include a new "type" of aircraft.

(OPS 47) Portable Electronic Devices

The original request was for clarification regarding the use of portable electronic devices (PED) and communicating those requirements to passengers. Nothing in the current regulation or associated regulations require briefing of passengers as to when they can use portable electronic devices.

RTCA has been convened under SC 202 to consider PED issues, divided into two Phases – a Near Term PED Technology Assessment and a Longer Term PED Technology Assessment.

After review by the ARC, it was determined that until such time as the RTCA deems otherwise, the rule as written is adequate. No rulemaking action is required.

(OPS 54) Aircraft Proving Tests

The original concern, received prior to the release of the fractional rulemaking package that included significant changes to Part 135, was that the current regulation is outdated in that it gives no credit for computer simulations and table top reviews to reduce or eliminate the requirement for proving tests when installing new equipment into an operational system.

The ARC reviewed the issues raised in light of the fractional rulemaking package release (Amendment #82 effective 17 Nov. 2003) regarding 14 CFR 135.145. Based on that review, it was determined that the concerns were adequately addressed at that time. Therefore, the ARC recommends no additional rulemaking regarding this issue.

(OPS 56) Single Pilot Operations in Turbine Aircraft

The original issue that was raised states that turbo-prop aircraft and turbine-powered jets should not be permitted to perform single pilot operations under Part 135.

This issue was addressed by FAA at the urging of NTSB in the mid-1990s. The FAA reviewed accident data from 1983 to 1996 for both reciprocating and turbine engines and found that single-engine aircraft were involved in 75 percent of accidents resulting from VFR flight into IMC. Based on this, the findings and the recommendations of NTSB safety study NTSB/SS-95/03, the FAA decided to issue a Notice of Proposed Rulemaking (NPRM) to amend Part 135 to allow passenger-carrying single-engine IFR operations. Following a review of the public comments received after publication of the NPRM on August 6, 1997, the FAA published the final rule allowing passenger-carrying, single engine IFR operations, provided that operators meet certain conditions. In order to allow sufficient time for operators to meet the requirements of the regulation, the FAA delayed the implementation date until May 3, 1998. While this review was specific to single-engine operations, it is also applicable in this instance because the vast majority of single engine aircraft are flown single pilot.

Due to the information contained in this review, the ARC does not believe that additional rulemaking is required and that allowing single-pilot operations under Part 135 should continue.

(OPS 59) ICAO Harmonization- Takeoff Alternate

The original issue concerned ICAO Harmonization with FAA takeoff alternate requirements as described in §135.217.

The ICAO Standard states:

4.3.4.1.2 The take-off alternate aerodrome shall be located within the following distance from the aerodrome of departure:

a) aeroplanes having two power-units. Not more than a distance equivalent to a flight time of one hour at the single-engine cruise speed; and

b) aeroplanes having three or more power-units. Not more than a distance equivalent to a flight time of two hours at the one-engine inoperative cruise speed.

The U.S. Difference states:

When determining the distance to a take-off alternate, the United States does not require commuter and on demand operations to calculate engine inoperative configurations, but does require that the alternate must be within one-hour flying time (at normal cruising speed, in still air) of the aerodrome of departure.

After reviewing this issue, the ARC sees no supporting statistical data or significant safety enhancements that would justify a change to the current rule.

(OPS 60) ICAO Harmonization- Computing Oil and Fuel

An ICAO harmonization issue was presented calling for greater specificity in preflight fuel and oil contingency planning requirements.

The ICAO Standard states:

4.3.6.4 (d) and (e) In computing the fuel and oil required in 4.3.6.1 at least the following shall be considered:

(d) The procedures prescribed in the operations manual for loss of pressurization, where applicable, or failure of one power unit while en route;.

(e) Any other conditions that may delay the landing of the aeroplane or increase fuel consumption

U.S. Difference:

When computing fuel and oil requirements, the United States does not require commuter and on- demand operators to include in the operations manual required procedures in the case of loss of pressurization and other contingencies that may delay the landing of the aeroplane or increase fuel and/or oil consumption.

The ARC reviewed this issue and determined that while all of the ICAO requirements do not exist in one part of the rule, they are addressed in several areas (§91.103; §91.151; §91.167 FAA Order 8400.10; AC 91-70).

Therefore, the ARC recommends no additional rulemaking because adequate requirements already exist.

(OPS 61) ICAO Harmonization – AFM and Human Factors

A proposal was presented regarding ICAO Harmonization and the design of aircraft operating manual to observe Human factors principles.

The ICAO Standard states:

6.1.3 The operator shall provide operations staff and flight crew with an aircraft operating manual, for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include details of the aircraft system and of the checklists to be used. The design of the manual shall observe Human Factors principles.

U.S. Difference:

The United States does not require the design of the aircraft operating manual to observe Human Factors principles.

The proposal provides no justification for this recommendation beyond harmonization with ICAO. While that is a laudable goal, it ought not to drive a change to the US regulations without full consideration of the costs and consequences. A new requirement that human factors principles be included in the development of air carrier manuals would likely require a major effort on the part of both the FAA and the Part 135 community to comply. First, the FAA would have to develop guidance on exactly how human factors principles are to be incorporated in such manuals. Does this mean the design and layout of the manual itself, the procedures and actions required by the manual, or both? Once this guidance is developed, it would fall to the Part 135 community to revise all its manuals in accordance with that guidance. Then, the FAA would have to review and accept/approve all these revised manuals. Lastly, all these new manuals would have to be issued to Part 135 employees and they would have to be trained to use them.

This proposal may, in fact, have substantive merit (aside from the harmonization issue). The ARC does not have the data to determine if this is really a problem and how big an undertaking the solution would be. Based on this, the ARC recommends that no rulemaking take place regarding this issue.

(OPS 62) ICAO Harmonization- Seaplane Equipment

The issue presented was regarding ICAO Harmonization and required seaplane equipment.

ICAO Standard states:

6.5.1 (b) and (c) For Seaplanes:

(b) Equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea, where applicable and

c) One sea anchor (drogue).

U.S. Difference:

Seaplanes are not required to have equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea. c) Seaplanes are not required to be equipped with one sea anchor (drogue).

The ARC admits that there was little expertise available to evaluate this issue. However, based on the research conducted, it appears to be an issue that is adequately governed by the U.S. Coast Guard regulations.

Therefore, the ARC recommends no regulatory action on this issue.

(OPS 64) ICAO Harmonization- Corrective Lenses

ICAO requires second pair of corrective lenses readily available to pilots who must use them in accordance with medical certificate restrictions. The FAA does not have a similar requirement.

The FAA's Civil Aerospace Medical Institute published "Aviation Accidents and Incidents Associated With Use of Ophthalmic Devices by Civilian Pilots" in July 2001. The study reviewed NTSB and FAA accident/incident databases 1980-1998, and NASA ASRS files 1988-1998, covering some 300,000 reports. Within these, the study identified

11, nonfatal accidents/incidents where lost or broken spectacles was a contributing factor. According to the study, "A readily available back-up pair of spectacles could have prevented most of these mishaps."

CAMI study reported of 590,000 civilian pilots, approximately 54%, or 318,600, use ophthalmic lenses to correct defective vision.

Assuming an average cost of $200/pr. for spare eyeglasses and 318,600 affected pilots, cost of compliance with the proposed harmonization could exceed $63.7 million.

Cost/benefit analysis does not favor harmonization of the ICAO rule and therefore the ARC does not recommend regulatory action.

(OPS 67) Carriage of state and local candidates

This issue was resolved when Amendment #287 to §91.321, effective in March 2, 2005, was implemented. No action by the ARC is necessary.

(OPS 69) Activity Reporting

The NTSB has issued a recommendation requiring that Part 135 certificate holders provide detailed activity data to the FAA and/or NTSB. The ARC concluded that there appears to be justification for accumulation by the FAA (or another agency) of more specific data related to FAR 135 operations. However, there was significant concern that the data requested by the NTSB was unrealistic and would create a major hardship and economic burden on some certificate holders to report. Consensus was not reached on this issue within the Operations work group. However consensus, with one dissenting viewpoint, was reached at the Steering Committee level that there should be

mandatory activity reporting by industry, but the activity reporting should be limited to data already routinely collected by the certificate holder such as total flight time, revenue legs, etc. The ARC did not agree on proposed language for such a rule and must depend on the FAA to produce a workable solution.

(OPS 70) Flight Locating Requirements

Concern was expressed that a gap in flight following may exist if a flight cancels its IFR flight plan in VFR conditions while some distance from the destination airport, that some mechanism needs to exist to confirm that the flight reached its destination safely, and that more thorough procedures need to exist regarding "release" of Part 135 flights.

The ARC spent a considerable amount of time on this issue looking for more robust solutions for flight following. However, due to the wide variety of types of operations, and varied geographic issues, the creation of new rule language to capture all possible scenarios was not possible. Therefore, the ARC believes that the current language is adequate and no additional regulatory language is required. If clarification of the current rule is necessary, that should be accomplished through the applicable guidance materials.

(OPS 71) Two Sets of Charts (dissenting opinion)—Discussion remains in the main text of this document as there was a dissenting opinion to the no action recommendation.

(OPS 73) Proving Tests

The original concern, received prior to the release of the fractional rulemaking package that included significant changes to Part 135, regarded any outstanding issues as a result of Part 135 rule changes motivated by the creation of 14 CFR 91, subpart K.

The ARC reviewed the issues raised in light of the fractional rulemaking package release (Amendment #82 effective 17 Nov. 2003) regarding 14 CFR 135.145. Based on that review, it was determined that the concerns were adequately addressed at that time. Therefore, the ARC recommends no additional rulemaking regarding this issue. (DUPLICATE WITH OPS-54?)

(OPS 79) Exception to SIC Requirements—

The current Part 135 rule requires a Commuter Air Carrier "Schedule" operating 9 or less, "single pilot auto-pilot operations", to operate IFR with two pilots until the Captain has 100 hours of PIC in make and model of aircraft.

An issue was raised regarding this rule because of the safety, operational and financial impact to a scheduled operation operating small aircraft. It was stated that the regulation in its present form is burdensome and counterproductive to many Air Carriers.

The concerned party continued to state: *For practical application reasons, the current rule is counterproductive because it encourages an operator to use the Captain primarily in VFR conditions until he or she attains 100 hours in the make and model and then releases the Pilot to fly IFR with no restrictions. In addition, for most 9 or less operations, the co-pilot seat is a revenue seat. Under this part, SIC's used, must complete an approved training program with the certificate holder at a significant expense to the operator. The current rule sets a dynamic of negative transfer by placing a pilot in an*

environment of two-crew, for a period such as 4-8 weeks, which is inconsistent with his or her future operations. Operators under this part are already required to have an approved training program that prepares PIC's to operate single pilot to include the PIC needing to satisfactorily pass a 135.297 Instrument Proficiency Check with use of Autopilot authorization. Operators who use a single pilot with an autopilot in lieu of and SIC are hindered by the fact that their pilots' first experiences under IFR will be operated in a two-crew dynamic – which creates a negative transfer to the single-pilot dynamic under which they will be conducting the overwhelming majority of their future IFR flying.

The concerned party recommends that pilots operating Scheduled Commuter under Part 135 be able to operate as a single pilot, with an autopilot in lieu of an SIC, provided that Pilot has logged 100 hours of PIC time in make and model. In the event the pilot acting as PIC has yet to log 100 hours in make and model aircraft, the Pilot's landing minima are suitably raised until the 100 hours as been acquired.

The ARC reviewed the issues raised by the concerned party and determined that the suggested change would be a material decrease in safety and therefore recommends no change to the current regulation.

FAA Note: Boilerplate language below—this will require additional review and development.

Paperwork Reduction Act

Information collection requirements associated with this NPRM have been approved previously by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)).

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Executive Order 12866 and DOT Regulatory Policies and Procedures

Executive Order 12866, Regulatory Planning and Review, directs the FAA to assess both the costs and the benefits of a regulatory change. We are not allowed to propose or adopt a regulation unless we make a reasoned determination that the benefits of the intended regulation justify the costs.

Economic Assessment, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency propose or adopt a regulation only upon a determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. §§ 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act also requires agencies to consider international standards and, where appropriate, use them as the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written

assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by private sector, of $100 million or more annually (adjusted for inflation).

In conducting these analyses, FAA has determined this rule (1) [has/does not have] benefits that justify its costs, [is/is not] a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, and [is/is not] "significant" as defined in DOT's Regulatory Policies and Procedures; (2) [will/will not] have a significant economic impact on a substantial number of small entities; (3) [will/will not] reduce barriers to international trade; and (4) [does/does not] impose an unfunded mandate on state, local, or tribal governments, or on the private sector. These analyses, available in the docket, are summarized below.

Regulatory Flexibility Determination *[APO provides the following paragraph.]*

The Regulatory Flexibility Act of 1980 (RFA) directs the FAA to fit regulatory requirements to the scale of the business, organizations, and governmental jurisdictions subject to the regulation. We are required to determine whether a proposed or final action will have a "significant economic impact on a substantial number of small entities" as they are defined in the Act. If we find that the action will have a significant impact, we must do a "regulatory flexibility analysis."

This proposed rule *[say what rule does]*. ..... Therefore, we certify that this action [will/will not] have a significant economic impact on a substantial number of small entities.

Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this rulemaking and has determined that it will have only a domestic impact and therefore no effect on any trade-sensitive activity.

Unfunded Mandates Assessment The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action."

This NPRM does not contain such a mandate. The requirements of Title II of the Act, therefore, do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action would not have a substantial direct effect on the States, on the relationship between the national

Government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore would not have federalism implications.

THE FOLLOWING IS RECOMMENDED REGULATORY LANGUAGE EXTRACTED FROM THE RECOMMENDATION DOCUMENTS. THE CORRESPONDING NUMBER OF THE RECOMMENDATION DOCUMENT WAS ADDED TO FACILITATE REVIEW.

The Proposed Amendment

For the reasons stated above, the Federal Aviation Administration proposes to amend parts 1, 21, 27, 29, 61, 91, and 135 of Title 14 of the Code of Federal Regulations as follows:

(OPS 42)

Part 1

Cabin Safety Crewmember means an individual, other than a flight crewmember, who is assigned by the certificate holder conducting Part 135 operations, in accordance with the required minimum crew complement under the certificate holder's operations specifications or used in an aircraft during flight time and whose duties include but are not necessarily limited to cabin-safety-related responsibilities.

Passenger Service Specialist is an individual, other than a flight crewmember, who is assigned by the certificate holder to duty in an aircraft during flight time and whose duties are not cabin safety related.

(ROT 21)

Part 1

Change or Add to Part 1 (changes in red type):

Overwater: For airplanes, a flight more than 30 minutes flying time or 100 nautical miles from the nearest shore. For helicopters, a flight beyond autorotational distance from shore. As used in this section, "shore" means that area of the land adjacent to the water, which is above the high water mark and excludes land areas which are intermittently under water.

Offshore Operation: For rotorcraft, an overwater flight conducted more than 5 minutes flying time or 10 miles from the nearest shore, which includes an offshore takeoff, landing, or external load operation to or from a helideck or vessel.

(AWG 11)

Change FAR 21.197 (c)(2) to read as follows:

Certificate holders authorized to conduct operations under Part 135 for those aircraft they operate and maintain under a continuous airworthiness maintenance program prescribed by §135.411 (a)(2) or (b) of that part, **or an Approved Aircraft Inspection Program prescribed by §135.411 (a)(1) and §135.419 provided procedures acceptable to the**

Administrator governing issuance of Special Flight Permits and safety standards for flights conducted in accordance with those permits, are incorporated in the operator's manual required by §135.21.

(EQU 17)

14 CFR 27.1457 Cockpit voice recorders.

§ 27.1457 Cockpit voice recorders.

Add the text highlighted in blue as follows:

(a) Each cockpit voice recorder or combination recorder required by the operating rules of this chapter must be approved, and must be installed so that it will record the following:

(c) Each cockpit voice recorder or combination recorder must be installed so that the part of the communication or audio signals specified in paragraph (a) of this section obtained from each of the following sources is recorded on a separate channel:

(d) Each cockpit voice recorder or combination recorder must be installed so that:

(1) It receives its electric power from the bus that provides the maximum reliability for operation of the cockpit voice recorder or combination recorder without jeopardizing service to essential or emergency loads;

(f) If the cockpit voice recorder or combination recorder has a bulk erasure device, the installation must be designed to minimize the probability of inadvertent operation and actuation of the device during crash impact.

(g) Each recorder container or combination recorder must be either bright orange or bright yellow.

(EQU 17)

14 CFR 27.1459 Flight recorders.

§ 27.1459 Flight recorders.

(a) Each flight recorder or combination recorder required by the operating rules of Subchapter G of this chapter must be installed so that:

(c) A correlation must be established between the flight recorder or combination recorder readings of airspeed, altitude, and heading and the corresponding readings (taking into account correction factors) of the first pilot's instruments. This correlation must cover the airspeed range over which the aircraft is to be operated, the range of altitude to which the aircraft is limited, and 360 degrees of heading. Correlation may be established on the ground as appropriate.

(EQU 17)

14 CFR 29.1457 Cockpit voice recorders.

§ 29.1457 Cockpit voice recorders.

(a) Each cockpit voice recorder or combination recorder required by the operating rules of this chapter must be approved, and must be installed so that it will record the following:

(c) Each cockpit voice recorder or combination recorder must be installed so that the part of the communication or audio signals specified in paragraph (a) of this section obtained from each of the following sources is recorded on a separate channel:

(d) Each cockpit voice recorder or combination recorder must be installed so that—

(f) If the cockpit voice recorder or combination recorder has a bulk erasure device, the installation must be designed to minimize the probability of inadvertent operation and actuation of the device during crash impact.

(EQU 17)

14 CFR 29.1459 Flight recorders.

§ 29.1459 Flight recorders.

(a) Each flight recorder or combination recorder required by the operating rules of Subchapter G of this chapter must be installed so that:

(c) A correlation must be established between the flight recorder or combination recorder readings of airspeed, altitude, and heading and the corresponding readings (taking into account correction factors) of the first pilot's instruments. This correlation must cover the airspeed range over which the aircraft is to be operated, the range of altitude to which the aircraft is limited, and 360 degrees of heading. Correlation may be established on the ground as appropriate.

PART 61-CERTIFICATION: PILOTS AND FLIGHT INSTRUCTORS

1. The authority citation for part 61 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44703, 44707, 44709-44711, 45102-45103, 45301-45302.

(AER 1)

2. Amend § 61.1(b) by adding a new paragraph (2), a new paragraph (3)(iv), a new paragraph (5), (14), (15), (20), and (21) and re-designating paragraphs (4) through (15) as (5) through (21).

§ 61.1 Applicability and definitions.

* * * * *

(b) * * *

(2) Aided night flight is a flight that begins 1 hour after sunset and ends 1 hour before sunrise where the pilot uses night vision goggles to maintain visual surface reference in an aircraft.

* * *

(14) Night vision goggles is an appliance worn by a pilot that enhances the pilot's ability to maintain visual surface reference at night.

(15) Night vision goggle operation is a flight at night where the pilot maintains visual surface reference utilizing night vision goggles in an aircraft that is approved for night vision goggle operations.

* * *

(20) Unaided night flight is a flight at night where the pilot either does not use night vision goggles or the night vision goggles are in a non-operational position.

[FAA Note: 61.29 WASN'T DISCUSSED IN THE PREAMBLE – WHY DO WE NEED THIS CHANGE?]

§ 61.29 Replacement of a lost or destroyed airman or medical certificate or knowledge test report.

(d) * * * * *

(3) The date and place of birth of the certificate holder; and

(4) Any available information regarding the –

* * * * *

(AER 1)

Amend § 61.31 by re-designating paragraph (k) as (m); adding new paragraph (l) as follows:

§ 61.31 Type rating requirements, additional training, and authorization requirements.

*** * * * ***

(l) Additional training required for operating with night vision goggles.

(1) Except as provided under paragraph (l)(3) of this section, no person may act as a pilot in command of an aircraft using night vision goggles unless that person receives and logs ground training from an authorized instructor and obtains a "one-time" endorsement in his or her logbook or training record from an authorized instructor who certifies the person satisfactorily completed the ground training. The ground training must include at least the following subjects:

(i) Applicable Federal Regulations of this chapter that relate to night vision goggle limitations and flight operations;

(ii) Aeromedical factors relating to the use of night vision goggles, including how to protect night vision, how the eyes adapt to operate at night, self-imposed stresses that affect night vision, effects of lighting on night vision, cues used to estimate distance and depth perception at night, and visual illusions;

(iii) Normal, abnormal, and emergency operations of night vision goggle equipment;

(iv) Night vision goggle performance and scene interpretation; and

(v) Night vision goggle operations flight planning, including night terrain interpretation and factors affecting terrain interpretation.

(2) Except as provided in paragraph (l)(3) of this section, no person may act as a pilot in command of an aircraft using night vision goggles unless that person receives and logs flight training from an authorized instructor using night vision goggles in an aircraft and obtains a "one-time" endorsement in his or her logbook or training record

from an authorized instructor who found the person proficient in the operation of night vision goggles. The flight training must include at least the following tasks:

(i) Preparation and use of internal and external aircraft lighting systems for night vision goggle operations;

(ii) Preflight preparation of night vision goggles for night vision goggle operations;

(iii) Proper piloting techniques when using night vision goggles during the takeoff, climb, enroute, descent, and landing phases of flight that include aided and unaided night flight; and

(iv) Normal, abnormal, and emergency operations of night vision goggles during flight;

(3) The "one-time" endorsement and training required under paragraph (l)(1) and (2) of this section are not required if a person can document satisfactory completion of any of the following pilot proficiency checks using night vision goggles in an aircraft:

(i) A pilot proficiency check for using night vision goggles conducted by a military service of the United States; or

(ii) A pilot proficiency check for using night vision goggles under part 135 of this chapter conducted by an examiner or an approved pilot check airman.

(m) *Exceptions*.

* * * * *

(AER 1)

Amend § 61.51 by adding paragraph (b)(3)(iv), revising paragraphs (e) and (g)(4), and adding paragraphs (j) and (k) to read as follows:

§ 61.51 Pilot logbooks.

* * * * *

(b) * * *

(3) * * *

(iv) Night vision goggle operations in flight, a flight simulator, or a flight training device.

* * * * *

(e) Logging pilot-in-command flight time.

(1) A recreational, private, commercial, or airline transport certificated pilot may log pilot-in-command time for flights-

(i) When the pilot is the sole manipulator of the controls of an aircraft for which the pilot is rated.

(ii) When the pilot is the sole occupant in the aircraft.

(iii) When the pilot, except for a holder of a recreational pilot certificate, acts as pilot in command in an aircraft for which that pilot is rated on which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted.

(iv) When the pilot performs the duties of pilot in command while under the supervision of an appropriately qualified pilot in command provided--

(A) The pilot performing the duties of pilot in command holds a current and valid commercial pilot certificate or airline transport pilot certificate and aircraft

rating that is appropriate to the category and class of aircraft being flown, if a class rating is appropriate.

(B) The pilot performing the duties of pilot in command is undergoing an approved pilot in command training program consisting of ground and flight training on the following areas of operation---

(1) Preflight preparation;

(2) Preflight procedures;

(3) Takeoff and departure phase;

(4) In-flight maneuvers;

(5) Instrument procedures;

(6) Landings and approaches to landings;

(7) Normal and abnormal procedures;

(8) Emergency procedures; and

(9) Postflight procedures.

(C) The supervising pilot in command must hold a---

(1) Current and valid commercial pilot certificate and current and valid flight instructor certificate, and aircraft rating that is appropriate to the category, class, and type of aircraft being flown, if a class or type rating is required; or

(2) Current and valid airline transport pilot certificate and aircraft rating that is appropriate to the category, class, and type of aircraft being flown, if a class or type rating is required.

(D) The supervising pilot in command logs the pilot in command training given in the pilot's logbook, certifies giving the pilot in command training in the pilot's logbook, and attests that certification with his or her signature, flight instructor certificate number, and expiration date.

(2) A holder of an airline transport pilot certificate, issued under this part, may log all flight time while acting as pilot-in-command of an operation requiring an airline transport pilot certificate if he or she is appropriately rated to act as pilot in command of that aircraft.

(3) A holder of a flight instructor certificate, issued under this part, may log pilot-in-command time for all flight time while serving as the authorized instructor if the instructor is appropriately rated to act as pilot in command of that aircraft.

* * * * *

(j) Aircraft requirements for logging flight time. In order for a person to log flight time to meet the requirements for a certificate, rating, or the recency of experience requirements under this part, the time must be acquired in an aircraft that is identified as an aircraft under § 61.5(b), and is:

(1) An aircraft of U.S. registry and holds a current standard, limited, restricted, or primary airworthiness certificate;

(2) An aircraft of U.S. registry and holds an experimental airworthiness certificate;

(3) An aircraft of foreign registry and holds an airworthiness certificate that is approved by that foreign country's aviation authority and that foreign country is member state to the Convention on International Civil Aviation Organization;

(4) A military aircraft under the direct operational control of the U.S. Armed Forces; or

(5) A public aircraft under the direct operational control of a Federal, State, County, or Municipality law enforcement agency or an equivalent law enforcement agency, and provided the flight time was acquired by that pilot while engaged on an official law enforcement flight for a Federal, State, County, or Municipality law enforcement agency, or equivalent.

(k) Logging night vision goggle time.

(1) A person may log night vision goggle time only for that time when the person uses night vision goggles as the primary visual reference of the surface and operates:

(i) An aircraft at night time (during the period beginning 1 hour after sunset and ending 1 hour before sunrise) in flight; or

(ii) In a flight simulator or in a flight training device with the lighting system adjusted to represent the period beginning 1 hour after sunset and ending 1 hour before sunrise.

(2) An authorized instructor may log night vision goggle time when that person conducts night vision goggle training using night vision goggles as the primary visual reference of the surface and operates:

(i) An aircraft at night time (during the period beginning 1 hour after sunset and ending 1 hour before sunrise) in flight; or

(ii) A flight simulator or in a flight training device with the lighting system adjusted to represent the period beginning 1 hour after sunset and ending 1 hour before sunrise.

(3) To log night vision goggle time to meet the recent night vision goggle experience requirements under § 61.57(f), a person must log at least the information required under § 61.51(b).

(AER 1)

Amend § 61.57 by adding paragraphs (f) and (g) to read as follows:

§ 61.57 Recent flight experience: Pilot in command.

* * * * *

f) Night vision goggle operating experience.

(1) No person may act as a pilot in command using night vision goggles with passengers on board unless, within the preceding 2 calendar months, that person performs and logs the following tasks as the sole manipulator of the controls during the time period that begins 1 hour after sunset and ends 1 hour before sunrise:

(i) If the person wants to use night vision goggles during the takeoff and landing phases of flight, that person must perform and log three takeoffs and three landings using night vision goggles, with each takeoff and landing including a climbout, cruise, descent, and approach phase of flight;

(ii) In the case of using night vision goggles when operating helicopter or powered-lifts during the hovering phase of flight, the person must perform and log three hovering tasks utilizing night vision goggles;

(iii) The person must perform and log at least three area departure area and arrival tasks using night vision goggles;

(iv) The person must perform and log at least three tasks of transitioning from

aided night vision goggle flight to unaided flight without the use of night vision goggles and then back to aided night vision goggle flight; and

(v) The person must perform and log at least three night vision goggle operations, or when operating helicopters or powered-lifts, performs and logs six night vision goggle operations.

(2) No person may act as a pilot in command using night vision goggles unless, within the preceding 4 calendar months, that person performs and logs the tasks listed in paragraph (f)(1)(i) - (v) of this section as the sole manipulator of the controls during the time period that begins 1 hour after sunset and ends 1 hour before sunrise.

(g) Night vision goggle proficiency check. A person who does not meet the night vision goggle experience requirements of paragraphs (f)(1) or (f)(2) of this section may not act as pilot in command using night vision goggles until that person passes a night vision goggle proficiency check. The proficiency check must be performed in the category of aircraft that is appropriate to the night vision goggle operation the person is seeking or in a flight simulator or flight training device that is representative of that category of aircraft. The check must consist of the tasks listed under § 61.31(l) of this part, and the check must be performed by:

(1) An examiner who is qualified and current to perform night vision goggle operations in that same aircraft category and class;

(2) A person who is authorized by a U.S. Armed Forces to perform night vision goggle proficiency checks, provided the person being administered the check is also member of a U.S. Armed Forces;

(3) A company check pilot who is authorized to perform night vision goggle

proficiency checks under parts 121, 125, or 135 of this chapter, provided that both the check pilot and the pilot being tested are employees of that operator;

(4) An authorized flight instructor who is qualified and current to perform night vision goggle operations in that same aircraft category and class;

(5) A person who is qualified and current as pilot in command for night vision goggle operations in accordance with paragraph (f) of this section; or

(6) A person approved by the Administrator to perform night vision goggle proficiency checks.

(AER 5)

Amend § 61.195 by adding paragraph (k) to read as follows:

§ 61.195 Flight instructor limitations and qualifications.

* * * * *

(k) Training for night vision goggle operation. A flight instructor may not conduct training for night vision goggle operations unless that flight instructor:

(1) Has a pilot and flight instructor certificate with the applicable category and class rating for that night vision goggle training;

(2) If appropriate, has a type rating on his or her pilot certificate for the aircraft;

(3) Is pilot in command qualified for night vision goggle operations, in accordance with § 61.31(l);

(4) Has logged at least 100 night vision goggle operations as the sole manipulator of the controls;

(5) Has logged at least 20 night vision goggle operations as sole manipulator of the controls in the category and class, and type, if class and type is appropriate, of aircraft that the night vision goggle training will be given in;

(6) Is current and qualified to act as a pilot in command in night vision goggle operations under § 61.57(f) or (g); and

(7) Has a logbook endorsement from an FAA Aviation Safety Inspector or a person who is authorized by the Administrator to provide that logbook endorsement stating the flight instructor is authorized to perform the night vision goggle pilot in command qualification and recency requirements under § 61.31(l) and § 61.57(f) and (g).

PART 91---GENERAL OPERATING AND FLIGHT RULES

The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. app. 106(g); 40103, 40113, 40120, 44101, 44111, 44701, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46502, 46504, 46506, 46507, 47122, 47508, and 47528-47531.

(ROT 33)

91.9

91.9 Civil aircraft flight manual, marking, and placard requirements.

(a) Except as provided in paragraph (d), (e), (f) or (g) of this section, no person may operate a civil aircraft without complying with the operating limitations specified in the

approved Airplane or Rotorcraft Flight Manual, markings, and placards, or as otherwise prescribed by the certificating authority of the country of registry.

(b) No person may operate a U.S.-registered civil aircraft--

(1) For which an Airplane or Rotorcraft Flight Manual is required by Sec. 21.5 of this chapter unless there is available in the aircraft a current, approved Airplane or Rotorcraft Flight Manual or the manual provided for in Sec. 121.141(b); and

(2) For which an Airplane or Rotorcraft Flight Manual is not required by Sec. 21.5 of this chapter, unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

(c) No person may operate a U.S.-registered civil aircraft unless that aircraft is identified in accordance with part 45 of this chapter.

(d) Any person taking off or landing a helicopter at helidecks or vessels located over water may make such momentary flight as is necessary for takeoff or landing through the prohibited range of the limiting height-speed envelope established for the helicopter provided that in the event of an engine failure the aircraft will not create a hazard to persons or property on the surface. The helicopter must be amphibious or equipped with floats or other emergency flotation gear adequate to accomplish an emergency landing on open water.

(e) Any person taking off or landing a helicopter over land may make such momentary flight as is necessary for takeoff or landing through the prohibited range of the limiting height-speed envelope established for the helicopter if that flight through the prohibited range takes place over an area where, in the event of

an engine failure, the aircraft is able to land so as not to create a hazard to persons or property on the ground.

(ROT 33)

§ 91.103 Preflight action.

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC;

(b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing [Deleted] information:

(1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein;

(2) For civil rotorcraft with an approved Rotorcraft Flight Manual, the maximum gross weight specified in the RFM for hover in-ground-effect and hover out-of-ground-effect, when such operation is anticipated, with all engines operating at take-off power for the specific take-off and intended landing altitude, temperature, and wind conditions; and

(3) For civil aircraft other than those specified in paragraphs (b)(1) and (b)(2) of this section, other reliable information appropriate to the aircraft, relating to aircraft

performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature.

(FAA NOTE: What is recommendation document number?)

. Amend 14 CFR Part 91 by adding a new Section 91.156 to read as follows:

§91.156 VFR weather minimums for helicopters engaged in medical evacuation operations.

(a) Not withstanding §91.155 or §135.205 no person may operate a civil helicopter engaged in medical evacuation operations, in class G Airspace, under VFR when the flight visibility and/or ceiling is less than that prescribed in the table below:

	IFR certified aircraft and IFR current and qualified crew Ceiling / Visibility	**Non-IFR certified aircraft or IFR current and qualified crew Ceiling / Visibility**
DAY-LOCAL	500/1	500/2
DAY-CROSS-COUNTRY	1000/1 or 800/2	1000/2 or 800/3
NIGHT-LOCAL	800/2	800/3

NIGHT-CROSS-COUNTRY	1000/3	1000/3

The local flying area may not exceed an area within a circle circumscribed with a radius of 100 nm from the base of operations. Any flight outside a local flying area is a cross-country operation. Each person desiring to operate under the local visibility minimums prescribed in this section shall provide to the Administrator information sufficient to determine its base of operations.

(b) No person may operate a civil helicopter engaged in medical evacuation operations, within the surface areas of Class B, C, D, or E airspace, under VFR, when the flight visibility is less, or at a distance from the clouds that is less than that prescribed in section 91.155 (a) of this part.

(c) For purposes of this section, a civil helicopter includes a helicopter operated by a government agency but not engaged in a governmental function.

(ROT 14)

91.175

(c) Operation below DH or MDA. Where a DH or MDA is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA or continue an approach below the authorized DH unless -

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under part 121 or part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing, or for rotorcraft and powered lift the point of intended landing;

(FAA NOTE: What is recommendation document number?)

Amend 14 CFR §91.205 by adding a new subparagraph (c)(7) to read as follows:

§91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

§91.205 (c) *Visual flight rules (night)*

* * * * *

(7) No later than December 31, 2006, if the aircraft is a civil helicopter engaged in medical evacuation, one radio altimeter. For purposes of this section, a civil helicopter includes a helicopter operated by a government agency but not engaged in a governmental function.

(AER 5)

Amend § 91.205 by adding a new paragraph (i) to read as follows:

§91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

* * * * *

(h) Night vision goggle flight rules. For night vision goggle flight operations, the following instruments and equipment are required to be installed in the aircraft, are required to be functioning in a normal manner, and must be approved for use by the Administrator:

(1) Instruments and equipment specified in paragraph (b) of this section, and, for night flight, instruments and equipment specified in paragraph (c) of this section;

(2) Night vision goggles;

(3) Interior and exterior aircraft lighting system required for use for night vision goggle flight operations;

(4) Two-way radio communications system;

(5) Gyroscopic pitch and bank indicator (artificial horizon); and

(6) Generator or alternator of adequate capacity for the required instruments and equipment.

(EQU 19)

§ 91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

§ 91.205 (d) (2) Two-way ~~radio~~ communications system and navigational equipment appropriate to the ~~ground~~ facilities to be used.

(OPS 28)

91.205 (h)

Exclusions. The pyrotechnic signaling device required by paragraph (b)(12) does not apply to large airplanes of U.S. registry operated under IFR or turbojet powered multiengine civil airplanes of U.S. registry operated under IFR. Paragraphs (f) and (g) of this section do not apply to operations conducted by a holder of a certificate issued under part 121 or part 135 of this chapter.

(OPS 26)

91.207

91.207(e)(2)

(2) Ferry an airplane with an inoperative emergency locator transmitter, or with no emergency locator transmitter installed, from a place where repairs or replacements cannot be made to a place where they can be made.

(EQU 21)

91.411

Within 14 CFR part 91, § 91.411(a)(2) - remove *"and F"* and change "*appendices*" to "appendix", thus eliminating the onerous and inappropriate requirement.

(AWG 10)

91.413 (c)

Amend 91.413(c) by adding a new subparagraph (4) which reads as follows:

(4) A holder of a maintenance program as provided in §135.411(a)(1) of this chapter with an approved inspection procedure in its manual to perform those functions.

(APP 42)

§ 91.501 Applicability.

(a) This subpart prescribes operating rules, in addition to those prescribed in other subparts of this part, governing the operation of large airplanes of U.S. registry, turbojet-powered multiengine civil airplanes of U.S. registry, and fractional ownership program aircraft of U.S. registry that are operating under subpart K of this part in operations not involving common carriage. Small aircraft and helicopters may also be operated under the rules in this subpart to the extent permitted by, and so long as the operators comply with, the additional provisions in paragraph (e) of this section. The operating rules in this subpart do not apply to those aircraft when they are required to be operated under parts 121, 125, 129, 135, and 137 of this chapter. (Section 91.409 prescribes an inspection program for large and for turbine-powered (turbojet and turboprop) multiengine airplanes and turbine-powered rotorcraft of U.S. registry when they are operated under this part or part 129 or 137.)

* * * * *

(e) Small civil airplanes and helicopters may operate under the rules of sections 91.503 through 91.535 and select an inspection program as described in section 91.409(f), subject to the following conditions and limitations:

(1) Only those operations that are listed in section 91.501(b)(1) through (7) and (9) [through (12)] may be conducted under the authority of this section. Those operations must be conducted in compliance with the operating rules in sections 91.503 through 91.535; provided, however, helicopter operations are not required to comply with the flight altitude rules of section 91.515(a), provided the operations comply with the minimum safe altitude requirements in section 91.119. Aircraft operated under the authority of this subpart must use an inspection program listed in section 91.409(f).

(2) No person may operate a small airplane or helicopter under the authority of this section unless the appropriate Flight Standards District Office has been: (a) notified that the operation will be conducted under the terms of this section; and (b) where applicable, provided with a copy of the time sharing, interchange, or joint-ownership agreement each aircraft is being operated under. Each agreement must include the aircraft registration number of each aircraft involved.

(3) No person may operate an aircraft under this exemption unless an entry is made in the aircraft logbook showing the provisions of this subpart under with it is being operated.

(4) No person may operate an aircraft under the authority of this section unless an inspection program has been submitted to and approved by the appropriate Flight Standards District Office.

(APP 41)

§ 91.501 Applicability.

* * * * *

(b) Operations that may be conducted under the rules in this subpart instead of those in parts 121, 129, 135, and 137 of this chapter when common carriage is not involved, include -

* * * * *

(5) Except as otherwise permitted by paragraph (b)(11) or paragraph (b)(12) of this section, carriage of officials, employees, guests, and property of a company on an airplane operated by that company, or the parent or a subsidiary of the company or a subsidiary of the parent, when the carriage is within the scope of, and incidental to, the business of the company (other than transportation by air) and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the airplane, except that no charge of any kind may be made for the carriage of a guest of a company, when the carriage is not within the scope of, and incidental to, the business of that company;

* * * * *

(11) Carriage of the officials, employees, guests, and property of a business flight department entity and its affiliated entities when the flight department entity is formed solely or primarily to operate aircraft for itself or for its affiliated entities, and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. Such business flight department entity may not conduct flights under either joint ownership arrangements or interchange agreements under (b)(6) of this section, and may only conduct flights under time sharing agreements under (b)(6) of this section when the person leasing the aircraft is an official, executive or employee of the flight department entity or an affiliated entity. For the purposes of this subsection an affiliated entity means the parent or a subsidiary of the business flight department entity or a subsidiary of the parent where the parent owns at least seventy-five percent of the business flight department entity and each other subsidiary, or the business flight department entity owns at least seventy-five percent of each of its subsidiaries, and such use is limited to first-tier subsidiaries of either the business flight department entity or its parent; provided, however, that the officials, employees, guests and property of a second entity that is a direct owner of at least twenty-five percent of the business flight department entity, and of up to two first-tier entities in which the second entity is either eighty percent owned by or is the eighty percent owner of said parent or subsidiary, may be carried by a business flight department entity under this subsection as long as no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft and the percentage of such use does not exceed the

equivalent percentage of the second entity's ownership of the business flight department entity; and

(12) Carriage of persons or property by a personal entity when that personal flight department entity is formed solely or primarily to operate aircraft for the benefit of individual family members of the personal flight department entity's owner or owners (or in the case of a trust, for the benefit of the beneficiaries of the trust), and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the aircraft. For the purposes of this subsection, such personal flight department entities can be formed or owned by up to four natural persons, or up to four entities established for the benefit of natural persons under applicable state law for the management of their personal assets (such as family trusts, family partnerships, etc.). Such personal flight department entities may not conduct flights under joint ownership arrangements, interchange agreements or time sharing agreements under (b)(6) of this section.

(OPS 80)

§91.513(c)(3)

At least one hand fire extinguisher must be conveniently located in the passenger compartment of each aircraft having a passenger seating configuration, excluding any pilot seat, of at least 10 seats but less than 31 seats, and at least two hand fire extinguishers must be conveniently located in the passenger compartment of each aircraft having a passenger seating configuration, excluding any pilot seat, of more than 30 seats.

(ROT 33)

91.605

Sec. 91.605

Transport category civil aircraft weight limitations.

(a) No person may take off any transport category airplane (other than a turbine-engine-powered airplane certificated after September 30, 1958) unless--

(1) The takeoff weight does not exceed the authorized maximum takeoff weight for the elevation of the airport of takeoff;

(2) The elevation of the airport of takeoff is within the altitude range for which maximum takeoff weights have been determined;

(3) Normal consumption of fuel and oil in flight to the airport of intended landing will leave a weight on arrival not in excess of the authorized maximum landing weight for the elevation of that airport; and

(4) The elevations of the airport of intended landing and of all specified alternate airports are within the altitude range for which the maximum landing weights have been determined.

(b) No person may operate a turbine-engine-powered transport category airplane certificated after September 30, 1958, contrary to the Airplane Flight Manual, or take off that airplane unless--

(1) The takeoff weight does not exceed the takeoff weight specified in the Airplane Flight Manual for the elevation of the airport and for the ambient temperature existing at the time of takeoff;

(2) Normal consumption of fuel and oil in flight to the airport of intended landing and to the alternate airports will leave a weight on arrival not in excess of the landing weight specified in the Airplane Flight Manual for the elevation of each of the airports involved and for the ambient temperatures expected at the time of landing;

(3) The takeoff weight does not exceed the weight shown in the Airplane Flight Manual to correspond with the minimum distances required for takeoff considering the elevation of the airport, the runway to be used, the effective runway gradient, and the ambient temperature and wind component existing at the time of takeoff; and

(4) Where the takeoff distance includes a clearway, the clearway distance is not greater than one-half of --

(i) The takeoff run, in the case of airplanes certificated after September 30, 1958, and before August 30, 1959; or

(ii) The runway length, in the case of airplanes certificated after August 29, 1959.

(c) No person may take off a turbine-engine-powered transport category airplane certificated after August 29, 1959, unless, in addition to the requirements of paragraph (b) of this section --

(1) The accelerate-stop distance is no greater than the length of the runway plus the length of the stopway (if present); and

(2) The takeoff distance is no greater than the length of the runway plus the length of the clearway (if present); and

(3) The takeoff run is no greater than the length of the runway.

……(d) No person may operate a transport category helicopter unless the following requirements are complied with—

(1) For helicopters configured with 9 or less passenger seats;

(a) On take-off, the gross weight of the helicopter shall not exceed the maximum gross weight specified in the RFM for hover in-ground-effect with all engines operating at take-off power for the specific take-off altitude, temperature, and wind conditions.

(b) On landing, the gross weight of the helicopter shall not exceed the maximum gross weight specified in the RFM for hover in-ground-effect with all engines operating at take-off power for the specific landing altitude, temperature, and wind conditions.

(c) If HOGE operations are intended or when HOGE conditions are expected during takeoff or landing, the gross weight shall not exceed the maximum gross weight specified in the RFM for hover out-of-ground-effect with all engines operating at take-off power for the specific altitude, temperature, and wind conditions.

(2) For those helicopters configured with 10-19 passenger seats;

(a) The weight limits specified in (1)(a),(b), and (c) apply, and in addition;

(b) The gross weight of the helicopter at take-off shall not exceed the maximum gross weight specified in the RFM for a rate of climb of 150 ft/min. at 1000 feet above the take-off surface with the critical engine inoperative and the remaining engine operating at 30 minute or maximum continuous one-engine-inoperative (OEI) power for the specific take-off altitude and temperature.

(c) The gross weight of the helicopter on landing shall not exceed the maximum gross weight specified in the RFM for a rate of climb of 150 ft/min. at 1000 feet above the landing surface with the critical engine inoperative and the remaining engine operating at 30 minute or maximum continuous one-engine-inoperative (OEI) power for the specific landing altitude and temperature**.**

(d) Notwithstanding, (2) (b) and (c), a helicopter type certificated before 1982 may be operated at a weight that will allow it to climb, one engine inoperative, at least 50 feet per minute at an altitude of 1,000 feet above the surface using maximum continuous or 30 minute OEI power until June 30, 2009.

(3) For helicopters configured with 20 or more passenger seats unless;

(a) The helicopter is Type Certified as Category A and;

(b) The gross weight of the helicopter at take-off does not exceed the maximum gross weight, for the take-off altitude and temperature, such that in the event of engine failure recognized at or before the take-off decision point, the helicopter is able to land within the rejected takeoff distance available or, in the event of the engine failure recognized after the take-off decision point, to continue the takeoff, clear all obstacles, and meet the climb requirements of 2(b) above.

(c) The helicopter should be able, in the event of an engine failure while enroute, continue to the intended destination or alternate without flying below applicable minimum flight altitudes.

(d) The gross weight of the helicopter on landing does not exceed the maximum gross weight, for the landing altitude and temperature, such that in the event of engine failure recognized at or before the landing decision point, the helicopter is able to land within the landing distance available or to perform a balked landing, clear all obstacles and, meet the climb requirements of (2)(c) above. In the case of an engine failure occurring after the landing decision point, the helicopter should be able to land and stop within the landing distance available

(4) Notwithstanding, (D)(2) and (D)(3), when conducting operations without passengers, the requirements of (D)(1) may be utilized.

(e) No person may operate a helicopter carrying passengers over water unless it is amphibious or equipped with emergency floatation devices or --

(1) It is operated at an altitude that allows it to reach land in the case of engine

failure; or

(2) It is necessary for takeoff or landing from helidecks or vessels located on or near land where the initial takeoff or landing approach is over water; or

(3) It is a multiengine helicopter operated at a weight that will allow it to climb, with the critical engine inoperative, at least 50 feet per minute, at an altitude of 1,000 feet above the surface.

(f) Except for helidecks or vessels constructed on or near land (as provided in 91.605(e),(2)) no person may take off or land a helicopter to/from a helideck or vessel located over water unless the aircraft is amphibious or equipped with floats or other emergency floatation gear adequate to accomplish a safe emergency landing on open water.

(EQU 17)

14 CFR 91.609, Flight Recorders, ~~and~~ Cockpit Voice Recorders and Combination Recorders

§ 91.609 Flight recorders ~~and~~ cockpit voice recorders and Combination Recorders.

Add (h) as follows:

(h) Where a flight data recorder and/or a cockpit voice recorder are required by the operating rules of this chapter for rotorcraft, a combination recorder may be used.

(EQU 19)

91.711 Special rules for foreign civil aircraft.

§ 91.711 (c) (3) At least one crewmember of that aircraft is able to conduct two-way ~~radio telephone~~ communications in the English language and that crewmember is on duty while the aircraft is approaching, operating within, or leaving the United States.

PART 119 – CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS

(APP 16)

Amend Section 119.1 by redesignating paragraphs (e)(4) through (10) as (e)(5) through (11) and adding new paragraph (e)(4) as follows:

§119.1 Applicability

***

(e) ***

(4) Positioning flights by operators holding air ambulance operations specifications, when only flightcrew members or assigned medical personnel, are on board, if:

(i) The medical personnel are assigned to provide medical care during a previous or subsequent flight segment(s), and

(ii) The medical personnel are qualified in accordance with the certificate holder's approved flightcrew and medical personnel coordination training program. The flightcrew and medical personnel coordination training program must include physiological

aspects of flight, patient loading and unloading, safety in and around the aircraft, passenger briefing, appropriate inflight emergency procedures, emergency landing procedures, and emergency evacuation procedures.

FAA Note: See text for APP 12 and APP 20—review

(APP 12 version)

119.3

That the definitions of “scheduled operation” and “on-demand operation” contained in section 119.3 be amended as follows:

"Scheduled operation" means any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the certificate holder or its representative offers in advance the departure location, departure time, and arrival location. It does not include any passenger-carrying operation that is conducted as a public charter operation under part 380 of this title *as long as that operation is conducted (a) under part 121, (b) under the commuter rules of part 135 or (c) under the on-demand rules of part 135 with a frequency of operations of less than five round trips a week over each route between two or more points.*

"On-demand operation" means any operation for compensation or hire that is one of the following:

(1) Passenger-carrying operations conducted as a public charter under part 380 of this title *with a frequency of operations of less than five round trips a week over each route between two or more points,* or any operations in which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative that are any of the following types of operations:

(i) Common carriage operations conducted with airplanes, including turbojet-powered airplanes, having a passenger-seat configuration of 30 seats or fewer, excluding each crewmember seat, and a payload capacity of 7,500 pounds or less, except that operations using a specific airplane that is also used in domestic or flag operations and that is so listed in the operations specifications as required by § 119.49(a)(4) for those operations are considered supplemental operations;

(ii) Noncommon or private carriage operations conducted with airplanes having a passenger-seat configuration of less than 20 seats, excluding each crewmember seat, and a payload capacity of less than 6,000 pounds; or

(iii) Any rotorcraft operation.

(2) Scheduled passenger-carrying operations conducted with one of the following types of aircraft with a frequency of operations of less than five round trips per week over each route between two or more points according to the published flight schedules:

(i) Airplanes~~, other than turbojet powered airplanes,~~ having a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds or less; or

(ii) Rotorcraft.

(3) All-cargo operations conducted with airplanes having a payload capacity of 7,500 pounds or less, or with rotorcraft.

(APP 20 version)

119.3

Commuter operation means any scheduled operation conducted by any person operating one of the following types of aircraft with a frequency of operations of at least five round trips per week on at least one route between two or more points according to the published flight schedules:

(1)Airplanes~~, other than turbojet powered airplanes,~~ having a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds or less; or

(2) Rotorcraft.

Domestic operation means any scheduled operation conducted by any person operating any airplane described in paragraph (1) of this definition at locations described in paragraph (2) of this definition:

(1) Airplanes:

~~(i) Turbojet-powered airplanes;~~

(i) ~~(ii)~~ Airplanes having a passenger-seat configuration of more than 9 passenger seats, excluding each crewmember seat; or

(ii) ~~(iii)~~ Airplanes having a payload capacity of more than 7,500 pounds.

(2) Locations:

(i) Between any points within the 48 contiguous States of the United States or the District of Columbia; or

(ii) Operations solely within the 48 contiguous States of the United States or the District of Columbia; or

(iii) Operations entirely within any State, territory, or possession of the United States; or

(iv) When specifically authorized by the Administrator, operations between any point within the 48 contiguous States of the United States or the District of Columbia and any specifically authorized point located outside the 48 contiguous States of the United States or the District of Columbia.

Flag operation means any scheduled operation conducted by any person operating any airplane described in paragraph (1) of this definition at the locations described in paragraph (2) of this definition:

(1) Airplanes:

~~(i) Turbojet-powered airplanes;~~

(i) ~~(ii)~~ Airplanes having a passenger-seat configuration of more than 9 passenger seats, excluding each crewmember seat; or

(ii) ~~(iii)~~ Airplanes having a payload capacity of more than 7,500 pounds.

(2) Locations:

(i) Between any point within the State of Alaska or the State of Hawaii or any territory or possession of the United States and any point outside the State of Alaska or the State of Hawaii or any territory or possession of the United States, respectively; or

(ii) Between any point within the 48 contiguous States of the United States or the District of Columbia and any point outside the 48 contiguous States of the United States and the District of Columbia.

(iii) Between any point outside the U.S. and another point outside the U.S.

On-demand operation means any operation for compensation or hire that is one of the following:

(1) Passenger-carrying operations conducted as a public charter under part 380 of this title with a frequency of operations of less than five round trips a week over each route between two or more points, or any operations in which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative that are any of the following types of operations:

(i) Common carriage operations conducted with airplanes, including turbojet-powered airplanes, having a passenger-seat configuration of 30 seats or fewer, excluding each crewmember seat, and a payload capacity of 7,500 pounds or less, except that operations using a specific airplane that is also used in domestic or flag operations and that is so listed in the

operations specifications as required by § 119.49(a)(4) for those operations are considered supplemental operations;

(ii) Noncommon or private carriage operations conducted with airplanes having a passenger-seat configuration of less than 20 seats, excluding each crewmember seat, and a payload capacity of less than 6,000 pounds; or

(iii) Any rotorcraft operation.

(2) Scheduled passenger-carrying operations conducted with one of the following types of aircraft with a frequency of operations of less than five round trips per week over each route between two or more points according to the published flight schedules:

(i) Airplanes~~, other than turbojet powered airplanes,~~ having a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds or less; or

(ii) Rotorcraft.

(3) All-cargo operations conducted with airplanes having a payload capacity of 7,500 pounds or less, or with rotorcraft.

Amend §119.3(a) as follows:

"(d) Strike "*Noncommon Carriage*" and substitute "*Private Carriage for Hire*" in subparagraph (1) of the definition of "*When common carriage is not involved or operations not involving common carriage.*"

"(e) Re-title "*Noncommon carriage*" in §119.3(a) to read "*Private Carriage for hire*" and define "*Private Carriage for hire*" to mean ". . . an aircraft operation carrying passengers or cargo or both for compensation or hire that does not involve, directly or indirectly, a holding out to the public to furnish transportation."

(APP 20)

119.21(a)(4) Commercial operators engaged in intrastate common carriage and direct air carriers.

Commuter operations in accordance with the applicable requirements of part 135 of this chapter, and shall be issued operations specifications for those operations in accordance with those requirements. *Commuter operations using turbojet aircraft, except those conducted solely within the state of Alaska, shall comply with part 121 Domestic or Flag dispatch and operational control requirements as stated in part 135 subpart K as appropriate. Commuter operations using other than turbojet aircraft, and those conducting commuter operations in turbojet aircraft solely within the state of Alaska, require an approved dispatch function appropriate to the size and number of aircraft and the scope and frequency of operations.*

(OPS 53)

§119.43(a)

Each certificate holder shall maintain in printed or electronic form, a complete set of its operations specifications at its principal base of operations or at another location acceptable to the Administrator.

(EQU 2)

121.345

Amend section 121.345(c) to read as follows:

(c) ATC transponder equipment installed after January 1, 1992, must meet the performance and environmental requirements of the following TSOs:

(1) For aircraft not required to be equipped with an approved TCAS II traffic alert and collision avoidance system pursuant to §121.356, any class of TSO-C74b or TSO-C74c, as appropriate, or the appropriate class of TSO-C112 (Mode S).

(2) For aircraft required to be equipped with an approved TCAS II traffic alert and collision avoidance system pursuant to §121.356, the appropriate class of TSO-C112 (Mode S).

(OPS 42)

Part 121, Appendix I

III. Employees Who Must be Tested. Each employee, including any assistant, helper, or individual in a training status, who performs a safety-sensitive function listed in this section directly or by contract for an employer as defined in this appendix must be subject to drug testing under an antidrug program implemented in accordance with this

appendix. This includes full-time, part-time, temporary, and intermittent employees regardless of the degree of supervision. The safety-sensitive functions are:

A. Flight crewmember duties.

B. Flight attendant duties.

C. Flight instruction duties.

D. Aircraft dispatcher duties.

E. Aircraft maintenance and preventive maintenance duties.

F. Ground security coordinator duties.

G. Aviation screening duties.

H. Air traffic control duties.

I. Cabin safety crewmember duties.

Part 121, Appendix J

II. Covered Employees

A. Each employee, including any assistant, helper, or individual in a training status, who performs a safety-sensitive function listed in this section directly or by contract for an employer as defined in this appendix must be subject to alcohol testing under an alcohol misuse prevention program implemented in accordance with this appendix. This not only includes full-time and part-time employees, but temporary and intermittent employees regardless of the degree of supervision. The safety-sensitive functions are:

1. Flight crewmember duties.

2. Flight attendant duties.

3. Flight instruction duties.

4. Aircraft dispatcher duties.

5. Aircraft maintenance or preventive maintenance duties.

6. Ground security coordinator duties.

7. Aviation screening duties.

8. Air traffic control duties.

9. Cabin safety crewmember duties.

(APP 39 A)

Revise the title of Part 125 to read as follows:

"Part 125—Private Carriage for Hire and Miscellaneous Amendments: Certification and Operations of Airplanes having a Seating Capacity of 20 or more Passengers or a Maximum Payload Capacity of 6,000 pounds or more and Rules to Governing Persons on Board Such Aircraft"

Amend §125.1 by striking "when common carriage is not involved" and inserting "in private carriage for hire and private carriage of petroleum and petroleum products in the State of Alaska."

(APP 39B)

"Paragraph (b) (5) of section 125.1 shall be deleted."

Strike ~~§125.1(a)(4)~~ 125.1(b)(5) (Technical Correction to paragraph reference based on June 30 E-mail from Garofalo) and substitute "[Reserved]"

(APP 39A)

Amend §125.9 by adding the following Paragraph (e) at the end thereof:

"(e) For purposes of this part

(1) "*Private carriage for hire*" shall have the same meaning as defined in [new] §119.3(a).

(2) A "*holding out by reputation*" means gaining a reputation for a willingness to serve the traveling or shipping public, or a segment thereof, on an indiscriminate basis.

(3) An "*affiliate of the certificate holder*" means a company that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or under common control with, the certificate holder. The holding of at least forty percent (40%) of the equity and forty percent (40%) of the voting power of an entity will be presumed to constitute control for purposes of determining an affiliation under this Part.

(4) "*Revenue hour*" shall mean hours when revenue passenger and/or revenue cargo are on board. Hours associated with ferry flights, positioning flights, de-positioning flights and maintenance flights when no revenue passengers are on board are not "revenue hours."

(APP 39A)

Amend paragraph (b) of §125.11 to read as follows:

"(b) Except as provided in §125.1(b) or as otherwise authorized under §125.3, a certificate holder may not conduct any operation under the rules of this part other than private carriage for hire. A certificate holder is not conducting private carriage for hire operations if, for compensation or hire, it is holding out, directly or indirectly, to the public to furnish transportation indiscriminately."

Amend §125.11 to add a new paragraph (d) at the end thereof:

"(d) A certificate holder is "holding out directly or indirectly to the public to furnish transportation indiscriminately" if—

(1) It is advertising its transportation services to the public or is actively soliciting passengers or cargo customers through its own salesperson(s) or through a broker or other intermediary which

itself is advertising and soliciting passenger or cargo traffic from the public, *provided that*, a certificate holder may do business with a broker or other intermediary if (i) such broker or intermediary acts as an agent for the customer; (ii) the certificate holder contracts directly with the customer or with the agent having authority to sign contracts on behalf of the customer, and (iii) the number of contracts do not result in a holding out by reputation under subparagraph (2).

(2) It is holding out by reputation, *provided that* a certificate holder shall not be deemed to be holding out by reputation under this subparagraph if—

(i) Within any calendar year period it has entered into not more than four (4) transportation contracts, *provided that* the maximum number of revenue hours relating to such contracts, in the aggregate, shall not exceed 300, and *provided further* that no revenue hour limitation shall apply to transportation contracts with not more than three (3) affiliates of the certificate holder or to contracts for the transportation of petroleum and petroleum products in the State of Alaska on a private carriage for hire basis, or

(ii) Within any calendar year it has entered into not more than one (1) transportation contract with a specific passenger or cargo customer in which case no revenue hour limitation shall apply.

(APP 39B)

125.25

Paragraph (a) of section 125.25 shall be amended by inserting "and director of maintenance" between "director of operations" and the ",".

(APP 39A)

Amend Paragraph (b) of §125.31 by re-designating subparagraph (6) as subparagraph (7) and adding a new paragraph (6) to read as follows:

"(6) A list of the current contract or contracts subject to (i) the 300 revenue hour limitation in [new] §125.11(d)(2)(i), (ii) the single customer limitation in §125.11(d)(2)(ii), and (iii) the three (3) contract limitation for contracts with an affiliate of the certificate holder in §125.11(d)(2)(i), *provided that* the certificate holder may keep the current list of contracts at its principal base of operation or other location approved by the Administrator and referenced in its operations specifications. Each certificate holder shall make this list of contracts and the contracts themselves available for inspection by the Administrator.

(EQU 19)

Index

Subpart F—Instrument and Equipment Requirements

§ 125.203 ~~Radio~~ **Communication** and navigational equipment

(EQU 19)

Subpart A—General

§ 125.49 Airport requirements.

(b) (1) That pilot has determined the wind direction from an illuminated wind direction indicator or local ~~ground~~ communications, or, in the case of takeoff, that pilot's personal observations; and

(EQU 19)

§ 125.51 En route navigational facilities.

(a) Except as provided in paragraph (b) of this section, no certificate holder may conduct any operation over a route unless nonvisual ~~ground~~ aids are—

(1) Available over the route for navigating airplanes within the degree of accuracy required for ATC; and

(2) Located to allow navigation to any airport of destination, or alternate airport, within the degree of accuracy necessary for the operation involved.

(b) Nonvisual ~~ground~~ aids are not required for—

(1) Day VFR operations that can be conducted safely by pilotage because of the characteristics of the terrain;

(2) Night VFR operations on routes that the Administrator determines have reliable landmarks adequate for safe operation; or

(3) Operations where the use of celestial or other specialized means of navigation, such as an inertial navigation system, is approved.

(EQU 19)

§ 125.53 Flight locating requirements.

(a) (3) Provide the certificate holder with the location, date, and estimated time for reestablishing ~~radio or telephone~~ communications, if the flight will operate in an area where communications cannot be maintained.

(APP 39B)

125.55

Adopt a new section 125.55 which will incorporate and restate in this new section, the provisions of section 121.538.

(EQU 19)

§ 125.203 ~~Radio~~ **Communication** and navigational equipment.

(a) No person may operate an airplane unless it has two-way ~~radio~~ communications equipment able, at least in flight, to transmit to, and receive from, ~~ground~~ **appropriate** facilities **within a** 25 miles ~~away~~ **range**.

(b) No person may operate an airplane over-the-top unless it has ~~radio~~ navigational equipment able to receive ~~radio~~ signals from the ~~ground facilities to be~~ **transmitter being** used.

(c) Except as provided in paragraph (e) of this section, no person may operate an airplane carrying passengers under IFR or in extended overwater operations unless it has at least the following ~~radio~~ communication and navigational equipment appropriate to the facilities to be used which are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ~~ground~~ facility:

(e) Notwithstanding the requirements of paragraph (c) of this section, installation and use of a single long-range navigation system and a single long-range communication system for extended overwater operations in certain geographic areas may be authorized by the Administrator and approved in the certificate holder's operations specifications. The following are among the operational factors the Administrator may consider in granting an authorization:

(3) The duration of the ~~very high frequency~~ communications gap.

(APP 39B)

125.209

Adopt a new section 125.209, which will incorporate and restate in this new section, the provisions of section 121.339.

(APP 39B)

125.210

Adopt a new section 125.210, entitled “Emergency Floatation Means”, which will incorporate and restate in this new section the provisions of section 121.340, except the reference to “section 121.339 (a)(1)” shall read: “section 125.209 (a)(1).”

(EQU 19)

§ 125.225 Flight recorders.

(a) Except as provided in paragraph (d) of this section, after October 11, 1991, no person may operate a large airplane type certificated before October 1, 1969, for operations above 25,000 feet altitude, nor a multiengine, turbine powered airplane type certificated before October 1, 1969, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The following information must be able to be determined within the ranges, accuracies, resolution, and recording intervals specified in appendix D of this part:

(6) Time of each ~~radio transmission to or from~~ **voice communication with** air traffic control;

(b) Except as provided in paragraph (d) of this section, after October 11, 1991, no person may operate a large airplane type certificated after September 30, 1969, for operations above 25,000 feet altitude, nor a multiengine, turbine powered airplane type certificated after September 30, 1969, unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The following information must be able to be determined within the ranges, accuracies, resolutions, and recording intervals specified in appendix D of this part:

(6) Time of each ~~radio transmission either~~ **voice communication** to or from air traffic control;

(EQU 19)

§ 125.226 Digital flight data recorders.

(a) Except as provided in paragraph (l) of this section, no person may operate under this part a turbine-engine-powered transport category airplane unless it is equipped with one or more approved flight recorders that use a digital method of recording and storing data and a method of readily retrieving that data from the storage medium. The operational parameters required to be recorded by digital flight data recorders required by this section are as follows: the phrase “when an information source is installed” following a parameter indicates that recording of that parameter is not intended to require a change in installed equipment:

(8) Manual radio transmitter keying **for voice communication initiation**, or CVR/DFDR synchronization reference;

(APP 39B)

125.229

Add new section 125.229 which will incorporate and restate in this new section, the provisions of section 135.157.

(APP 39B)

125.284

Add a new section 125.284 to incorporate and restate in this new section 125.284 the provisions of section 135.244, except that (i) the reference to paragraph (a) to "commuter operations" and "Part 119" and (ii paragraph (b) (2) shall be deleted, and the reference to "a qualified check pilot" in paragraph (b) (3) shall be changed to "current and qualified pilot in command".

(APP 39B)

125.287

Substitute section 135.293—Initial and Recurrent Pilot Testing Requirements-- for section 125.287;

(APP 39B)

125.291

Substitute section 135.297 – Pilot in Command Instrument Proficiency Check required--for section 125.291. Also amend section 125.291 by adding a paragraph (h) to permit acceptance of instrument proficiency checks in the same aircraft type under Parts 135 and 121 as fulfilling instrument proficiency checks under section 125.291.

(APP 39B)

125.299

In lieu of drug and alcohol testing, the AWG recommends incorporating and restating in a new section 125.299, the drug and alcohol misuse education program provisions of section 91.1047.

(APP 39B)

125.307

Adopt a new section 125.307, which will incorporate and restate in this new section, the provisions of section 135.77, except change the reference to “section 135.21” to “section 125.73(a).”

(APP 39B) Flight, Duty and Rest

125.XXX

Incorporate the provisions of 135.267 & 135.269 as applicable for flight crew members and 135.273 (a), (b) as applicable for flight attendants.

(APP 39B)

125.309

Adopt a new section 125.309, which will incorporate and restate in this new section the provisions of section 121.542.

NOTE 1: THE FOLLOWING CLARIFICATION WAS PROVIDED BY ALPA TO BETTER CLARIFY THE REGULATORY REFERENCE.:

Subpart M of Part 121 (.381 to .387) deals with the flight crewmember requirements.[…] I'm not sure which of the Para's in this section is being referenced for the text. Without the details, I would think 121.385 is what you're looking for.

(EQU 19)

§ 125.319 Emergencies.

(c) Whenever emergency authority is exercised, the pilot in command or the appropriate management personnel shall keep the appropriate ~~ground radio station~~ **facility** fully informed of the progress of the flight. The person declaring the emergency shall send a written report of any deviation, through the operator's director of operations, to the Administrator within 10 days, exclusive of Saturdays, Sundays, and Federal holidays, after the flight is completed or, in the case of operations outside the United States, upon return to the home base.

(EQU 19)

§ 125.321 Reporting potentially hazardous meteorological conditions and irregularities of ground and navigation facilities.

Whenever the pilot in command encounters a meteorological condition or an irregularity in a ground or navigational facility in flight, the knowledge of which the pilot in command considers essential to the safety of other flights, the pilot in command shall notify an appropriate ~~ground~~ station as soon as practicable.

(APP 39B)

For crewmembers, add a new section 125.335, "Pilot Requirements: Use of Oxygen", which will include the content of section 135.89 and the amendments proposed in Ops 27.

(APP 39B)

125.361

Amend section 125.361 by striking "Except as provided in section 125.363" and inserting "Except as provided in paragraph (b) below and section 125.363." Add a new paragraph (b) which will incorporate and restate in that paragraph the provisions of paragraph (a) (1) and (b) of 91.1039.

(APP 39B)

125.402

Adopt a new 125.402 to read as follows:

"the contracts referred to in section 125.31(b)(6) shall be retained for 12 calendar months after the current calendar year".

(APP 39B)

125 Subpart M

Add a new Subpart M in Part 125 to incorporate and restate the substance of Subpart H of Part 135. The AWG reserves the right to review the recommendations of the Training Work Group in this area.

PART 135 – OPERATING REQUIREMENTS: COMMUTER AND ON-DEMAND OPERATIONS AND RULES GOVERNING PERSONS ON BOARD SUCH AIRCRAFT

11. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 106(G), 40113, 44701-44702, 44705, 44709, 44711-44713, 44715-44713, 44715-44717, 44722.

(EQU 19)

Index

§ 135.161 ~~Radio~~ **Communication** and navigational equipment: Carrying passengers under VFR at night or under VFR over-the-top.

§ 135.165 ~~Radio~~ **Communication** and navigational equipment: Extended overwater or IFR operations.

(ROT 25)

In section 135.1, amend the opening sentence of paragraph (a) to read as follows:

135.1 Applicability.

(a) This part prescribes rules, in addition to those in Part 91, governing * * *

(ROT 25)

In section 135.3, amend paragraph (a) to read as follows:

135.3 Rules applicable to operations subject to this part.

(a) Each person operating an aircraft in operations under this part shall -

(1) While operating inside the United States, comply with the applicable rules of this chapter (Title 14 - Code of Federal Regulations, Aeronautics and Space Chapter I - Federal Aviation Administration, Department of Transportation, Parts 1 through 199); and

(2) While operating outside the United States, comply with Annex 2, Rules of the Air, to the Convention on International Civil Aviation or the regulations of any foreign country, whichever applies, and with any rules of parts 61 and 91 of this chapter and this part that are more restrictive than that Annex or those regulations and that can be

complied with without violating that Annex or those regulations. Annex 2 is incorporated by reference in § 91.703(b) of this chapter.

* * * * *

(AER 6)

135.4

In section 135.4, amend paragraph (a) to read as follows, redesignate paragraph (c) as (d) and add new paragraph (c) as follows:

§ 135.4 Applicability of rules for eligible on-demand operations.

(a) An "eligible on-demand operation" is an on-demand operation conducted under this part that meets the following requirements:

(1) Flightcrew.

(i) Airplane. The flightcrew must consist of at least two qualified pilots employed or contracted by the certificate holder.

(ii) Air ambulance – Helicopter. For certificate holders with air ambulance operations specifications, the flightcrew must consist of:

(A) At least two qualified pilots employed or contracted by the certificate holder, or

(B) One qualified pilot employed or contracted by the certificate holder provided the use of an approved autopilot in lieu of a second in command is authorized by the Administrator

(2) Flight crew experience. The crewmembers must have met the applicable requirements of part 61 of this chapter and have the following experience and

ratings:

(i) Total flight time for all pilots:

(A) Pilot in command--A minimum of 1,500 hours.

(B) Second in command--A minimum of 500 hours.

(C) Pilot in command (Air ambulance helicopter single pilot crew) - A minimum of 2000 hours including

1) at least 100 hours in actual or simulated instrument conditions and

2) at least 100 hours in aircraft make or model.

(ii) For multi-engine turbine-powered fixed-wing and powered-lift aircraft, the following FAA certification and ratings requirements:

(A) Pilot in command--Airline transport pilot and applicable type ratings.

(B) Second in command--Commercial pilot and instrument ratings.

(iii) For all other aircraft, the following FAA certification and rating requirements:

(A) Pilot in command--Commercial pilot and instrument ratings.

(B) Second in command--Commercial pilot and instrument ratings.

(3) Pilot operating limitations. If the second in command of a fixed-wing aircraft has fewer than 100 hours of flight time as second in command flying in the aircraft make and model and, if a type rating is required, in the type aircraft being flown, and the pilot in command is not an appropriately qualified check pilot, the pilot in command shall make all takeoffs and landings in any of the following situations:

(i) Landings at the destination airport when a Destination Airport Analysis is required by § 135.385(f); and

(ii) In any of the following conditions:

(A) The prevailing visibility for the airport is at or below 3/4 mile.

(B) The runway visual range for the runway to be used is at or below 4,000 feet.

(C) The runway to be used has water, snow, slush, ice, or similar contamination that may adversely affect aircraft performance.

(D) The braking action on the runway to be used is reported to be less than "good."

(E) The crosswind component for the runway to be used is in excess of 15 knots.

(F) Windshear is reported in the vicinity of the airport.

(G) Any other condition in which the pilot in command determines it to be prudent to exercise the pilot in command's authority.

(4) Crew pairing. Either the pilot in command or the second in command must have at least 75 hours of flight time in that aircraft make or model and, if a type rating is required, for that type aircraft, either as pilot in command or second in command.

(b) The Administrator may authorize deviations from paragraphs (a)(2)(i) or (a)(4) of this section if the Flight Standards District Office that issued the certificate holder's operations specifications finds that the crewmember has comparable experience, and can effectively perform the functions associated with the position in accordance with the requirements of this chapter. The Administrator may, at any time, terminate any grant of deviation authority issued under this paragraph. Grants of deviation under this paragraph may be granted after consideration of the size and scope of the operation, the qualifications of the intended personnel and the following circumstances:

(1) A newly authorized certificate holder does not employ any pilots who meet the minimum requirements of paragraphs (a)(2)(i) or (a)(4) of this section.

(2) An existing certificate holder adds to its fleet a new category and class aircraft not used before in its operation.

(3) An existing certificate holder establishes a new base to which it assigns pilots who will be required to become qualified on the aircraft operated from that base.

(c) The Administrator may authorize deviations from paragraphs (a)(1)(i) of this section for airplane operations by certificate holders with air ambulance operations specifications. Grants of deviation under this paragraph may be granted after consideration of the size and scope of the operation and a finding of the following qualifications of the intended personnel:

(1) Pilot in command - A minimum of 2000 hours including

i) at least 100 hours in actual or simulated instrument conditions, and

ii) at least 100 hours in aircraft make or model.

. (d) An eligible on-demand operation may comply with alternative requirements specified in § 135.225(b), 135.385(f), and 135.387(b) instead of the requirements that apply to other on-demand operations.

FAA Note: Which is the correct recommended rule language—believe both refer to AER 6 recommendation (see v 1 above, v 2 below)

§ 135.4 Applicability of rules for eligible on-demand operations.

(a) ***

(1) Flightcrew.

(i) Airplane. The flightcrew must consist of at least two qualified pilots employed or contracted by the certificate holder.

(ii) Air ambulance – Helicopter. For certificate holders with air ambulance operations specifications, the flightcrew must consist of:

(A) At least two qualified pilots employed or contracted by the certificate holder, or

(B) One qualified pilot employed or contracted by the certificate holder provided the use of an approved autopilot in lieu of a second in command is authorized by the Administrator

(2) Flight crew experience. The crewmembers must have met the applicable requirements of part 61 of this chapter and have the following experience and ratings:

(i) Total flight time for all pilots:

(A) Pilot in command--A minimum of 1,500 hours.

(B) Second in command--A minimum of 500 hours.

(C) Pilot in command (Air ambulance helicopter single pilot crew) - A minimum of 2000 hours including

(1) at least 100 hours in actual or simulated instrument conditions and

(2) at least 100 hours in aircraft make or model.

(ii) *****

(b) ***

(c) The Administrator may authorize deviations from paragraphs (a)(1)(i) of this section for airplane operations by certificate holders with air ambulance operations specifications. Grants of deviation under this paragraph may be granted after consideration of the size and scope of the operation and a finding of the following qualifications of the intended personnel:

(1) Pilot in command - A minimum of 2000 hours including

i) at least 100 hours in actual or simulated instrument conditions, and

ii) at least 100 hours in aircraft make or model.

(d) An eligible on-demand operation may comply with alternative requirements specified in §§ 135.225(b), 135.385(f), and 135.387(b) instead of the requirements that apply to other on-demand operations.

- * * * *

(APP 20)

135.5 Special rule for commuter operations in turbojet aircraft.

Commuter operations in turbojet powered aircraft conducted under this part that consist of two flight crewmembers shall meet the pilot operating limitations and crew pairing requirements of subparagraphs(a)(3) and (a)(4) of § 135.4. Certificate holders are also eligible to apply for the deviation authority of subparagraph (b) of § 135.4.

(APP 20)

135.19 Emergency Operations

(a) In an emergency involving the safety of persons or property, the certificate holder *and or aircraft dispatcher, if dispatchers are utilized*, may deviate from the rules of this part * * * *

(APP 20)

135.21 Manual requirements.

(1) Its flight crewmembers, *aircraft dispatchers (if dispatchers are utilized)* and * * * *

(OPS 9)

135.21

Revise 135.21(d)

A current copy of the manual, or appropriate portions of the manual, shall be made available to maintenance personnel, ground personnel and flight crewmembers, for use during the performance of those duties, and furnished to the representatives of the Administrator assigned to the certificate holder.

Revise 135.21(e)

The certificate holder shall establish a procedure, acceptable to the Administrator, for persons listed in paragraph (d) of this section to ensure that the manual, either furnished or made available for use, is current.

Revise 135.21(g)

The manual must be available to the persons listed in paragraph (d) of this section in printed form, or other electronic form, acceptable to the Administrator, that is retrievable

in the English language. If the certificate holder makes the maintenance portion of the manual available in other than printed form, it must ensure that there is a compatible reading device also available.

(OPS 50)

§135.23

(a) The name of each management person required under §119.69(a) of this chapter who is authorized to act for the certificate holder, the person's assigned area of responsibility, the person's duties, responsibilities, authority, and the title and/or names of persons authorized to exercise operational control under §135.77;

(APP 20)

§ 135.23 ***Manual contents.***

* * * *

(e) Procedures for ensuring that the pilot in command and aircraft dispatcher (if dispatchers are utilized), *knows that required airworthiness inspections have been made and that the aircraft has been approved for return to service in compliance with applicable maintenance requirements*

* * * *

(g) Procedures to be followed by the pilot in command *and aircraft dispatcher (if dispatchers are utilized)* for determining that mechanical irregularities or defects reported for previous flights have been corrected or that correction has been deferred;

(l) Flight locating or dispatch *procedures, when applicable*

(2) Notification of the pilot in command and aircraft dispatcher (if dispatchers are utilized) *when there are hazardous materials aboard, as required by title 49 CFR;*

(OPS 63)

§135.23(s)

(new subparagraph)

Procedures for disseminating the information required by §135.247(c) to the pilot in command.

Note: current §135.23(s) will become §135.23(r).

Amend § 135.23 to include alertness management procedures in the certificate holder's manual:

§ 135.23 Add subparagraph (t)

(t) Alertness management procedures.

§135.23(s)

(new subparagraph)

Procedures for disseminating the information required by §135.247(c) to the pilot in command.

Note: current §135.23(s) will become §135.23(r).

Note: An Advisory Circular should be developed to characterize alertness management. References in the preamble should be added to direct operators to the trade associations that have developed databases of information concerning alertness management. These programs extremely important for operators to educate their crewmembers on the mechanics of sleep and the measures they can take to effectively remain alert on duty.

(OPS 13)

135.25

§135.25

(a) *No change.*

(b) Each certificate holder shall have the use of an aircraft that meets the requirements for the certificate holder's operation as authorized in the certificate holder's operations specifications. This use can be obtained through ownership or lease of at least a fraction of an aircraft, or through such other written agreements as may be acceptable to the Administrator. The written agreement must:

(1) Have a minimum of 6 consecutive months of duration remaining on the date initial certification is sought, in accordance with part 119. Thereafter, certificate holders must maintain at least one written agreement for the use of an aircraft that meets the requirements for their operation as authorized in the certificate holder's operations specifications;

(2) Provide that the certificate holder has operational control of the aircraft at all times when operated under this part;

(3) Provide that the aircraft be maintained in accordance with this part at all times;

(4) Provide that the aircraft must be listed in the certificate holder's operations specifications; and

(5) Provide that the aircraft cannot be listed in any other operations specifications of another Part 135 or Part 125 operator.

(c) For the purposes of paragraph (b) of this section, the certificate holder must have available for use at least one aircraft that meets the requirements for each kind of operation authorized. However, this paragraph does not prohibit the operator from using or authorizing the use of the aircraft for other than operations under this part or Part 125 and does not require the certificate holder to meet the requirements of paragraph (b) for all aircraft that the certificate holder uses.

(d) *[new subparagraph]* Paragraph (b) of this section does not apply to program managers as defined in Part 91, subpart K, that are also certificate holders under this part.

(e) *[previous subparagraph (d)] No change to existing rule.*

(OPS 55)

§135.45

(new section)

In the event a Pilot Certificate, Flight Engineer Certificate, Airman Medical Certificate, aircraft Airworthiness Certificate, or aircraft Registration Certificate issued by the FAA is lost, stolen, mutilated, or missing, a facsimile document may be used temporarily in lieu

of the original certificate as provided in this section, in accordance with all the procedures and limitations stated below:

1. Facsimile certificates may not be used for flights to or from foreign countries, or in international airspace.

2. The operator must apply for and receive from its certificate-holding FAA Flight Standards District Office an amendment to its Operations Specifications authorizing the use of this section.

3. With respect to Airworthiness and Registration Certificates, the operator must develop a program that provides for continued operation of the aircraft using facsimile certificate(s). This program must be FAA-approved and instructions for its use must be included in the operator's manual required by §135.21. The program must include procedures for –

(a) Making an appropriate entry in the aircraft logbook when the airworthiness or registration certificate for the aircraft is lost, stolen, or mutilated.

(b) Ensuring that timely application is made to the FAA for a replacement certificate; and

(c) Providing for the temporary operation of the aircraft during the interim required to receive a replacement certificate from the FAA or recover the missing certificate, and install it on the affected aircraft.

(d) A requirement that the following statement be entered in the appropriate section of the aircraft logbook whenever the provisions of this section are exercised: "This aircraft is being operated without an [airworthiness] or [registration] certificate [as applicable] under the provisions of §135.45 for a period not to exceed three working days, not including weekends or Federal holidays, following the start of the next business day,

beginning [Time] [Date]. The signature, title, and station location of the person(s) authorized in (e) below must be affixed to this statement.

(e) Identification of the designated person(s) within the operator's organization authorized to enter the statement contained in (d) above

(f) Method(s) by which the facsimile documents required in (4) below will be transmitted to the affected aircraft.

(g) Provision in the operator's recordkeeping system to maintain current, accessible copies of Airworthiness Certificate and Registration Certificates for aircraft in the operator's fleet.

(h) Procedures to ensure the operator's FAA principal maintenance inspector is notified within one working day of a missing, stolen, or mutilated certificate and (if a replacement certificate is required) that timely application is made to the FAA for a replacement certificate in the case of an airworthiness certificate, or a duplicate certificate in the case of a registration certificate.

(i) Assignment of specific duties and responsibilities for utilization of these procedures by job title.

(j) Facsimile certificates may be issued in accordance with this section only for temporary replacement of missing or mutilated certificates that are current and in effect, and apply only to U.S.-registered aircraft listed in the operator's Operations Specifications.

4. Facsimile Registration or Airworthiness Certificates used in connection from this section will be produced from copies maintained by the operator as provided in (g) above, and are valid only until replaced by permanent FAA documents.

5. With respect to Pilot and Airman Medical Certificates, the Operator must develop a program for issuing a facsimile confirmation document to flight crewmembers who do not have in their personal possession their airman or medical certificates required by Section 61.3(a) and (c). This program must be FAA-approved and instructions for its use must be included in the operator's manual required by §135.21. The program must include –

(a) Assignment of specific duties and responsibilities for utilization of these procedures by job title.

(b) A method to ensure positive identification of the flight crewmember requesting the facsimile confirmation document.

(c) Procedures to insure that each flight crewmember who utilizes a facsimile confirmation document in accordance with this section complies with applicable regulations to request for a facsimile from the FAA confirming the existence of the applicable certificate within 72 hours of the initiation of any flight conducted under this section. The operator is authorized to make this application to the FAA on behalf of each applicable flight crewmember. The flight crewmember must provide a copy of the FAA facsimile to the operator within 24 hours of the receipt of that facsimile.

(d) It is the individual crewmember's responsibility to take timely action to obtain a permanent replacement pilot or medical appropriate, as appropriate.

(e) Facsimile confirmation documents issued by the operator are valid only until superseded by the FAA facsimile confirmation, or until the permanent certificate is recovered.

Amend 135.63 as follows:

(a) Each certificate holder shall keep at its principal business office or at other places approved by the Administrator, and shall make available for inspection by the Administrator the following—

(1) The certificate holder's operating certificate;

(2) The certificate holder's operations specifications;

(3) A current list of the aircraft used or available for use in operations under this part and the operations for which each is equipped;

(4) An individual record of each crewmember used in operations under this part, including the following information:

(i) The full name of the crewmember.

(ii) If the crewmember is a pilot, the pilot certificate (by type and number) and ratings that the pilot holds.

(iii) If the crewmember is a pilot, the pilot's aeronautical experience in sufficient detail to determine the pilot's qualifications to pilot aircraft in operations under this part.

(iv) The crewmember’s current duties and the date of the crewmember’s assignment to those duties.

(v) If the crewmember is a pilot, the effective date and class of the medical certificate that the pilot holds.

(vi) The date and result of each of the initial and recurrent competency tests and, if the crewmember is a pilot, the date and result of the proficiency and route checks required by this part and the type of aircraft flown during that test or check.

(vii) If the crewmember is a pilot, the pilot's flight time in sufficient detail to determine compliance with the flight time limitations of this part.

(viii) If the crewmember is a pilot, the pilot's check pilot authorization, if any.

(ix) If the crewmember is a pilot, any action taken concerning the pilot's release from employment for physical or professional disqualification.

(x) The date of the completion of the initial phase and each recurrent phase of the training required by this part; and

(OPS 31)

§135.63(b)

(b) Notwithstanding the requirements of the Pilot Records Improvement Act of 1996, as amended (codified at 49 U.S.C. 44703), each certificate holder must keep each record required by paragraph (a)(3) of this section for at least 6 months, and must keep each record required by paragraphs (a)(4) and (a)(5) of the section for at least 12 months.

(OPS 6)

135.63

135.63 Recordkeeping requirements.

(c) For multi-engine and turbine powered aircraft, each certificate holder is responsible for the preparation and accuracy of a load manifest in duplicate containing information concerning the loading of the aircraft. The manifest must be prepared before each takeoff and must include:

(1) The number of passengers;

(2) The total weight of the loaded aircraft;

(3) The maximum allowable takeoff weight for that flight;

(4) The center of gravity and the center of gravity limits of the loaded aircraft, except that the actual center of gravity and the center of gravity limits need not be computed if the aircraft is loaded according to an approved loading schedule or other approved method that ensures that the center of gravity of the loaded aircraft is within approved center of gravity limits. In those cases, an entry shall be made on the manifest indicating that the center of gravity is within limits according to a loading schedule or other approved method;

(5) The registration number of the aircraft or flight number;

(6) The origin and destination; and

(7) Identification of crewmembers and their crew position assignments.

(d) The pilot in command of an aircraft for which a load manifest must be prepared shall carry a copy of the completed load manifest in the aircraft to its destination, and;

(1) If adequate facilities and personnel are available at the departure point, a copy of the manifest shall be left at the departure location. The certificate holder shall establish a procedure describing the method of disposition of the manifest at the departure point.

(2) The certificate holder shall keep copies of completed load manifests for at least 30 days at its principal operations base, or at another location used by it and approved by the Administrator.

(OPS 10)

135.65(b)

The pilot in command shall ensure that all mechanical irregularities occurring during flight time are entered in the maintenance log of the airplane at the end of that flight time. Before each flight the pilot in command shall ascertain the status of each irregularity entered in the maintenance log at the end of the preceding flight.

(EQU 19)

135.67 Reporting potentially hazardous meteorological conditions and irregularities of communications or navigation facilities.

Whenever a pilot encounters a potentially hazardous meteorological condition or an irregularity in ~~a ground~~ communications or navigational facility in flight, the knowledge of which the pilot considers essential to the safety of other flights, the pilot shall notify ~~an appropriate ground radio station~~ **ATC** as soon as practicable.

(APP 20)

§ 135.69 ***Restriction or suspension of operations: Continuation of flight in an emergency.***

(a) During operations under this part, if a certificate holder *aircraft dispatcher* or pilot in command knows of conditions, including airport and runway conditions, that are a hazard

to safe operations, the certificate holder, *aircraft dispatcher o*r pilot in command, as the case may be, shall restrict or suspend operations as necessary until those conditions are corrected.

(b) No pilot in command *or aircraft dispatcher* may allow a flight to continue toward any airport of intended landing under the conditions set forth in paragraph (a) of this section, unless, in the opinion of the pilot in command *and aircraft dispatcher, (if utilized),* the conditions that are a hazard to safe operations may reasonably be expected to be corrected by the estimated time of arrival or, unless there is no safer procedure. In the latter event, the continuation toward that airport is an emergency situation under §135.19.

(APP 20)

135.77 Responsibility for operational control. (2 versions of rule language proposed)

Each certificate holder is responsible for operational control and shall list, in the manual required by §135.21, the name and title of each person authorized by it to exercise operational control.

Each certificate holder using a turbojet aircraft in commuter service shall comply with part 121 Domestic or Flag dispatch and operational control regulations as required in Subpart K of this part.

(OPS 50)

§135.77

Each certificate holder is responsible for operational control and shall:

(a) List, in the manual required by §135.21, the name of each person authorized by it to exercise operational control, or;

(b) Maintain, at its principal base of operations or other location acceptable to the Administrator, a listing indicating the name and title of each person authorized to exercise operational control.

(EQU 19)

§ 135.79 Flight locating requirements.

(a) (3) Provide the certificate holder with the location, date, and estimated time for reestablishing ~~radio or telephone~~ communications, if the flight will operate in an area where communications cannot be maintained

(OPS 72)

§135.83

(a) The operator of an aircraft must provide the following materials, in current and appropriate form, accessible to the pilot at the pilot station, and the pilot shall use them:

(2) An emergency cockpit checklist containing the procedures required by paragraph (c) of this section, as appropriate.

(OPS 5)

135.85

Add subparagraph (h) to FAR 135.85 as follows –

(h) Pilot or Flight Engineer crewmembers of other Part 119-certificated carriers (referred to as an Observer), provided –

(i) An approved seat with an approved seat belt is available for each Observer

(ii) Each Observer is protected from injury by cargo or baggage as provided in FAR 135.87

(iii) At least one means of emergency exit is available to each Observer in compliance with FAR 135.87(c)(7).

(iv) Prior to being transported on a flight, each Observer's identity and current crewmember status is confirmed with his/her employer and this confirmation is communicated to the pilot in command of the flight, in accordance with a procedure incorporated in the Certificate Holder's manual (or by other means acceptable to the Administrator).*

(v) Prior to being transported on a flight, the each Observer will positively identify him/herself to the Pilot in Command by presenting a U.S. FAA Airline Transport or Commercial Pilot certificate or Flight Engineer certificate, a photo identification card issued by his/her employer, and one other government-issued photo identification (such as a driver's license or passport).

(OPS 37)

§135.87(c)(7)

Notwithstanding the requirements of §25.807 or §23.807, for cargo-only operations, paragraph (c)(4) of this section does not apply if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft if an emergency occurs, and;

(i) the aircraft type does not have a maximum payload capacity of more than 7,500 pounds;

(ii) the aircraft was type certificated before 1991.

(OPS 27)

135.89

135.89(b)(3)

(3) Whenever a pressurized aircraft is operated at flight altitudes above flight level 350 unless one pilot at the controls of the airplane is wearing and using an oxygen mask that is secured and sealed and that either supplies oxygen at all times or automatically supplies oxygen whenever the cabin pressure altitude of the airplane exceeds 12,000 feet (MSL), except that the one pilot need not wear and use an oxygen mask while at or below flight level 410 if there are two pilots at the controls and each pilot has a quick-donning type of oxygen mask that can be placed on the face with one hand from the ready position within 5 seconds, supplying oxygen and properly secured and sealed.

(APP 20)

135.99 Composition of flight crew.

(a) No certificate holder may operate an aircraft with less than the minimum flight crew specified in the aircraft operating limitations or the Aircraft Flight Manual for that aircraft and required by this part for the kind of operation being conducted.

(b) No certificate holder may operate an aircraft without a second in command if that aircraft has a passenger seating configuration, excluding any pilot seat, of ten seats or more.

(c) No certificate holder may operate a turbojet aircraft without a second in command unless;

(1) In addition to the autopilot requirements of § 135.105, the approved autopilot system is also be capable of coupled approaches and have "track & hold" functions,

(2) Oxygen equipment, when required by § 135.89 to be in continuous use, must allow the pilot to provide briefings to passengers through a means approved by the Administrator,

(3) The pilot has at least 100 hours of flight time as pilot in command in the make, model and type (if a type rating is applicable) of aircraft to be flown,

(4) The pilot must successfully complete both the certificate holder's approved single pilot training program and a single pilot proficiency check, and

(5) The pilot must complete at least 10 hours of flight time acting as a single pilot in command under the supervision of a qualified check airman with that certificate holder.

(6) For on-demand operations, the pilot must meet the operating experience requirements identified for operations of turbojet aircraft in § 135.244, except that the requirement for experience under (b)(2)of that section must be satisfied by on-demand operations, not commuter operations.

(7) For commuter operations, the experience identified in paragraphs (3) and (5) above is in addition to the operating experience required by § 135.244.

(8) For commuter operations, the certificate holder may not conduct commuter passenger carrying operations in turbojet aircraft with a single pilot until that

certificate holder has obtained at least 6 calendar months of operating experience utilizing turbojet aircraft in commuter operations.

(d) No certificate holder may operate an aircraft other than a turbojet in commuter operations without a second in command unless the pilot has at least 100 hours pilot in command flight time in the make and model of aircraft to be flown and has met all other applicable requirements of this part.

(APP 20)

§ 135.101 Second in command required under IFR.

(a) Except as provided in §§ *135.99* and 135.105, no person may operate an aircraft carrying passengers under IFR unless there is a second in command on the aircraft.

(APP 20 version)

§ 135.105 Exception to second in command requirement: Approval for use of autopilot system additional requirements.

(a) Except as provided in §§ 135.99 and 135.111, unless two pilots are required by this chapter for operations under VFR, a person may operate an aircraft without a second in command, if it is equipped with an operative approved autopilot system and the use of that system is authorized by appropriate operations specifications.

(b) The certificate holder may apply for an amendment of its operations specifications to authorize the use of an autopilot system in place of a second in command.

(c) The Administrator issues an amendment to the operations specifications authorizing the use of an autopilot system, in place of a second in command, if --

(1) The autopilot is capable of operating the aircraft controls to maintain flight and maneuver it about the three axes;

(2) The certificate holder shows, to the satisfaction of the Administrator, that operations using the autopilot system can be conducted safely and in compliance with this part.

The amendment contains any conditions or limitations on the use of the autopilot system that the Administrator determines are needed in the interest of safety.

(OPS 11 version)

135.105

In section 135.105, amend paragraph (a).

§135.105 Exception to second in command requirement: Exception for use of autopilot system.

(a) Except as provided in §§135.99 and 135.111, unless two pilots are required by this chapter for operations under VFR, a person may operate an aircraft without a second in command, if it is equipped with an operative approved autopilot system and the use of that system is authorized by appropriate operations specifications. <u>If the approved autopilot system is inoperative, the aircraft is exempt from the requirements of §135.151, provided the approved autopilot system is deferred in accordance with §135.179 and all limitations associated with the approved Minimum Equipment List (MEL) are met.</u> No

Certificate holder may use any person, nor may any person serve, as a pilot in command under this section of an aircraft operated in a commuter operation, as defined in part 119 of this chapter unless that person has at least 100 hours pilot in command flight time in the make and model of aircraft to be flown and has met all other applicable requirements of this part.

(OPS 42)

§135.107 Cabin safety crewmember requirements.

No certificate holder may operate an aircraft that:

(a) has a passenger seating configuration, excluding any pilot seat, of more than 19 unless there is a cabin safety crewmember on board the aircraft; or

(b) has floor level exits equipped with an assisting means for emergency evacuation that deploys automatically, unless there is one cabin safety crewmember on board the aircraft for every four such exits.

(OPS 39)

§135.117(a)

(a) Each pilot in command of an aircraft carrying passengers shall ensure that all passengers have been orally briefed prior to each takeoff. If all passengers have received the required briefing in the same aircraft (make, model, and serial number) within the previous 24-hour period prior to the actual takeoff time, the briefing need not be repeated if a crewmember offers to repeat the briefing and all passengers decline. The briefing shall include-

(OPS 42)

§135.117

(d) Notwithstanding the provisions of paragraph (c) of this section, for aircraft certificated to carry 19 passengers or less, the oral briefing required by paragraph (a) of this section shall be given by the pilot in command, a crewmember other than a passenger service specialist, or other qualified person designated by the certificate holder and approved by the Administrator.

(OPS 29)

§135.121

(d) No person may drink any alcoholic beverage aboard an aircraft unless the certificate holder operating the aircraft has:

(1) served the beverage, or

(2) for operations that do not require flight attendant(s), authorized service of the beverage prior to flight by:

(i) expressly identifying the alcohol to be served;

(iii) designating the other crewmember(s) or passenger(s) responsible for the alcohol in flight; and

(iii) briefing all passengers aboard concerning the additional requirements of this section.

(e) No certificate holder, or passenger designated under paragraph (a), may serve any alcoholic beverage to any person aboard its aircraft if that person appears to be intoxicated.

(f) (no change)

(OPS 51)

§135.122

(a) No certificate holder may permit an aircraft to move on the surface, takeoff, or land unless all galley items, food, and beverage containers, with the exception of non-glass beverage or food containers, are removed or properly stowed.

(b) No certificate holder may takeoff, or land unless each food and beverage tray and seat back table is secured in its stowed position.

(c) No certificate holder may permit an aircraft to move on the surface, takeoff, or land unless each passenger serving cart is secured in its stowed position.

(d) Each passenger shall comply with instructions given by a crewmember with regard to compliance with this section.

(OPS 42)

§135.123 Emergency and emergency evacuation duties.

(a) Each certificate holder shall assign to each required or used crewmember, excluding passenger service specialists, for each type of aircraft as appropriate, the necessary functions to be performed in an emergency or in a situation requiring emergency evacuation. The certificate holder shall ensure that those functions can be practicably

accomplished, and will meet any reasonably anticipated emergency including incapacitation of individual crewmembers or their inability to reach the passenger cabin because of shifting cargo in combination cargo/passenger aircraft.

(b) The certificate holder shall describe in the manual required under §135.21 the functions of each category of required or used crewmembers, excluding passenger service specialists, assigned under paragraph (a) of this section.

(AER 9)

Amend section 135.128 by adding new paragraph (a) (3) as follows:

§ 135.128 Use of safety belts and child restraint systems.

(a) ****

(1) ***

(2) ***

(3) In the case of a medical patient who has not yet reached his/her second birthday a method of restraint appropriate to the child's medical condition may be utilized. The pilot and authorized medical authority will determine appropriate restraint. In no case shall a child not be restrained by some authorized means.

(b) ***

(OPS 42)

§135.128(c)

(new subparagraph)

(c) During aircraft movement on the surface, cabin safety crewmembers required or used by the certificate holder must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to the safety of the aircraft and its occupants.

(EQU 2)

135.143 (c)

Amend section 135.143(c) to read as follows:

(c) ATC transponder equipment installed after January 1, 1992, must meet the performance and environmental requirements of any class of TSO-C74b or TSO-C74c, as appropriate, or the appropriate class of TSO-C112 (Mode S).

(OPS 42)

§135.150

(a) ***

(4) For each required floor-level passenger emergency exit which has an adjacent cabin safety crewmember seat, has a microphone which is readily accessible to the seated cabin safety crewmember, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin safety crewmembers;

(5) Is capable of operation within 10 seconds by a cabin safety crewmember at each of those stations in the passenger compartment from which its use is accessible;

(6) Is audible at all passenger seats, lavatories, and cabin safety crewmember seats and work stations; and

(7) For transport category airplanes manufactured on or after November 27, 1990, meets the requirements of § 25.1423 of this chapter.

(b) ***

(5) Is accessible for use from at least one normal cabin safety crewmember station in each passenger compartment;

(6) Is capable of operation within 10 seconds by a cabin safety crewmember at each of those stations in each passenger compartment from which its use is accessible; and

(7) For large turbojet powered airplanes -

(i) Is accessible for use at enough cabin safety crewmember stations so that all floor-level emergency exits (or entryways to those exits in the case of exits located within galleys) in each passenger compartment are observable from one or more of those stations so equipped;

(ii) Has an alerting system incorporating aural or visual signals for use by flight crewmembers to alert cabin safety crewmembers and for use by cabin safety crewmembers to alert flight crewmembers;

(AWG 8)

135.149

"§135.149 (c) For large turbojet airplanes with a certification basis prior to Am 25-23 (effective May 8, 1970) and small turbojet airplanes with a certification basis prior to Am 23-41 (effective Nov 26, 1990), in addition to two gyroscopic bank-and-pitch indicators

(artificial horizons) for use at the pilot stations, a third indicator that is installed in accordance with the instrument requirements prescribed in 121.305(j) of this chapter."

(AWG 23A)

§ 135.151 Cockpit voice recorders.

(a) No person may operate a multiengine, turbine powered airplane or **turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** or rotorcraft having a passenger seating configuration of six or more and for which two pilots are required by certification or operating rules unless it is equipped with an approved cockpit voice recorder that:

…

(EQU 17)

§ 135.151 Cockpit voice recorders.

Add (f) as follows:

(f) When a cockpit voice recorder is required by the operating rules of this chapter for rotorcraft, a combination recorder may be used.

(AWG 23A)

§ 135.152 Flight recorders.

…(b) After October 11, 1991, no person may operate a multiengine, turbine-powered airplane having a passenger seating configuration of 20 to 30 seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** or a multiengine, turbine-powered rotorcraft having a passenger seating configuration of 20 or more seats

unless it is equipped with one or more approved flight recorders that utilize a digital method of recording and storing data, and a method of readily retrieving that data from the storage medium. The parameters in appendix D or E of this part, as applicable, that are set forth below, must be recorded within the ranges, accuracies, resolutions, and sampling intervals as specified.

…

(i) For all turbine-engine powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.**, manufactured after August 18, 2000—

(1) The parameters listed in paragraphs (h)(1) through (h)(57) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(2) Commensurate with the capacity of the recording system, all additional parameters for which information sources are installed and which are connected to the recording system must be recorded within the ranges, accuracies, resolutions, and sampling intervals specified in Appendix F of this part.

(j) For all turbine-engine-powered airplanes with a seating configuration, excluding any required crewmember seat, of 10 to 30 passenger seats **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.**, that are manufactured after August 19, 2002 the parameters listed in paragraph (a)(1) through (a)(88) of this section must be recorded within the ranges, accuracies, resolutions, and recording intervals specified in Appendix F of this part.

(k) For aircraft manufactured before August 18, 1997, the following aircraft types need not comply with this section: Bell 212, Bell 214ST, Bell 412, Bell 412SP, Boeing Chinook (BV–234), Boeing/Kawasaki Vertol 107 (BV/KV–107–II), deHavilland DHC–6, Eurocopter Puma 330J, Sikorsky 58, Sikorsky 61N, Sikorsky 76A.

NOTE: *Due consideration should be given to the make/model airplanes expected to operate under Part 135 all-cargo with payload of more than 7,500 lbs to determine if there are any specific airplanes for which it would be impracticable (technical feasibility or economically reasonable) to modify for compliance with the above DFDR requirement. If so, 135.152(k) should also be amended to reflect these make/model aircraft manufactured before August 18, 1997 that need not comply with this section.*

(EQU 17)

14 CFR 135.152, Flight Recorders

§ 135.152 Flight recorders.

Add (l) as follows:

(l) When a flight recorder is required by the operating rules of this chapter for rotorcraft, a combination recorder may be used.

(AWG 23A)

135.154 Terrain awareness and warning system.

(a) Airplanes manufactured after March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(b) Airplanes manufactured on or before March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical

Standard Order (TSO)-C151. (Approved by the Office of Management and Budget under control number 2120-0631)

(AWG 23B)

Sec. 135.154 Terrain awareness and warning system.

(a) Airplanes manufactured after March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(3) No person may operate a turbojet powered airplane in commuter operation configured with 9 or less passenger seats, excluding any pilot seat after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151.

(b) Airplanes manufactured on or before March 29, 2002:

(1) No person may operate a turbine-powered airplane configured with 10 or more

passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151. The airplane must also include an approved terrain situational awareness display.

(2) No person may operate a turbine-powered airplane configured with 6 to 9 passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets as a minimum the requirements for Class B equipment in Technical Standard Order (TSO)-C151.

(3) No person may operate a turbojet powered airplane in commuter operation configured with 9 or less passenger seats, excluding any pilot seat after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system that meets the requirements for Class A equipment in Technical Standard Order (TSO)-C151.

(c) Airplane Flight Manual. The Airplane Flight Manual shall contain appropriate procedures for-

(1) The use of the terrain awareness and warning system; and

(2) Proper flight crew reaction in response to the terrain awareness and warning system audio and visual warnings.

(AWG 16)

Sec. 135.157 Oxygen equipment requirements.

(b) Pressurized aircraft. No person may operate a pressurized aircraft--

(1) At altitudes above 25,000 feet MSL, unless at least a 10-minute supply of supplemental oxygen is available for each occupant of the aircraft, other than the pilots, for use when a descent is necessary due to loss of cabin pressurization; and

(2) Unless it is equipped with enough oxygen dispensers and oxygen to comply with paragraph (a) of this section whenever the cabin pressure altitude exceeds 10,000 feet MSL and, if the cabin pressurization fails, to comply with Sec. 135.89 (a) or to provide a 2-hour supply for each pilot, whichever is greater, and to supply when flying--

(i)At altitudes above 10,000 feet through 15,000 feet MSL, oxygen to at least 10 percent of the occupants of the aircraft, other than the pilots, for that part of the flight at those altitudes that is of more than 30 minutes duration; and

(ii)Above 15,000 feet MSL,

(C) oxygen to each occupant of the aircraft, other than the pilots, for one hour unless, at all times during flight above that altitude, the aircraft can safely descend to 15,000 feet MSL within four minutes, in which case only a 30-minute supply is required or

(D) oxygen equipment and quantities prescribed in 121.329(c) (1), (2), and (3); 121.333(d); 121.333(e) (1), (2), and (3); 121.335(b); and 121.391(a)(1).

(AER ?)

Amend 14 CFR §135.159 by adding a new subparagraph (f)(4) to read as follows:

§135.159 Equipment requirements: carrying passengers under VFR at night or under VFR over-the-top conditions.

(f) For night flights--

* * * * *

(4) No later than December 31, 2006, if the aircraft is a helicopter engaged in medical evacuation, one radio altimeter.

(EQU 19)

135.159 Equipment requirements: Carrying passengers under VFR at night or under VFR over-the-top conditions.

No person may operate an aircraft carrying passengers under VFR at night or under VFR over-the-top, unless it is equipped with—

(g) For the purpose of paragraph (e) of this section, a continuous in-flight electrical load includes one that draws current continuously during flight, such as ~~radio~~ **communication** equipment and electrically driven instruments and lights, but does not include occasional intermittent loads.

(EQU 19)

§ 135.161 ~~Radio~~ **Communication** and navigational equipment: Carrying passengers under VFR at night or under VFR over-the-top.

(b) No person may operate an aircraft carrying passengers under VFR over-the-top unless it has ~~radio~~ navigational equipment ~~able to receive radio signals from the ground facilities to be used~~ **appropriate for the route to be flown.**

(c) No person may operate an airplane carrying passengers under VFR at night unless it has ~~radio~~ navigational equipment ~~able to receive radio signals from the ground facilities to be used~~ **appropriate for the route to be flown.**

(EQU 19)

§ 135.163 Equipment requirements: Aircraft carrying passengers under IFR.

(h) (i) For the purpose of paragraph (f) of this section, a continuous inflight electrical load includes one that draws current continuously during flight, such as ~~radio~~ **communications** equipment, electrically driven instruments, and lights, but does not include occasional intermittent loads.

(EQU 18)

Amend § 135.163, Equipment requirements: to read:

“Aircraft carrying passengers under IFR.

No person may operate an aircraft under IFR, carrying passengers, unless it has -

(e) An alternate source of static pressure or, other approved system, for the altimeter and the airspeed and vertical speed indicators.

(EQU 19)

§ 135.165 ~~Radio~~ **Communication** and navigational equipment: Extended overwater or IFR operations.

(a) No person may operate a turbojet airplane having a passenger seating configuration, excluding any pilot seat, of 10 seats or more, or a multiengine airplane in a commuter operation, as defined in part 119 of this chapter, under IFR or in extended overwater operations unless it has at least the following ~~radio~~ communication and navigational equipment appropriate to the facilities to be used. ~~which are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ground facility:~~

(b) No person may operate an aircraft other than that specified in paragraph (a) of this section, under IFR or in extended overwater operations unless it has at least the following ~~radio~~ communication and navigational equipment appropriate to the facilities to be used. ~~and which are capable of transmitting to, and receiving from, at any place on the route, at least one ground facility:~~

(ROT 20)

135.165

Recommendation FAR 135.165(b)4

Change paragraph (b)(4) to delete wording “marker beacon receiver.”

Recommendation FAR 135.165(d)1

Change “airplane” to “aircraft” since rotorcraft should also be included.

The new wording of the regulation would be:

135.165 Radio and navigational equipment: Extended overwater or IFR operations.

(a) No person may operate a turbojet airplane having a passenger seating configuration, excluding any pilot seat, of 10 seats or more, or a multiengine airplane in a commuter operation, as defined in part 119 of this chapter under IFR or in extended overwater operations unless it has at least the following radio communication and navigational equipment appropriate to the facilities to be used which are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ground facility:

(1) Two transmitters,

(2) two microphones,

(3) two headsets or one headset and one speaker,

(4) a marker beacon receiver,

(5) two independent receivers for navigation, and

(6) two independent receivers for communications.

(b) No person may operate an *aircraft* other than that specified in paragraph (a) of this section, under IFR or in extended overwater operations unless it has at least the following radio communication and navigational equipment appropriate to the facilities to be used and which are capable of transmitting to, and receiving from, at any place on the route, at least one ground facility:

(1) A transmitter,

(2) two microphones,

(3) two headsets or one headset and one speaker,

(4) for IFR operations only, a marker beacon receiver,

(5) two independent receivers for navigation,

(6) two independent receivers for communications, and

(7) for extended overwater operations only, an additional transmitter.

(c) For the purpose of paragraphs (a)(5), (a)(6), (b)(5), and (b)(6) of this section, a receiver is independent if the function of any part of it does not depend on the functioning of any part of another receiver. However, a receiver that can receive both communications and navigational signals may be used in place of a separate communications receiver and a separate navigational signal receiver.

(d) Notwithstanding the requirements of paragraphs (a) and (b) of this section, installation and use of a single long-range navigation system and a single long-range communication system, for extended overwater operations, may be authorized by the Administrator and approved in the certificate holder's operations specifications. The following are among the operational factors the Administrator may consider in granting an authorization:

(1) The ability of the flightcrew to reliably fix the position of the *aircraft* within the degree of accuracy required by ATC,

(2) The length of the route being flown, and

(3) The duration of the very high frequency communications gap.

(ROT 21)

135.166

Create a new Part 135.166:

§ 135.166 Emergency equipment: Overwater, Extended Overwater, and Offshore Operations - Rotorcraft

Except where the Administrator, by amending the operations specifications of the certificate holder, requires the carriage of all or any specific items of the equipment listed below for any overwater operation, or, upon application of the certificate holder, the Administrator allows deviation for a particular extended overwater operation, no person may operate a rotorcraft in overwater, offshore, or extended overwater operations unless it carries, installed in conspicuously marked locations easily accessible to the occupants in the event of an emergency water landing, the following equipment:

(a) Overwater operations;

(3) An approved life preserver equipped with an approved survivor locator light for each occupant of the aircraft. The life preserver must be easily accessible to each seated occupant.

(4) One approved pyrotechnic signaling device.

(d) Offshore operations;

(1) An approved life preserver equipped with an approved survivor locator light for each occupant of the aircraft. Except for a patient carried on an emergency medical transport flight, the life preserver must be worn by each occupant.

(2) An approved survival type emergency locator transmitter, either automatically deployable, in the life raft, or easily removable from the aircraft. (After February 2009, the emergency locating transmitter must be an approved 406MHz type). Batteries used in this transmitter must be replaced (or recharged, if the battery is rechargeable) when the transmitter has been in use for more than 1 cumulative hour, or, when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery must be legibly marked on the outside of the transmitter. The battery useful life (or useful life of charge) requirements of this paragraph do not apply to batteries (such as water activated batteries) that are essentially unaffected during probable storage intervals.

(3) One approved pyrotechnic signaling device.

(4) Enough life rafts of a rated capacity and buoyancy to accommodate the occupants of the aircraft.

(i) Each life raft required by this paragraph must be equipped with or contain at least the following:

(12) One approved day/night signaling device.

(13) One life raft repair kit;

(14) One bailing bucket;

(15) One signaling mirror;

(16) One police whistle;

(17) One raft knife;

(18) One inflation pump;

(19) One 25 foot retaining line;

(20) One magnetic compass;

(21) One dye marker or equivalent;

(22) One fishing kit; and

(e) Extended Overwater operations;

(1) The equipment listed in paragraph (b) of this section;

(2) One flashlight having at least two size "D" cells or equivalent, and;

(3) Each life raft must be equipped with or contain at least the following:

(a) The equipment listed in (b), (1) thru (11) of this section;

(b) One radar reflector;

(c) One canopy (for sail, sunshade, or rain catcher);

(d) For each two persons the raft is rated to carry, two pints of water or one sea water desalting kit;

(e) One book on survival appropriate for the area in which the aircraft is operated

(4) The ELT required by (b)(2) of this section must conform to TSO 126 (406mhz).

(d) The equipment required by this section shall be maintained in accordance with Part 135.419.

****

(ROT 21)

135.167

Change Part 135.167 to read (changes in red type):

§ 135.167 Emergency equipment: Extended overwater operations – Aircraft Other Than Rotorcraft

{New-2003-21 (a) revised September 17, 2003, effective November 17, 2003}

(f) Except where the Administrator, by amending the operations specifications of the certificate holder, requires the carriage of all or any specific items of the equipment listed below for any overwater operation, or, upon application of the certificate holder, the Administrator allows deviation for a particular extended overwater operation, no person may operate an aircraft other than a rotorcraft in extended overwater operations unless it carries, installed in conspicuously marked locations easily accessible to the occupants if a ditching occurs, the following equipment:

(AWG 23A)

§ 135.170 Materials for compartment interiors.

(a) No person may operate an airplane that conforms to an amended or supplemental type certificate issued in accordance with SFAR No. 41 for a maximum certificated takeoff weight in excess of 12,500 pounds unless within one year after issuance of the initial airworthiness certificate under that SFAR, the airplane meets the compartment interior requirements set forth in §25.853(a) in effect March 6, 1995 (formerly §25.853 (a), (b), (b–1), (b–2), and (b–3) of this chapter in effect on September 26, 1978).

(b) Except for commuter category airplanes and airplanes certificated under Special Federal Aviation Regulation No. 41, no person may operate a large airplane unless it meets the following additional airworthiness requirements:

(1) Except for those materials covered by paragraph (b)(2) of this section, all materials in each compartment used by the crewmembers or passengers must meet the requirements of §25.853 of this chapter in effect as follows or later amendment thereto:

…

(2) For airplanes type certificated after January 1, 1958, seat cushions, except those on flight crewmember seats, in any compartment occupied by crew or passengers must comply with the requirements pertaining to fire protection of seat cushions in §25.853(c) effective November 26, 1984.

(3) For turbine-powered, all-cargo airplane with a payload of more than 7500 lbs., each compartment must be designed so that, when used for storing cargo or baggage, it meets the requirements of §121.221 of this chapter.

(AWG 23A)

§ 135.175 Airborne weather radar equipment requirements.

(a) No person may operate a large, transport category aircraft in passenger carrying operations **or a turbine-powered, all-cargo airplane with a payload of more than 7500 lbs.** unless approved airborne weather radar equipment is installed in the aircraft.

(AWG 23B)

135.175 Airborne weather radar equipment requirements.

(a) No person may operate a:

(Add)(1) large transport category aircraft in passenger-carrying operations unless approved airborne weather radar equipment is installed in the aircraft.

(add) (2) Part 23 turbojet powered airplane in commuter operation after (effective date of rule change) unless approved airborne weather radar equipment is installed in the aircraft.

(b) No person may begin a flight under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar equipment, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment required by paragraph (a) of this section is in satisfactory operating condition.

(c) If the airborne weather radar equipment becomes inoperative en route, the aircraft must be operated under the instructions and procedures specified for that event in the manual required by Sec. 135.21.

(d) This section does not apply to aircraft used solely within the State of Hawaii, within the State of Alaska, within that part of Canada west of longitude 130 degrees W, between latitude 70 degrees N, and latitude 53 degrees N, or during any training, test, or ferry flight.

(e) Without regard to any other provision of this part, an alternate electrical power supply

is not required for airborne weather radar equipment.

(OPS 8)

135.179

(a) No person may take off an aircraft with inoperable instruments or equipment installed unless the following conditions are met:

(1) The certificate holder has an approved Minimum Equipment List for that aircraft or a fleet Minimum Equipment List by make and model.

(AWG 23A)

§ 135.180 Traffic Alert and Collision Avoidance System.

(a) Unless otherwise authorized by the Administrator, after December 31, 1995, no person may operate a turbine powered airplane that has a passenger seat configuration, excluding any pilot seat, of 10 to 30 seats unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(b) The airplane flight manual required by § 135.21 of this part shall contain the following information on the TCAS I system required by this section:

(1) Appropriate procedures for -

(i) The use of the equipment; and

(ii) Proper flightcrew action with respect to the equipment operation.

(2) An outline of all input sources that must be operating for the TCAS to function properly.

(c) Effective January 1, 2005, any airplane you operate under this part 135 must be equipped and operated according to the following table:

Collision Avoidance Systems	
If you operate any . . .	**Then you must operate that airplane with:**
(a) Turbine-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) An appropriate class of Mode S transponder that meets Technical Standard Order (TSO) C-112, or a later version, and one of the following approved units: (i) TCAS II that meets TSO C-119b (version 7.0), or a later version. (ii) TCAS II that meets TSO C-119a (version 6.04A Enhanced) that was installed in that airplane before May 1, 2003. If that TCAS II version 6.04A Enhanced no longer can be repaired to TSO C-119a standards, it must be replaced with a TCAS II that meets TSO C-119b (version 7.0), or a later version. (iii) A collision avoidance system equivalent to TSO C-119b (version 7.0), or a later version, capable of coordinating with units that meet TSO C-119a (version 6.04A Enhanced), or a later version.
(b) Piston-powered airplane of more than 33,000 pounds maximum certificated takeoff weight.	(1) TCAS I that meets TSO C-118, or a later version, or (2) A collision avoidance system equivalent to TSO C-118, or a later version, or (1)(3) A collision avoidance system and Mode S transponder that meet paragraph (a)(1) of this section.

(AWG 23B)

135.180 Traffic Alert and Collision Avoidance System.

(a) Unless otherwise authorized by the Administrator, after December 31, 1995, no person may operate a turbine powered airplane that has a passenger seat configuration, excluding any pilot seat, of 10 to 30 seats unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(Add) New (b) Unless otherwise authorized by the Administrator, after (effective date of rule change), no person may operate a Part 23 turbojet powered airplane in commuter operation, unless it is equipped with an approved traffic alert and collision avoidance system. If a TCAS II system is installed, it must be capable of coordinating with TCAS units that meet TSO C-119.

(now) (c) The airplane flight manual required by Sec. 135.21 of this part shall contain the following information on the TCAS I system required by this section:

(1) Appropriate procedures for--

(i) The use of the equipment; and

(ii) Proper flightcrew action with respect to the equipment operation.

(2) An outline of all input sources that must be operating for the TCAS to function properly.

(ROT 33)

135.183 Performance requirements: Land airplanes operated over water.

No person may operate a land airplane carrying passengers over water unless --

(a) It is operated at an altitude that allows it to reach land in the case of engine failure;

(b) It is necessary for takeoff or landing;

(c) It is a multiengine airplane operated at a weight that will allow it to climb, with the critical engine inoperative, at least 50 feet a minute, at an altitude of 1,000 feet above the surface; or

(d) DELETED.

(ROT 33)

135.184 Performance requirements: Helicopters.

No person may operate a helicopter unless the following requirements are complied with--

(a) For helicopters configured with 9 or less passenger seats;

1) On take-off, the gross weight of the helicopter shall not exceed the maximum gross weight specified in the RFM for hover in-ground-effect with all engines operating at take-off power for the specific take-off altitude, temperature, and wind conditions.

2) On landing, the gross weight of the helicopter shall not exceed the maximum gross weight specified in the RFM for hover in-ground-effect with all engines operating at take-off power for the specific landing altitude, temperature, and wind conditions.

3) If HOGE operations are intended or when HOGE conditions are expected during takeoff or landing, the gross weight shall not exceed the maximum gross weight specified in the RFM for hover out-

of-ground-effect with all engines operating at take-off power for the specific altitude, temperature, and wind conditions.

(b) For those helicopters configured with 10-19 passenger seats;

1) The helicopter is Type Certified as Category A and;

2) The weight limits specified in (a)(1),(2), and (3) apply, and in addition;

3) The gross weight of the helicopter at take-off shall not exceed the maximum gross weight specified in the RFM for a rate of climb of 150 ft/min. at 1000 feet above the take-off surface with the critical engine inoperative and the remaining engine operating at 30 minute or maximum continuous one-engine-inoperative (OEI) power for the specific take-off altitude and temperature.

4) The gross weight of the helicopter on landing shall not exceed the maximum gross weight specified in the RFM for a rate of climb of 150 ft/min. at 1000 feet above the landing surface with the critical engine inoperative and the remaining engine operating at 30 minute or maximum continuous one-engine-inoperative (OEI) power for the specific landing altitude and temperature**.**

5) Notwithstanding (b) (3) and (4), a helicopter type certificated before 1982 may be operated at a weight that will allow it to climb, one engine inoperative, at least 50 feet per minute at an altitude of 1,000

feet above the surface using maximum continuous or 30 minute OEI power until June 30, 2009.

(c) For helicopters configured with 20 or more passenger seats unless;

1)The helicopter is Type Certified as Category A and;

2)The gross weight of the helicopter at take-off does not exceed the maximum gross weight, for the take-off altitude and temperature, such that in the event of engine failure recognized at or before the take-off decision point, the helicopter is able to land within the rejected takeoff distance available or, in the event of the engine failure recognized after the take-off decision point, to continue the takeoff, clear all obstacles, and meet the climb requirements of (b)(3) above.

3)The helicopter should be able, in the event of an engine failure while enroute, continue to the intended destination or alternate without flying below applicable minimum flight altitudes.

4) The gross weight of the helicopter on landing does not exceed the maximum gross weight, for the landing altitude and temperature, such that in the event of engine failure recognized at or before the landing decision point, the helicopter is able to land within the landing distance available or to perform a balked landing, clear all obstacles and, meet the climb requirements of (b)(4) above. In the case of an engine failure occurring after the landing decision point, the helicopter should be able to land and stop within the landing distance available.

(d) No person may operate a helicopter carrying passengers over water unless it is amphibious or equipped with emergency floatation devices or --

1) It is operated at an altitude that allows it to reach land in the case of engine failure; or

2) It is necessary for takeoff or landing from helidecks or vessels located on or near land where the initial takeoff or landing approach is over water; or

3) It is a multiengine helicopter configured with 9 or less passengers seats operated at a weight that will allow it to climb, with the critical engine inoperative, at least 50 feet per minute, at an altitude of 1,000 feet above the surface.

(e) Except for helidecks or vessels constructed on or near land (as provided in 135.184 (d), (2)) no person may take off or land a helicopter to/from a helideck or vessel located over water unless the aircraft is amphibious or equipped with floats or other emergency floatation gear adequate to accomplish a safe emergency landing on open water.

(ROT 25)

Amend § 135.201 to read as follows:

135.201 Applicability.

This subpart prescribes operating limitations, in addition to those in Part 91 of this chapter, for VFR/IFR flight operations and associated weather requirements for operations under this part.

(AER 1)

Amend § 135.207 to read as follows:

§ 135.207 VFR: Helicopter surface reference requirements.

No person may operate a helicopter under VFR unless that person has visual surface reference or, at night, visual surface light or aided surface reference, sufficient to safely control the helicopter.

Amend 14 CFR §135.205 (b) by inserting the following language at the beginning of the section:

§135.205 VFR: Visibility requirements.

(b) *Except as provided in §91.156*, *** * * ***

(OPS 30)

§135.211(a)(2)

(2) Allows an IFR approach and landing with flight clear of the clouds until reaching the prescribed initial approach altitude over the final approach facility, unless the approach is made with the use of radar under §91.175(i) of this chapter; or

(OPS 17)

§135.213(a)

(a) Whenever a person operating an aircraft under this part is required to use a weather report or forecast, that person shall use that of the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator. However, for operations under VFR, the pilot in command may, if such a report is not available, use information based on that pilot's own observations or on those of other persons competent to supply appropriate observations. For IFR takeoff operations, the information based on the pilot in command's observations may be used if there is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by that pilot's observation, and the pilot determines a take-off alternate as defined in §135.217.

(OPS 74)

§135.217

No person may takeoff an aircraft under IFR from an airport where weather conditions are at or above takeoff minimums but are below authorized IFR landing minimums unless there is an alternate airport within:

(a) Aircraft having two engines. Not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative.

(b) Aircraft having three or more engines. Not more than two hours from the departure airport at normal cruising speed in still air with one engine inoperative.

(OPS 17)

§135.219

No person, except for eligible on-demand operators as defined in §135.4, may takeoff an aircraft under IFR or begin an IFR or over the top operation unless the latest weather reports or forecasts, or combination of them indicate that weather conditions at the estimated time of arrival at the destination airport will be at or above authorized IFR landing minimums.

(ROT 43)

135.219

Change FAR 135.219 to read:

135.219 IFR: DESTINATION AIRPORT WEATHER MINIMUMS

Except as authorized in 135.225(b) and (j), no pilot may takeoff an aircraft under IFR or begin an IFR or over-the-top operation unless the latest weather reports or forecast, or any combination of them, indicate that weather conditions at the estimated time of arrival at the next airport of intended landing will be at or above authorized IFR visibility landing minimums.

(OPS 52)

135.225

135.225(f)

Unless otherwise authorized in the certificate holder's operations specifications, each pilot making an IFR takeoff, approach, or landing at a military or foreign airport shall comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over that airport.

(OPS 17)

§135.225(g)

(g) If takeoff minimums are specified in Part 97 of this chapter for the takeoff airport, no pilot may take off an aircraft under IFR when the weather conditions are less than the takeoff minimums specified for the takeoff airport in Part 97 or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

(OPS 17)

§135.225(h)

(h) Except as provided in paragraph (i) of this section, if takeoff minimums are not prescribed in part 97 of this chapter for the takeoff airport, no pilot may takeoff an aircraft under IFR when the weather conditions are less than that prescribed in part 91 of this chapter or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

(OPS 17)

§135.225(i)

(i) At airports where straight-in instrument approach procedures are authorized, a pilot may take off an aircraft under IFR when the weather conditions are equal to or better than the lowest straight-in landing minimums, unless otherwise restricted, if--

(1) The wind direction and velocity at the time of takeoff are such that a straight-in instrument approach can be made to the runway served by the instrument approach;

(2) The associated ground facilities upon which the landing minimums are predicated and the related airborne equipment are in normal operation; and

(3) The certificate holder has been approved for such operations.

(4) For the purposes of this section, the weather conditions must be:

(i) Reported by the facility described in paragraph (a)(1) of this section, or;

(ii) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

(ROT 44)

Sec. 135.225

IFR: Takeoff, approach and landing minimums.

[(a) Except to the extent permitted by paragraph (b) of this section, no pilot may begin an instrument approach procedure to an airport unless--**]**

(1) That airport has a weather reporting facility operated by the U.S. National Weather Service, a source approved by U.S. National Weather Service, or a source approved by the Administrator; and

(2) The latest weather report issued by that weather reporting facility indicates that weather conditions are at or above the authorized IFR landing visibility minimums for that airport.

(b) A pilot conducting an eligible on-demand operation may begin an instrument approach procedure to an airport that does not have a weather reporting facility operated by the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator if--

(1) An alternate airport is listed in the flight plan for that destination airport and the alternate airport has a weather reporting facility operated by the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator; and

(2) The latest weather report issued by the weather reporting facility includes a current local altimeter setting for the destination airport. If no local altimeter setting for the destination airport is available, the pilot may use the current altimeter setting provided by the facility designated on the approach chart for the destination airport.

(c) No pilot may begin the final approach segment of an instrument approach procedure to an airport unless the latest weather reported by the facility described in paragraph (a) (1) of this section indicates that weather conditions are at or above the authorized IFR

landing minimums for that procedure.

(d) If a pilot has begun the final approach segment of an instrument approach to an airport under paragraph (c) of this section and a later weather report indicating below minimum conditions is received after the aircraft is--

(1) On an ILS final approach and has passed the final approach fix; or

(2) On an ASR or PAR final approach and has been turned over to the final approach controller; or

(3) On a final approach using a VOR, NDB, or comparable approach procedure; and the aircraft--

(i) Has passed the appropriate facility or final approach fix; or

(ii) Where a final approach fix is not specified, has completed the procedure turn and is established inbound toward the airport on the final approach course within the distance prescribed in the procedure; the approach may be continued and a landing made if the pilot finds, upon reaching the authorized MDA or DH, that actual weather conditions are at least equal to the minimums prescribed for the procedure.

(e) The MDA or DH and visibility landing minimums prescribed in Part 97 of this chapter or in the operator's operations specifications are increased by 100 feet and 1/2 mile respectively, but not to exceed the ceiling and visibility minimums for that airport when used as an alternate airport, for each pilot in command of a turbine-powered airplane who has not served at least 100 hours as pilot in command in that type of airplane.

(f) Each pilot making an IFR takeoff or approach and landing at a military or foreign airport shall comply with applicable instrument approach procedures and weather

minimums prescribed by the authority having jurisdiction over that airport. In addition, no pilot may, at that airport--

(1) Take off under IFR when the visibility is less than 1 mile; or

(2) Make an instrument approach when the visibility is less than 1/2 mile.

(g) If takeoff minimums are specified in Part 97 of this chapter for the takeoff airport, no pilot may take off an aircraft under IFR when the weather conditions reported by the facility described in paragraph (a) (1) of this section are less than the takeoff minimums specified for the takeoff airport in Part 97 or in the certificate holder's operations specifications.

(h) Except as provided in paragraph (i) of this section, if takeoff minimums are not prescribed in part 97 of this chapter for the takeoff airport, no pilot may takeoff an aircraft under IFR when the weather conditions reported by the facility described in paragraph (a) (1) of this section are less than that prescribed in part 91 of this chapter or in the certificate holder's operations specifications.

(i) At airports where straight-in instrument approach procedures are authorized, a pilot may take off an aircraft under IFR when the weather conditions reported by the facility described in paragraph (a)(1) of this section are equal to or better than the lowest straight-in landing minimums, unless otherwise restricted, if--

(1) The wind direction and velocity at the time of takeoff are such that a straight-in instrument approach can be made to the runway served by the instrument approach;

(2) The associated ground facilities upon which the landing minimums are predicated and the related airborne equipment are in normal operation; and

(3) The certificate holder has been approved for such operations.

(j) A pilot conducting an eligible on-demand operation may takeoff from an airport that does not have a weather reporting facility operated by the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator if--

(1) An alternate airport is listed in the flight plan for the departure airport and the takeoff alternate airport has a weather reporting facility operated by the U.S. National Weather Service, a source approved by the U.S. National Weather Service, or a source approved by the Administrator; and

(2) The latest weather report issued by the weather reporting facility includes a current local altimeter setting for the takeoff airport. If no local altimeter setting for the takeoff airport is available, the pilot may use the current altimeter setting provided by the facility designated on the approach chart for the takeoff airport.

(3) Weather observations taken and used for departure, at the takeoff airport, by the flight crew shall be reported to the controlling agency as a pilot report.

(OPS 41)

§135.227

(a) No pilot may take off an aircraft that has frost, ice, or snow adhering to any rotor blade, propeller, windshield, wing, stabilizing or control surface, to a powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the following conditions:

(1) Unless otherwise prohibited in the Airplane Flight Manual required by §23.1581 or §25.1581 of this title, takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

(OPS 68)

135.227

(c) Except for an airplane that has ice protection provisions that meet section 34 of Appendix A,

or those for transport category airplane type certification, no pilot may fly -

(1) Under IMC into known or forecast light or moderate icing conditions; or

(2) Under VMC into known light or moderate icing conditions; unless the aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb,

or flight attitude instrument system.

(OPS 76)

§135.247

(a) No certificate holder may use any person, nor may any person serve, as pilot in command of an aircraft carrying passengers unless, within the preceding 90 days, that person has—

(1) Made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in a Level C or higher flight simulator.

(2) For operation during the period beginning 1 hour after sunset and ending 1 hour before sunrise (as published in the Air Almanac), made three takeoffs and three landings during that period as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in a Level C or higher flight simulator, if the visual system is adjusted to represent the period described in this paragraph.

***

§135.217

No person may takeoff an aircraft under IFR from an airport where weather conditions are at or above takeoff minimums but are below authorized IFR landing minimums unless there is an alternate airport within:

(a) Aircraft having two engines. Not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative.

(b) Aircraft having three or more engines. Not more than two hours from the departure airport at normal cruising speed in still air with one engine inoperative.

§135.219

No person, except for eligible on-demand operators as defined in §135.4, may takeoff an aircraft under IFR or begin an IFR or over the top operation unless the latest weather reports or forecasts, or combination of them indicate that weather conditions at the estimated time of arrival at the destination airport will be at or above authorized IFR landing minimums

(ROT 27)

135.221

Amend section 135.221 to read as follows:

Section 135.221, Alternate Airport Weather Minimums.

Unless otherwise authorized by the Administrator, no person may include an alternate airport in an IFR flight plan unless appropriate weather reports or weather forecasts, or a combination of them, indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the following weather minima:

(1) If an instrument approach procedure has been published in part 97 of this chapter, or a special instrument approach procedure has been issued by the Administrator to the operator, for that airport, the following minima:

(i) For aircraft other than helicopters and powered-lift: The alternate airport minima specified in that procedure, or if none are specified the following standard approach minima:

(A) For a precision approach procedure. Ceiling 600 feet and visibility 2 statute miles.

(B) For a nonprecision approach procedure. Ceiling 800 feet and visibility 2 statute miles.

(ii) For helicopters and powered-lift: Ceiling 200 feet above the minimum for the approach to be flown, and visibility at least 1 statute mile but never less than the minimum visibility for the approach to be flown, and

(2) If no instrument approach procedure has been published in part 97 of this chapter and no special instrument approach procedure has been issued by the Administrator to the operator, for the alternate airport, the ceiling and visibility minima are those allowing descent from the MEA, approach, and landing under basic VFR.

(3) Other than standard alternate airport weather minimums may be approved through the issuance of operations specifications.

Revise section 135.223 to read as follows:

NOTE: 2 working groups submitted two different versions for this section. Need to review and consolidate versions.

(OPS-12 version)

135. 223 Fuel requirements for flight in IFR conditions:

(a) No person may operate a civil aircraft in IFR conditions unless it carries enough fuel (considering weather reports and forecasts and weather conditions) to-

(1) Complete the flight to the first airport of intended landing;

(2) Except as provided in paragraph (b) of this section, fly from that airport to the alternate airport; and

(3) Fly after that for 45 minutes at normal cruising speed or, for helicopters, fly after that for 30 minutes at normal cruising speed.

(b) Paragraph (a)(2) of this section does not apply if:

(1) Part 97 of this chapter prescribes a standard instrument approach procedure to, or a special instrument approach procedure issued by the Administrator to the operator for, the first airport of intended landing; and

(2) Appropriate weather reports or weather forecasts, or a combination of them, indicate the following:

(i) *For aircraft other than helicopters.* For at least 1 hour before and for 1 hour after the estimated time of arrival, the ceiling will be at least 2,000 feet above the airport elevation and the visibility will be at least 3 statute miles.

(ii) *For helicopters.* At the estimated time of arrival and for 1 hour after the estimated time of arrival, the ceiling will be at least 1,000 feet above the airport elevation, or at least 400 feet above the lowest applicable approach minima, whichever is higher, and the visibility will be at least 2 statute miles.

(ROT 11)

(Rotorcraft version)

135.223 IFR: Alternate airport requirements.

(a) No person may operate a civil aircraft in IFR conditions unless it carries enough fuel (considering weather reports and forecasts and weather conditions) to--

(1) Complete the flight to the first airport of intended landing;

(2) Except as provided in paragraph (b) of this section, fly from that airport to the alternate airport; and

(3) Fly after that for 45 minutes at normal cruising speed or, for helicopters and powered-lift, fly after that for 30 minutes at normal cruising speed.

(b) Paragraph (a)(2) of this section does not apply if:

(1) Part 97 of this chapter prescribes a standard instrument approach procedure to, or a special instrument approach procedure has been issued by the Administrator to the operator for, the first airport of intended landing; and

(2) Appropriate weather reports or weather forecasts, or a combination of them, indicate the following:

(i) For aircraft other than helicopters and powered-lift. For at least 1 hour before and for 1 hour after the estimated time of arrival, the ceiling will be at least 2,000 feet above the airport elevation and the visibility will be at least 3 statute miles.

(ii) For helicopters and powered-lift. At the estimated time of arrival and for 1 hour after the estimated time of arrival, the ceiling will be at least 1,000 feet above the airport elevation, or at least 400 feet above the lowest applicable approach minima, whichever is higher, and the visibility will be at least 2 statute miles.

In section 135.225, amend paragraph (b) to read as follows:

Section 135.225, IFR: Takeoff, approach, and landing minimums.

*** * * * ***

(b) No pilot may begin the final approach segment of an instrument approach procedure to an airport unless the latest weather reported by the facility described in paragraph (a)(1) of this section indicates that weather conditions are at or above the authorized IFR landing *visibility* minimums for that procedure.

* * * * *

135.225(f)

Unless otherwise authorized in the certificate holder's operations specifications, each pilot making an IFR takeoff, approach, or landing at a military or foreign airport shall comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over that airport.

§135.225(g)

(g) If takeoff minimums are specified in Part 97 of this chapter for the takeoff airport, no pilot may take off an aircraft under IFR when the weather conditions are less than the takeoff minimums specified for the takeoff airport in Part 97 or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

§135.225(h)

(h) Except as provided in paragraph (i) of this section, if takeoff minimums are not prescribed in part 97 of this chapter for the takeoff airport, no pilot may takeoff an aircraft under IFR when the weather conditions are less than that prescribed in part 91 of this chapter or in the certificate holder's operations specifications. For the purposes of this section, the weather conditions must be:

(1) Reported by the facility described in paragraph (a)(1) of this section, or;

(2) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

§135.225(i)

(i) At airports where straight-in instrument approach procedures are authorized, a pilot may take off an aircraft under IFR when the weather conditions are equal to or better than the lowest straight-in landing minimums, unless otherwise restricted, if--

(1) The wind direction and velocity at the time of takeoff are such that a straight-in instrument approach can be made to the runway served by the instrument approach;

(2) The associated ground facilities upon which the landing minimums are predicated and the related airborne equipment are in normal operation; and

(3) The certificate holder has been approved for such operations.

(4) For the purposes of this section, the weather conditions must be:

(i) Reported by the facility described in paragraph (a)(1) of this section, or;

(ii) There is a published instrument approach procedure, the weather conditions are above the applicable takeoff minimums as determined by pilot observation, and the pilot determines a take-off alternate as defined in §135.217.

. In section 135.227, amend paragraph (a) to read as follows:

§ 135.227 Icing conditions: Operating limitations.

(a) No pilot may take off an aircraft that has frost, ice, or snow adhering to any rotor blade, propeller, windshield, wing, stabilizing or control surface, to a powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the following conditions:

(1) Unless otherwise prohibited in the Airplane Flight Manual required by parts 23.1581 or 25.1581 of this title, takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

135.227

(OPS 68 version)

(c) Except for an airplane that has ice protection provisions that meet section 34 of Appendix A,

or those for transport category airplane type certification, no pilot may fly -

(1) Under IMC into known or forecast light or moderate icing conditions; or

(2) Under VMC into known light or moderate icing conditions; unless the aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb,

or flight attitude instrument system.

* * * * *

(AER 1)

Amend § 135.229 to read as follows:

§ 135.229 Airport requirements.

(a) No certificate holder may use any airport unless it is adequate for the proposed operation, considering such items as size, surface, obstructions, and lighting.

(b) No pilot of an aircraft carrying passengers at night may takeoff from, or land on, an airport unless -

(1) That pilot has determined the wind direction from an illuminated wind direction indicator or local ground communications or, in the case of takeoff, that pilot's personal observations; and

(2) The limits of the area to be used for landing or takeoff are clearly shown -

(i) For airplanes, by boundary or runway marker lights;

(ii) For helicopters, by boundary or runway marker lights, reflective material, or aided surface reference.

(c) For the purpose of paragraph (b) of this section, if the area to be used for takeoff or landing is marked by flare pots or lanterns, their use must be approved by the Administrator.

135.229 Airport requirements.

(b) No pilot of an aircraft carrying passengers at night may takeoff from, or land on, an airport unless—

(1) That pilot has determined the wind direction from an illuminated wind direction indicator, ~~or~~ local ~~ground~~ communications or, **in a manner approved by the Administrator,** in the case of takeoff, that pilot's personal observations; and…..

Rescind the current §135.299(c).

(APP 20)

§ 135.244 Operating experience.

(a) No certificate holder may use any person, nor may any person serve, as a pilot in command of an aircraft operated in a commuter operation, as defined in part 119 of this chapter, unless that person has completed, prior to designation as pilot in command, on *that make, model and type (if a type rating is applicable)* aircraft and in that crewmember position, the following operating experience in each *make, model and type (if a type rating is required*) of aircraft to be flown:

(1) Aircraft, single engine - 10 hours.

(2) Aircraft multiengine, reciprocating engine powered - 15 hours.

(3) Aircraft multiengine, turbine engine powered - 20 hours.

(4) Airplane, turbojet powered - 25 hours.

(b) In acquiring the operating experience, each person must comply with the following:

(1) The operating experience must be acquired after satisfactory completion of the appropriate ground and flight training for the aircraft and crewmember position. Approved provisions for the operating experience must be included in the certificate holder's training program.

(2) The experience must be acquired in flight during commuter passenger carrying operations under this part. However, in the case of an aircraft not previously used by the certificate holder in operations under this part, operating experience acquired in the aircraft during proving flights or ferry flights may be used to meet this requirement.

(3) Each person must acquire the operating experience while performing the duties of a pilot in command under the supervision of a qualified check pilot.

(4) The hours of operating experience may be reduced to not less than 50 percent of the hours required by this section by the substitution of one additional takeoff and landing for each hour of flight.

§135.247

(a) No certificate holder may use any person, nor may any person serve, as pilot in command of an aircraft carrying passengers unless, within the preceding 90 days, that person has—

(1) Made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in a Level C or higher flight simulator.

(2) For operation during the period beginning 1 hour after sunset and ending 1 hour before sunrise (as published in the Air Almanac), made three takeoffs and three landings during that period as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type in which that person is to serve. The takeoffs and landings required by this paragraph may be accomplished in a Level C or higher flight simulator, if the visual system is adjusted to represent the period described in this paragraph.

***

(OPS 63)

§135.247(c)

(new subparagraph)

No certificate holder may use any person, nor may any person serve, as pilot in command unless the certificate holder has provided that person current information concerning the following subjects pertinent to the areas over which that person is to serve, and to each airport and terminal area into which that person is to operate, and ensures that that person has adequate knowledge of, and the ability to use, the information:

(8)Navigation facilities.

(9)Communication procedures, including airport visual aids.

(10) Kinds of terrain and obstructions.

(11) Minimum safe flight levels.

(12) Enroute and terminal area arrival and departure procedures, holding procedures and authorized instrument approach procedures for the airports involved.

(13) Congested areas and physical layout of each airport in the terminal area in which the pilot will operate.

(14) Notices to Airmen.

(OPS 42)

§135.253

(d) Pre-duty use.

(1) No covered employee shall perform flight crewmember or cabin safety crewmember duties within 8 hours after using alcohol. No certificate holder or operator having actual knowledge that such an employee has used alcohol within 8 hours shall permit the employee to perform or continue to perform the specified duties.

(OPS 1)---Ops 1 contains regulations 135.1201—Table 1221.9 below

Subpart F—**FAA NOTE: Numbers of regulations will be changed—1200 series numbers used for drafting purposes only—final document will incorporate all flight, duty and rest provisions into subpart F of part 135**

Subpart F

Crewmember Flight Time and Duty Period Limitations and Rest Requirements

§ 135.1201 Applicability.

Sections 135.1203 through 135.1225 of this part prescribe flight time limitations, duty period limitations, and rest requirements for operations conducted under this part as follows:

(a) Sections 135.1203 through 135.1217 apply to all operations under this subpart.

(b) Section 135.1219 applies to:

(1) Scheduled passenger-carrying operations, except those conducted solely within the state of Alaska. "Scheduled passenger-carrying operations" means passenger-carrying operations that are conducted in accordance with a published schedule which covers at least five round trips per week on at least one route between two or more points, includes dates or times (or both), and is openly advertised or otherwise made readily available to the general public, and

(2) On-demand operators as defined in Part 119 of this chapter, where the certificate holder elects and is authorized by the Administrator to use this type of crewmember schedule. In order to make this election the on-demand operation must be:

(a) Cargo-only;

(b) Public charter operations conducted in accordance with part 380 of this chapter; or,

(c) Air tour operations as defined in part 136 of this chapter.

(c) Section 135.1221 applies to any operation that is not a scheduled passenger-carrying operation and to any operation conducted solely within the State of Alaska, unless the operator elects to comply with § 135.1219 as authorized under paragraph (b)(2) of this section.

(d) Section 135.1225 prescribes duty period limitations and rest requirements for cabin safety crewmembers and passenger service specialists in all operations conducted under this part.

(e) If authorized by the Administrator in the certificate holder's operations specifications, an alertness management program may be used in lieu of the flight, duty, and rest requirements of this subpart.

(f) Section _____ prescribes duty period limitations and rest requirements for dispatchers when required in operations conducted under this part, except for Alaska. (Place holder, location TBD, would apply to certain scheduled operations)

§ 135.1203 Flight, Duty, and Rest Records Required

Certificate holders conducting operations under this part shall provide the following information in a format, acceptable to the Administrator, to record the flight time, rest time, and duty time in adequate detail to ensure compliance with the provisions of this subpart. As a minimum, this documentation must include:

(1) The name, or other identification, of the crewmember;

(2) The type of crewmember scheduling option to which the crewmember is assigned;

(3) The start and end of each duty assignment;

(4) The total flight time accumulated during each duty assignment;

(5) The start and end of each assigned Rest period;

(6) A means of identifying which aircraft, route number, or flight number used for the duty assignment;

(7) The number of flight crewmembers assigned to each flight;

(8) The total flight time accumulated in other commercial flying, in sufficient detail to show compliance with this subpart;

(9) An identification of occurrences wherein the maximum duty hours or maximum flight hours in this subpart were exceeded;

(10) Identification of instances where compensatory rest was provided; and

(11) Identification of instances where a mid-duty break was provided.

In addition to the above requirements, crewmembers who are assigned to the Crewmember Availability Method where Protected Time, Contact Time, and Available Time are established, the following must be provided:

(1) The Protected/Contact Time start and end time;

(2) The date and time of the establishment of the Protected/Contact Time;

(3) The date and time where the Protected/Contact Times were changed.

§ 135.1205 Types of Crewmember Scheduling Options

Crewmembers may be assigned to one of the following types of schedules.

1.	Scheduled	A crewmember scheduling option that is: 1. Associated with a scheduled operation as defined in Part 119 of this chapter; or, 2. Associated with an on-demand operation, as defined in Part 119 of this chapter, where the certificate holder elects and is authorized by the Administrator to use this type of crewmember schedule. In order to make this election the on-demand operation must be: (a) Cargo-only; (d) Public charter operations conducted in accordance with part 380 of this chapter; or (e) Air tour operations as defined in part 136 of this chapter.
2.	Regularly Assigned	A crewmember scheduling option in which the certificate holder establishes a duty period rotation of not less than 28 days, which is known in advance, with the following conditions; 1. The rotation must provide a start time within 2 hours of the first scheduled starting time, or if the change in starting time is in

		excess of 2 hours it must provide for 20 hours of OFF time between the two duty periods with varying start times, of which at least the last 10 hours must be REST. 2. The rotation may not contain more than 2 changes in starting times greater than 2 hours in any consecutive 7 calendar day period.
3.	Unscheduled	A crewmember scheduling option that is associated with an on-demand operation as defined in Part 119 of this chapter.

1

§ 135.1207 Crewmember Status Categories

A crewmember must always be in one of the following status categories and subcategories, as applicable:

1.	Off	A period of time, which may be concurrent with Rest, which is known in advance, and during which the crewmember and the operator have no expectation or obligation to perform a duty assignment.
2.	Duty (On-Duty)	A period of time during which the crewmember is performing tasks directed by the certificate holder or must be available to perform such tasks. Duty includes two sub-categories: 1) Flight Duty, and; 2) Other Duty.
a.	Flight Related Duty	A period of time which includes all flight time and pre- and post-flight related activities. Flight Related Duty begins when a crewmember is required by the certificate holder or aircraft operator to report for a duty period that includes one or more flights to be conducted under this part and ends at the conclusion of post-flight duties associated with the final flight segment of the duty period. For

		the purposes of this section, any duty associated with a flight immediately following a flight conducted under this part, assigned by the certificate holder, aircraft owner, or aircraft lessee, regardless of the operating rule under which it is conducted, is considered Flight Related Duty. Duty time that occurs as part of a training event wherein an aircraft is not accumulating flight time is not considered Flight Related Duty for the purposes of this part. Flight Related Duty includes Other Duty if the Other Duty is performed prior to the Flight Related Duty without an intervening Rest period.
b.	Other Duty	A period of time that includes any other task assigned by any certificate holder or aircraft operator that does not include Flight Time. Other duty is not rest. These tasks include, but are not limited to: 1. Ground training; 2. Training or checking in simulation devices; 3. Administrative duties;

		4. Deadheading; 5. Any other task assigned by the certificate holder.

1

3.	Rest (In-Rest)	A continuous period of time that: (a) Is known in advance by the crewmember and certificate holder, and; (b) Is free from all restraint and obligation to the certificate holder. (c) If a rest period is interrupted by the certificate holder, rest will be presumed to have not taken place, except as provided in (e) below. (d) It is not an interruption of the rest period if a certificate holder contacts a crewmember by either active or passive means for the purpose of establishing, modifying, or verifying a flight assignment during the final one hour of any rest period. However, the crewmember is not obligated to receive or respond during that time.
4.	Available	A period of time where the crewmember may be assigned to Duty in accordance with §135.1221 (Crewmember Availability Method).

§ 135.1209 Definitions

This section contains definitions applicable to this subpart.

1.	Crewmember	For the purpose of this subpart only, crewmember includes any required flight crewmember, cabin safety crewmember, or passenger service specialist.
2.	Compensatory Rest	An extension of a rest period that is necessitated when a specific provision of this subpart is exceeded resulting in the need for an extended rest period for a crewmember.
3.	Active Contact	As applied when a certificate holder is attempting to contact a crewmember, active contact is a type of contact that the crewmember cannot avoid. This includes but is not limited to: 1. telephone or voice communication originated by the certificate holder; 2. audible electronic communication device; 3. knocking at the door where the crewmember is located.
4.	Passive Contact	As applied when a certificate holder is attempting to contact a crewmember, passive contact is a type of contact that the crewmember can avoid. This includes but is not limited to: a) email; b) web site;

		c) inaudible pager; d) facsimile transmission; e) telephone call with the phone ringer off; f) voicemail message.
5.	Flight Time	Any period of time which begins when the aircraft, under its own power, is moving for the purposes of flight, and ends when the aircraft comes to rest after landing.

1

6.	Time at Flight Controls	Any period of time during Flight Time in which a pilot is physically occupying a pilot seat in an aircraft regardless if the controls are being manipulated by the pilot or not.
7.	Mid-Duty Break	A period of time wherein the crewmember is provided a break for a minimum of four consecutive hours in a controlled environment. A mid-duty break is not considered rest.
8.	Home Base	The place at which the crewmember normally reports for duty.

§ 135.1211 (F135.263) Flight time and duty time limitations and rest requirements: All certificate holders.

(a) A certificate holder may assign a crewmember and a crewmember may accept an assignment for flight time or duty time only when the applicable requirements of this subpart are met.

(b) No certificate holder may assign any crewmember to any duty with the certificate holder during any required rest period.

§135.1213 Transportation of crewmembers for flight duty assignments

For the purposes of this subpart, transportation of a crewmember, provided and/or required by the certificate holder, to or from a location where the crewmember is to perform flight duty or has performed flight duty, is not considered part of a Rest Period. This does not include personal commuting to and from the crewmember's home base.

§135.1214 Circumstances beyond the Control of the Certificate Holder or Crewmember(s)

(a) Circumstances beyond the control of the certificate holder or crewmember are circumstances that occur that are unable to be planned for or foreseen by the certificate holder or crewmember(s).

(1) These circumstances include:

i) unknown weather delays;

ii) unknown air traffic control delays.

(2) These circumstances do not include:

i) known weather delays;

ii) known air traffic control delays;

iii) late arriving passengers; or,

iv) late arriving freight shipments.

(b) When circumstances beyond the control of the certificate holder or crewmember occur after flight time begins but prior to take off, the maximum number of flight hours in a duty period may be extended by 1 hour.

(c) When circumstances beyond the control of the certificate holder or crewmember occur after takeoff, the maximum flight and duty hours for that flight segment are not limited by this subpart.

(d) For EMS operations, circumstances beyond the control of the certificate holder or crewmember includes the circumstances that occur after takeoff plus a patient necessity discovered at a point at or after the first intended landing point. In no case shall such determination be made prior to initial takeoff of the assigned flight.

§135.1215 Assignment of augmented flight crewmembers

A certificate holder may elect to add additional flight crewmembers to its flights. If additional flight crewmembers are added, the following requirements apply:

(a) For aircraft requiring one pilot:

(1) To add an additional pilot to a one pilot crew in an aircraft with two pilot stations, and operate under the two pilot crew limitations of this subpart, the additional flight crewmember must be qualified as a pilot-in-command or second-in-command as required by this part.

(b) For aircraft requiring two pilots:

To add additional pilot(s) to a two pilot crew, and operate under the three or four pilot crew limitations of this subpart:

(1) A flight crewmember respite seat for each non-flying pilot must be provided. This seat must:

(i) be available to the flight crewmember at any time during flight time, and;

(ii) recline a minimum of 60 degrees, and;

(iii) be equipped with a seat belt or sleep restraint system.

(2) A form of active noise suppression must be made available to the flight crewmember.

(3) Personal isolation equipment must be made available to the flight crewmember.

(4) The passenger briefing required by §135.117 must include acknowledgment that additional flight crewmembers are on board and information regarding the seat(s) available to those flight crewmembers and their locations.

(5) Assignment of additional flight crewmembers to a flight requires that all flight crewmembers meet the requirements of this subpart applicable to additional flight crewmembers. All crewmembers are not required to start the assignment together.

(6) For flights where additional flight crewmember(s) are assigned, the qualifications for those crewmembers must meet the following minimum quantities and requirements:

1

Number of Flight Crewmembers Assigned	**Pilot-in-Command Qualified Under this Part**	**Second-in-Command Qualified Under this Part**
Three (3)	Two (2)	One (1)
Four (4)	Two (2)	Two (2)

2

§135.1217 Mid-Duty break assignments

The certificate holder may elect to assign a mid-duty break during a duty period. By assigning a mid-duty break for a minimum of four hours, the certificate holder may add two additional hours to the duty period of the crewmember provided the following conditions are met:

(a) The mid-duty break must be a continuous four hour period, not including the time in transportation from the landing location to and from the mid-duty break facility.

(b) The certificate holder cannot assign more the two mid-duty break periods to a crewmember in any consecutive seven calendar day period.

(c) The certificate holder must record mid-duty break assignments in its recordkeeping system required by §135.1203.

(d) The mid-duty break must be free of all constraint. If the certificate holder contacts the crewmember through active means during a mid-duty break, then the mid-duty break will be considered to not have occurred at all.

(e) The mid-duty break must occur in a controlled environment. The controlled environment must:

(1) be a private environment that contains a suitable bed;

(2) be environmentally (heating, cooling, lighting) controlled;

(3) be arranged in advance to ensure availability.

(f) The assignment of a mid-duty break alone does not require compensatory rest unless other limitations are exceeded that require compensatory rest.

§ 135.1219 (F135.265) Flight time and duty time limitations and rest requirements: Scheduled operations.

(a) No certificate holder may schedule any flight crewmember, and no flight crewmember may accept an assignment, for flight time in scheduled operations or in other commercial flying if that crewmember's total flight time in all commercial flying will exceed -

(1) 1,200 hours in any calendar year.

(2) 120 hours in any calendar month.

(3) 34 hours in any 7 consecutive days.

(4) 8 hours during any 24 consecutive hours for a flight crew consisting of one pilot.

(5) 8 hours between required rest periods for a flight crew consisting of two pilots qualified under this part for the operation being conducted.

(b) Except as provided in paragraph (c) of this section, no certificate holder may schedule a flight crewmember, and no flight crewmember may accept an assignment, for flight time during the 24 consecutive hours preceding the scheduled completion of any flight segment without a scheduled rest period during that 24 hours of at least the following:

(1) 9 consecutive hours of rest for less than 8 hours of scheduled flight time.

(2) 10 consecutive hours of rest for 8 or more but less than 9 hours of scheduled flight time.

(3) 11 consecutive hours of rest for 9 or more hours of scheduled flight time.

(c) A certificate holder may schedule a flight crewmember for less than the rest required in paragraph (b) of this section or may reduce a scheduled rest under the following conditions:

(1) A rest required under paragraph (b)(1) of this section may be scheduled for or reduced to a minimum of 8 hours if the flight crewmember is given a rest period of at least 10 hours that must begin no later than 24 hours after the commencement of the reduced rest period.

(2) A rest required under paragraph (b)(2) of this section may be scheduled for or reduced to a minimum of 8 hours if the flight crewmember is given a rest period of at least 11 hours that must begin no later than 24 hours after the commencement of the reduced rest period.

(3) A rest required under paragraph (b)(3) of this section may be scheduled for or reduced to a minimum of 9 hours if the flight crewmember is given a rest period of at least 12 hours that must begin no later than 24 hours after the commencement of the reduced rest period.

(d) Each certificate holder shall relieve each flight crewmember engaged in scheduled air transportation from all further duty for at least 24 consecutive hours during any 7 consecutive days.

§ 135.1221 (F135.267) Flight time and duty time limitations and rest requirements: Unscheduled crewmembers.

(a) This section identifies two methods for determining flight time, duty time and rest requirements for unscheduled crewmembers as defined in this subpart.

(1) Crewmember Availability Method; and,

(2) Tabular Method.

(b) No certificate holder may assign any flight crewmember, and no flight crewmember may accept an assignment, for flight time as a member of a one or two pilot crew if that crewmember's total flight time in all commercial flying will exceed -

(1) 500 hours in any calendar quarter.

(2) 800 hours in any two consecutive calendar quarters.

(3) 1,400 hours in any calendar year.

(c) The following definitions apply to the Crewmember Availability Method:

Protected Time	The period of time, known in advance by the certificate holder and crewmember, wherein the crewmember is given the opportunity to sleep. During this time, the certificate holder is prohibited from contacting the crewmember and the

	crewmember is not required to receive contact. A previously assigned duty period may be completed in Protected Time provided compensatory rest is assigned.
Contact Time	The period of time, known in advance by the certificate holder and crewmember, wherein the certificate holder may employ active or passive contact means to contact a crewmember. The crewmember is not required to receive contact during this time.
Available Time	The period of time, known in advance by the certificate holder and crewmember, wherein the crewmember is available for assignment to a duty period.

1

(d) Crewmembers are limited to the maximum flight hours contained in Table 1221-1 based on the number of flight crewmembers assigned to the flight.

(1) The maximum number of flight hours can only be exceeded for circumstances beyond the control of the crewmembers or certificate holder as defined in this subpart.

Table 1221-1: Flight time limitations

Number of flight crewmembers	*Maximum flight hours permitted*
One	8 hours
Two	10 hours

(e) Notwithstanding the other limitations of this section, crewmembers are limited to a maximum 14 hour duty period.

(1) The maximum number of duty hours can only be exceeded for circumstances beyond the control of the crewmembers or certificate holder as defined in this subpart.

(f) The following requirements shall apply to the Crewmember Availability Method:

(1) The Protected Time period shall be a minimum of 7 consecutive hours, and;

(2) The Contact Time period must immediately follow the Protected Time period and shall be 1 hour.

(3) The Protected Time and Contact Time periods shall begin and end at the same time each calendar day. The Protected Time and Contact Time periods of a crewmember cannot be changed except in accordance with Table 1221-2.

(4) In all cases, a crewmember must receive a minimum of 10 hours of consecutive rest, or the applicable compensatory rest, at the conclusion of any duty period involving flight time.

(5) The time period for the Protected Time and Contact Time described in this section shall be based on local time at the crewmember's home base.

(6) If a crewmember who is assigned to the Crewmember Availability Method changes their home base at the direction of the certificate holder to a location outside the current home base time zone, there shall be a 72 consecutive hour OFF period before the crewmember may be assigned a duty period.

(7) A crewmember's Protected Time period may be penetrated by a flight assignment that began prior to the beginning of the Protected Time period, but at no time shall that penetration be greater than 2 hours or occur more than 2 times in a 7 consecutive calendar day period.

(8) When a crewmember's Protected Time period is penetrated by a flight assignment, the crewmember must receive at least 12 consecutive hours of compensatory rest at the conclusion of the duty period.

(9) A crewmember may be assigned a duty period by the certificate holder at any time during Available Time.

(10) The length of the duty period is limited by the amount of Available Time remaining for the crewmember, or the Flight Time and Duty Time limitations contained in this section, whichever is more limiting.

(11) A crewmember's Protected Time period may be penetrated only in accordance with subparagraph (f) of this section.

(g) In addition to the other limitations contained in this section, the crewmember availability method is not applicable to flights in which three or more flight crewmembers are assigned.

(h) The following transitions apply to and from the Crewmember Availability Method.

Table 1221-2: Transitions to and from the Crewmember Availability Method

Changes in Protected/Contact Time	2 hour or less change in the start of Protected Time	Minimum of 10 consecutive hours of rest or off-time before assignment to the new Protected Time.
	More than 2 hour but less than 4 hour change in start of Protected Time	Minimum of 16 consecutive hours of rest or off-time before assignment to the new Protected Time.

	4 hour or more change in start of Protected Time	Minimum of 48 consecutive hours of rest or off-time before assignment to the new Protected Time.
Change from Tabular Method to Crewmember Availability Method	Any reassignment by the certificate holder	The newly assigned duty period may not begin before: The completion of the minimum consecutive hours of rest required by the previously assigned and applicable Table (including any required compensatory rest).
Change from Crewmember Availability Method to Tabular Method	If the change in scheduling method (CAM to TAB) occurs during Protected Time	A newly assigned duty period may not begin before the completion of at least 10 consecutive hours of rest, or the minimum rest required by the applicable Table (including any required compensatory rest).

	If the change in scheduling method (CAM to TAB) occurs during Available Time	A newly assigned duty period may not begin before: The end of the next Protected/Contact Time (had the crewmember remained in the CAM), and; During that time, the crewmember must receive at least 10 consecutive hours of rest, or the minimum rest required by the applicable Table (including any required compensatory rest).

(i) The following tables describe the limitations associated with the Tabular Method

1

2 **Table 1221-3: Unscheduled One Pilot Crews**

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
1 Pilot	**10**	**14**	**8**	**NA**
Conditions	**Yes**	**Yes**	**Yes**	**NA**
			1. *>8 flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*	
		1. *>14 duty hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*		
	1. *Four 24 consecutive hour "OFF" periods are required in each calendar month.*			

Maximum Flight or Duty Time Exceeded - Compensatory Rest	
Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
	Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.		
	Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.		

1

1

2 **Table 1221-4: Unscheduled Two Pilot Crews – Option One**

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
2 Pilots	**10**	**14**	**10**	**NA**
Conditions	**Yes**	**Yes**	**Yes**	**NA**
			1. *>10 flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*	
		1. *>14 duty hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*		
	1. *Four 24 consecutive hour "OFF" periods are required in each calendar month.*			

Maximum Flight or Duty Time Exceeded - Compensatory Rest	
Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
	Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.		
	Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.		

1

1

2 **Table 1221-5: Unscheduled Two Pilot Crews – Option Two (F Long Range Flights)**

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
2 Pilots	**16**	**14**	**12**	**NA**
Conditions	**Yes**	**Yes**	**Yes**	**NA**
			1. *Autopilot must be verified operable prior to takeoff.* 2. *No more than 2 landings may occur during the duty period and only one landing can occur after the completion of 10 flight hours.* 3. *>12 flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 4. *Compensatory Rest applies.*	
		1. *>14 duty hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*		

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
	1. *16 consecutive hours of rest is required immediately prior to and after the duty period. (Rest-Duty-Rest)* 2. *Four 24 consecutive hour "OFF" periods are required in each calendar month.*			

Maximum Flight or Duty Time Exceeded - Compensatory Rest	
Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.
Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.
Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.

1

1

2 **Table 1221-6: Unscheduled Three Pilot Crews (Aircraft Requiring Two Pilots)**

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
3 Pilots	**12**	**16**	**12**	**9.5**
Conditions	**Yes**	**Yes**	**Yes**	**See 135.1215 (b)**
			1. *Maximum flight hours may be extended to 14 provided no more than one landing occurs after 12 hours of flight time in the duty period.* 2. *>12 (or >14 as provided in note 1) flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 3. *Compensatory Rest applies.*	
		1. *>16 duty hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*		

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
	1. *Four 24 consecutive hour "OFF" periods are required in each calendar month.*			

Maximum Flight or Duty Time Exceeded - Compensatory Rest	
Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.
Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.
Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.

1

1

2 **Table 1221-7: Unscheduled Four Pilot Crews (Aircraft Requiring Two Pilots)**

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
4 Pilots	**12**	**18**	**14**	**8**
Conditions	**Yes**	**Yes**	**Yes**	**See 135.1215 (b)**
			1. *Maximum flight hours may be extended to 16 provided no more than one landing occurs after 14 hours of flight time in the duty period.* 2. *>14 (or >16 as provided in note 1) flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 3. *Compensatory Rest applies.*	
		1. *>18 duty hours ONLY for Circumstances Beyond the Control of crew or certificate holder as defined in this subpart.* 2. *Compensatory Rest applies.*		

	REST	DUTY	FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
	1. *Four 24 consecutive hour "OFF" periods are required in each calendar month.*			

Maximum Flight or Duty Time Exceeded - Compensatory Rest	
Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.
Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.
Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.

1

1

2 **Table 1221-8: Regularly Assigned One Pilot Crews**

	REST	DUTY		FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Extended Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
1 Pilot	**10**	**14**	**15**	**8**	**NA**
Conditions	**Yes**	**Yes**	**Yes**	**Yes**	**NA**
				1. *>8 flight hours ONLY for Circumstances Beyond the Control of crew or certificate holder. Compensatory rest applies.* 2. *Flight Time Limitations – 50 flight hours in a 7 day/168 hour period, 120 hours in a calendar month, 500 hours in any calendar quarter, 800 hours in any two consecutive calendar quarters, 1400 hours in any calendar year.* 3. *Compensatory Rest applies.*	
			1. *No more than two extended duty periods in any 168-*		

	REST	DUTY		FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Extended Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
			hour/7 day period. The two extended duty periods may not occur consecutively. 2. *15 duty hours not to be exceeded under any circumstances.* 3. *Compensatory Rest applies.*		
		1. *> 14 hours ONLY for Circumstances Beyond the Control of certificate holder or crewmember as specified in § 135.1214(d).* 2. *Compensatory Rest applies.*			
	1. *Unless the crewmember's regularly assigned schedule provides for one "OFF" day for every one day on duty (time for time), then the crewmember must have 13, 24-hour "OFF" periods in each calendar quarter, with at least four 24-hour "OFF" periods in each calendar month.*				

Maximum Flight or Duty Time Exceeded - Compensatory Rest

Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.
Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.
Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.

1

2 **Table 1221-9: Regularly Assigned Two Pilot Crews**

	REST	DUTY		FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Extended Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
2 Pilots	**10**	**14**	**15**	**10**	**NA**
Conditions	**Yes**	**Yes**	**Yes**	**Yes**	**NA**
				1. *>10 flight hours ONLY for Circumstances Beyond the Control of the crew or certificate holder.* 2. *Flight Time Limitations – 60 flight hours in a 7 day/168 hour period, 150 hours in a calendar month, 500 hours in any calendar quarter, 800 hours in any two consecutive calendar quarters, 1400 hours in any calendar year.* 3. *Compensatory Rest applies.*	
			1. *No more than two extended duty periods in any 168-hour/7 day period. The two extended duty periods may not*		

	REST	DUTY		FLIGHT	
Number of Pilots	**Minimum Rest Hours**	**Maximum Duty Hours**	**Maximum Extended Duty Hours**	**Maximum Flight Hours**	**Time at Flight Controls**
			occur consecutively. 2. *> 15 hours ONLY for Circumstances Beyond the Control of certificate holder or crewmember.* 3. *Compensatory Rest applies.*		
		1. *> 14 hours ONLY for Circumstances Beyond the Control of certificate holder or crewmember as specified in § 135.1214(d).* 2. *Compensatory Rest applies.*			
	1. *Unless the crewmember's regularly assigned schedule provides for one "OFF" day for every one day on duty (time for time), then the crewmember must have 13, 24-hour "OFF" periods in each calendar quarter, with at least four 24-hour "OFF" periods in each calendar month.*				

Maximum Flight or Duty Time Exceeded - Compensatory Rest

Maximum exceeded by less than 30 minutes	One additional hour of rest must be added to that required by the applicable table.
Maximum exceeded by 30 minutes up to and including 60 minutes	Two additional hours of rest must be added to that required by applicable table.
Maximum exceeded by more than 60 minutes	Six additional hours of rest must be added to that required by the applicable table.

1

(OPS 42)

§135.291

Except as provided in §135.3, this subpart—

(a) Prescribes the tests and checks required for pilot and cabin safety crewmembers and for the approval of check pilots in operations under this part; and

(ROT 10-4)

135.293 Initial and recurrent pilot testing requirements.

(a) No certificate holder may use a pilot, nor may any person serve as a pilot, unless, since the beginning of the 12th calendar month before that service, that pilot has passed a written or oral test, given by the Administrator or an authorized check pilot, on that pilot's knowledge in the following areas -

(1) The appropriate provisions of Parts 61, 91, and 135 of this chapter and the operations specifications and the manual of the certificate holder;

(2) For each type of aircraft to be flown by the pilot, the aircraft powerplant, major components and systems, major appliances, performance and operating limitations, standard and emergency operating procedures, and the contents of the approved Aircraft Flight Manual or equivalent, as applicable;

(3) For each type of aircraft to be flown by the pilot, the method of determining compliance with weight and balance limitations for takeoff, landing and enroute operations;

(4) Navigation and use of air navigation aids appropriate to the operation or pilot authorization, including, when applicable, instrument approach facilities and procedures;

(5) Air traffic control procedures, including IFR procedures when applicable;

(6) Meteorology in general, including the principles of frontal systems, icing, fog, thunderstorms, and windshear, and, if appropriate for the operation of the certificate holder, high altitude weather;

(7) Procedures for -

(i) Recognizing and avoiding severe weather situations;

(ii) Escaping from severe weather situations, in case of inadvertent encounters, including low altitude windshear (except that rotorcraft pilots are not required to be tested on escaping from low altitude windshear); and

(iii) Operating in or near thunderstorms (including best penetrating altitudes), turbulent air (including clear air turbulence), icing, hail, and other potentially hazardous meteorological conditions; and

(8) New equipment, procedures, or techniques, as appropriate.

(b) No certificate holder may use a pilot, nor may any person serve as a pilot, in any aircraft unless, since the beginning of the 12th calendar month before that service, that pilot has passed a competency check given by the Administrator or an authorized check pilot in that class of aircraft, if single engine airplane other than turbojet, or that type of aircraft, if helicopter, multiengine airplane, or turbojet airplane, to determine the pilot's competence in practical skills and techniques in that aircraft or class of aircraft. The extent of the competency check shall be determined by the Administrator or authorized check pilot conducting the competency check. The competency check may include any of

the maneuvers and procedures currently required for the original issuance of the particular pilot certificate required for the operations authorized and appropriate to the category, class and type of aircraft involved. For the purposes of this paragraph, type, as to an aircraft, means any one of a group of aircraft determined by the Administrator to have a similar means of propulsion, the same type certificate or same family as defined by the Administrator, and no significantly different handling or flight characteristics

(c) A demonstration of competency of the pilot's ability to maneuver the aircraft solely by reference to instruments will be included on each competency check. For VFR competency checks, this demonstration will be appropriate to the aircraft's installed equipment, operations specifications, and the operating environment. The check shall determine the pilot's ability to safely maneuver the aircraft into VMC conditions following an inadvertent encounter with IMC conditions.

(d) The instrument proficiency check required by § 135.297 may be substituted for the competency check when all the requirements of 135.293 are met.

(e) For the purpose of this part, competent performance of a procedure or maneuver by a person to be used as a pilot requires that the pilot be the obvious master of the aircraft, with the successful outcome of the maneuver never in doubt.

(f) The Administrator or authorized check pilot certifies the competency of each pilot who passes the knowledge or flight check in the certificate holder's pilot records.

(g) Portions of a required competency check may be given in an aircraft simulator or other appropriate training device, if approved by the Administrator.

(OPS 42)

§135.295

Initial and recurrent cabin safety crewmember testing requirements.

No certificate holder may use a cabin safety crewmember, nor may any person serve as a cabin safety crewmember unless, since the beginning of the 12th calendar month before that service, the certificate holder has determined by appropriate initial and recurrent testing that the person is knowledgeable and competent in the following areas as appropriate to assigned duties and responsibilities -

In 135.297, amend ……

Section 135.297 Pilot in command: Instrument proficiency check requirements.

(a) * * *

(b) No pilot may use any type of precision instrument approach procedure under IFR unless, since the beginning of the 6th calendar month before that use, the pilot satisfactorily demonstrated that type of approach procedure. No pilot may use any type of nonprecision approach procedure under IFR unless, since the beginning of the 6th calendar month before that use, the pilot has satisfactorily demonstrated either that type of approach procedure or any other two different types of nonprecision approach procedures.

(i) For aircraft other than helicopters and powered-lift: The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach to include the circle-to-land maneuver, and one missed approach. Each type of

approach procedure demonstrated must be conducted to published minimums for that procedure.

(ii) For helicopters and power-lift aircraft: The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach to circling minimums (circle-to-land maneuver not required), and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.

(c) *** * ***

* * * * *

§135.291

Except as provided in §135.3, this subpart—

(a) Prescribes the tests and checks required for pilot and cabin safety crewmembers and for the approval of check pilots in operations under this part; and

§135.295 Initial and recurrent cabin safety crewmember testing requirements.

No certificate holder may use a cabin safety crewmember, nor may any person serve as a cabin safety crewmember unless, since the beginning of the 12th calendar month before that service, the certificate holder has determined by appropriate initial and recurrent testing that the person is knowledgeable and competent in the following areas as appropriate to assigned duties and responsibilities -

(OPS 63)

135.299 (c)

Rescind the current §135.299(c).

§135.341 Pilot and cabin safety crewmember training programs.

(a) Each certificate holder, other than one who uses only one pilot in the certificate holder's operations, shall establish and maintain an approved pilot training program, and each certificate holder who uses a cabin safety crewmember shall establish and maintain an approved cabin safety crewmember training program, that is appropriate to the operations to which each pilot and cabin safety crewmember is to be assigned, and will ensure that they are adequately trained to meet the applicable knowledge and practical testing requirements of §§ 135.293 through 135.301. However, the Administrator may authorize a deviation from this section if the Administrator finds that, because of the limited size and scope of the operation, safety will allow a deviation from these requirements.

(b) Each certificate holder required to have a training program by paragraph (a) of this section shall include in that program ground and flight training curriculums for -

(1) Initial training;

(2) Transition training;

(3) Upgrade training;

(4) Differences training; and

(5) Recurrent training.

(c) Each certificate holder required to have a training program by paragraph (a) of this section shall provide current and appropriate study materials for use by each required pilot and cabin safety crewmember.

(d) The certificate holder shall furnish copies of the pilot and cabin safety crewmember training program, and all changes and additions, to the assigned representative of the Administrator. If the certificate holder uses training facilities of other persons, a copy of those training programs or appropriate portions used for those facilities shall also be furnished. Curricula that follow FAA published curricula may be cited by reference in the copy of the training program furnished to the representative of the Administrator and need not be furnished with the program.

(OPS 42)

§135.341 Pilot and cabin safety crewmember training programs.

(a) Each certificate holder, other than one who uses only one pilot in the certificate holder's operations, shall establish and maintain an approved pilot training program, and each certificate holder who uses a cabin safety crewmember shall establish and maintain an approved cabin safety crewmember training program, that is appropriate to the operations to which each pilot and cabin safety crewmember is to be assigned, and will ensure that they are adequately trained to meet the applicable knowledge and practical testing requirements of §§ 135.293 through 135.301. However, the Administrator may authorize a deviation from this section if the Administrator finds that, because of the limited size and scope of the operation, safety will allow a deviation from these requirements.

(b) Each certificate holder required to have a training program by paragraph (a) of this section shall include in that program ground and flight training curriculums for -

(1) Initial training;

(2) Transition training;

(3) Upgrade training;

(4) Differences training; and

(5) Recurrent training.

(c) Each certificate holder required to have a training program by paragraph (a) of this section shall provide current and appropriate study materials for use by each required pilot and cabin safety crewmember.

(d) The certificate holder shall furnish copies of the pilot and cabin safety crewmember training program, and all changes and additions, to the assigned representative of the Administrator. If the certificate holder uses training facilities of other persons, a copy of those training programs or appropriate portions used for those facilities shall also be furnished. Curricula that follow FAA published curricula may be cited by reference in the copy of the training program furnished to the representative of the Administrator and need not be furnished with the program.

Amend § 135.345 by adding subparagraph (a)(9)

(a)(9) Alertness management

§135.349 Cabin safety crewmembers: Initial and transition ground training.

Initial and transition ground training for cabin safety crewmembers must include instruction in at least the following—

(OPS 42)

§135.349 Cabin safety crewmembers: Initial and transition ground training.

Initial and transition ground training for cabin safety crewmembers must include instruction in at least the following—

***

Amend § 135.351 by revising (b)(2) to include alertness management training:

(b)(2) Instruction as necessary in the subjects required for initial ground training by this subpart, as appropriate, including low altitude windshear training and training on operating during ground icing conditions, as prescribed in § 135.341 and described in § 135.345, emergency training, and alertness management training.

(OPS 2)

Amend 135.379:

(revisions in bold italics)

135.379(d) No person operating a turbine engine powered large transport category airplane may take off that airplane at a weight greater than that listed in the Airplane Flight Manual --

(1) For an airplane certificated after August 26, 1957, but before October 1, 1958 (SR422), that allows a takeoff path that clears all obstacles either by at least (35+0.01 D) feet vertically (D is the distance along the intended flight path from the end of the runway

in feet), or by at least 200 feet horizontally within the airport boundaries and by at least 300 feet horizontally after passing the boundaries; or

(2) For an airplane certificated after September 30, 1958 (SR422A, 422B), that allows a net takeoff flight path **(*with the most critical engine inoperative*)** that clears all obstacles either by a height of at least 35 feet vertically, or by at least 200 feet horizontally within the airport boundaries and by at least 300 feet horizontally after passing the boundaries.

(e) In determining maximum weights, minimum distances, and flight paths under paragraphs (a) through (d) of this section, correction must be made for the runway to be used, the elevation of the airport, the effective runway gradient, the ambient temperature and wind component at the time of takeoff, and, if operating limitations exist for the minimum distances required for takeoff from wet runways, the runway surface condition (dry or wet). Wet runway distances associated with grooved or porous friction course runways, if provided in the Airplane Flight Manual, may be used only for runways that are grooved or treated with a porous friction course (PFC) overlay, and that the operator determines are designed, constructed, and maintained in a manner acceptable to the Administrator

(f) For the purposes of this section, it is assumed that the airplane is not banked before reaching a height of 50 feet, as shown by the takeoff path or net takeoff flight path data (as appropriate) in the Airplane Flight Manual, and after that the maximum bank is not more than 15 degrees.

(g) For the purposes of this section, the terms, *takeoff distance, takeoff run, net takeoff flight path* ***(with the most critical engine inoperative)***, have the same meanings as set forth in the rules under which the airplane was certificated.

(h) For the purposes of compliance with this section, IFR departure procedures designed in accordance with TERP/PAN-Ops criteria, or obstacle data compiled in accordance with TERP/PAN-Op criteria may be used to determine the net takeoff flight path required under paragraph (d)(2) of this section, however the net takeoff flight path may not be less than 3.3% or charted gradient minimums when using the criteria listed in this paragraph.

135.399 Small nontransport category airplane performance operating limitations.

(a) No person may operate a reciprocating engine, ~~or~~ turbopropeller or turbojet powered small airplane that is certificated under § 135.169(b)(2), (3), (4), (5), or (6) unless that person complies with the takeoff weight limitations in the approved Airplane Flight Manual or equivalent for operations under this part, and, if the airplane is certificated under § 135.169(b)(4) or (5) with the landing weight limitations in the Approved Airplane Flight Manual or equivalent for operations under this part.

(b) No person may operate an airplane that is certificated under § 135.169(b)(6) unless that person complies with the landing limitations prescribed in §§ 135.385 and 135.387 of this part. For purposes of this paragraph, §§ 135.385 and 135.387 are applicable to reciprocating and turbopropeller powered small

airplanes notwithstanding their stated applicability to turbine engine powered large transport category airplanes.

(AWG 1)

§ 135.411 Applicability.

(a) This subpart prescribes rules in addition to those in other parts of this chapter for the maintenance, preventive maintenance, and alterations for each certificate holder as follows:

(1) Aircraft that are configured with nine or less passenger seats, excluding any pilot seat, shall be maintained under parts 91 and 43 of this chapter and §§135.415, 135.416, 135.417, 135.421 and 135.422. An approved aircraft inspection program may be used under §135.419.

(2)The following aircraft shall be maintained under a maintenance program in §§135.415, 135.416, 135.417, and 135.423 through 135.443:

(A) aircraft that are configured with ten or more passenger seats, excluding any pilot seat;

(B) aircraft with a **certificated maximum takeoff weight (MTOW) of 50,000 lbs or more;**

(C) turbine-powered airplanes with a payload capacity of greater than 7,500lbs; and

(D) turbojet-powered airplanes ***in commuter operation***

(AWG 2)

135.411 Applicability. ***(regulation to be effective 18 months from effective date of rule)***

(d) This subpart prescribes rules in addition to those in other parts of this chapter for the maintenance, preventive maintenance, and alterations for each certificate holder as follows:

(2) Aircraft that are type certificated for a passenger seating configuration, excluding any pilot seat, of nine seats or less, shall be maintained under parts 91 and 43 of this chapter and §135.415, 135.416, 135.417, 135.420, 135.421 and 135.423. An approved aircraft inspection program may be used under §135.419.

(AWG 2)

(regulation to be effective 18 months from effective date of rule)

§135.420 Maintenance and preventive maintenance training program.

Each certificate holder or a person performing maintenance or preventive maintenance functions for it shall have a training program to ensure that each person who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties.

(AWG 2)

Regulation to be effective 19 months from effective date of rule--

135.433 Approved Maintenance and preventive maintenance training program.

Each certificate holder or a person performing maintenance or preventive maintenance functions for it must have an approved training program that includes initial and recurrent training to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform that person's duties.

(APP 20 -- INCLUDES SUBPART K, 135.551, 135.553, 135.555, 135.557)

PROPOSED NEW SUBPART K TO PART 135

Subpart K- Dispatch and Operational Control Requirements for Commuter Service Operators using turbojet airplanes

§ 135.551 Applicability.

This subpart prescribes the part 121 Dispatch and Operational Control requirements to be used by part 135 operators using turbojet airplanes in commuter service, except for those operations conducted solely within the state of Alaska. Unless otherwise authorized by the Administrator, operations conducted with the 48 contiguous United States will be conducted under the regulations listed in § 135.557 for Domestic operations and operations to, from or outside the 48 contiguous United States will be conducted under the regulations listed in § 135.557 for Flag operations, as applicable.

§ 135.553 References.

Unless otherwise provided, references in this subpart to specific sections of 14 CFR Part 121 are to those sections of part 121 currently in effect.

§ 135.555 Compliance with other regulations under this part.

In instances where other regulations in this part prescribe actions similar to or in conflict with the requirements of § 135.557, operators shall comply with the requirements of § 135.557.

§ 135.557 Compliance with regulations under part 121.

Each certificate holder must comply with the applicable requirements of part 121 Domestic or Flag Dispatch and Operational requirements including but not limited to:

§ 121.99 Communication facilities.

§ 121.101 Weather reporting facilities.

§ 121.103 En route navigational facilities.

§ 121.107 Dispatch centers.

§ 121.357 Airborne weather radar equipment requirements.

§ 121.395 Aircraft dispatcher: Domestic and flag operations.

121 Subpart N—Training Program as it applies to aircraft dispatchers.

(Specific regulations not referenced due to on-going FAA regulatory work on this Subpart.)

121 Subpart P—Aircraft Dispatcher Qualifications and Duty Time (121.461 through 121.467)

§ 121.533 Responsibility for operational control: Domestic operations.

§ 121.535 Responsibility for operational control: Flag operations.

§ 121.557 Emergencies: Domestic and flag operations.

§ 121.593 Dispatching authority: Domestic operations.

§ 121.595 Dispatching authority: Flag operations.

§ 121.599 (a) Familiarity with weather conditions.

§ 121.601 Aircraft dispatcher information to pilot in command: Domestic and flag operations.

§ 121.607 Communication and navigation facilities: Domestic and flag operations.

§ 121.611 Dispatch or flight release under VFR.

§ 121.613 Dispatch or flight release under IFR or over the top.

§ 121.615 Dispatch or flight release over water: Flag and supplemental operations.

§ 121.617 Alternate airport for departure.

§ 121.619 Alternate airport for destination: IFR or over-the-top: Domestic operations.

§ 121.621 Alternate airport for destination: Flag operations.

§ 121.625 Alternate airport weather minimums.

§ 121.627 Continuing flight in unsafe conditions.

§ 121.629 Operation in icing conditions.

§ 121.631 Original dispatch or flight release, redispatch or amendment of dispatch or flight release.

§ 121.635 Dispatch to and from refueling or provisional airports: Domestic and flag operations.

§ 121.637 Takeoffs from unlisted and alternate airports: Domestic and flag operations.

§ 121.639 Fuel supply: All domestic operations.

§ 121.645 Fuel supply: Turbine-engine powered airplanes, other than turbo propeller: Flag and supplemental operations.

§ 121.647 Factors for computing fuel required.

§ 121.663 Responsibility for dispatch release: Domestic and flag operations.

§ 121.683 Crewmember and dispatcher record.

§ 121.687 Dispatch release: Flag and domestic operations.

§ 121.711 Communication records: Domestic and flag operations.

[Proposed new subpart—119 or 135]

1. APPLICABILITY: This subpart applies to certain all-cargo operations conducted in aircraft having a maximum payload capacity in excess of 7,500 lb. and operated in accordance with 14 CFR 135.

2. SPECIFIC CONDITIONS FOR APPROVAL OF INCREASED PAYLOADS: Except as provided in Paragraph (c) –

(a) Airplanes operated in accordance with this subpart must have a maximum allowable payload capacity of 18,000 lb or less. Increases of up to five percent above 18,000 may be approved by the Administrator to account for model variances.

(b) Airplanes operated under this subpart must be certificated under Part 25 of the Federal Aviation Regulations or equivalent Civil Air Regulations.

(c) Airplanes eligible for operation in accordance with this subpart also include those airplanes configured for all-cargo operations having a maximum payload capacity, as configured, between 18,000 pounds and 30,000 pounds which were listed on the operations specifications of a Part 125 certificate holder on June 25, 2004.

(d) Pilots operating all-cargo airplanes in compliance with this subpart must be trained in accordance with an approved training program that meets the requirements of FAR 135 subpart H. The operator's training program must incorporate initial training to meet proficiency requirements of FAR 135 for pilot crewmembers, using advanced simulation, if approved aircraft-specific simulators incorporating motion and visual systems are available in the U.S.

(e) Operators of all-cargo airplanes operated under this subpart must develop and

comply with a maintenance training program applicable to the specific aircraft type, in accordance with FAR 135.433.

(f) All-cargo airplanes operated under this subpart must be maintained and inspected in accordance with a program acceptable to the Administrator that complies with FAR 135.411(a)(2), and those scheduled maintenance requirements set forth in the Maintenance Review Board (MRB) report applicable to aircraft in all-cargo configuration, if an MRB report is available for that airplane type. If no MRB report is available, an equivalent document, provided by the operator and acceptable to the Administrator, must be utilized

(g) Airplanes operated in accordance with this subpart must be equipped with cockpit voice recorders. If flight data recorders, electronic flight instrument systems, integrated flight control systems, traffic collision avoidance systems, or equivalent equipment were installed in the aircraft at the time of manufacture or mandated by regulations for aircraft carrying passengers in revenue operations in effect on [the effective date of this rule], these systems will be retained in operative condition except in accordance with approved Minimum Equipment Lists.[v] The requirements of this subparagraph do not apply to reciprocating-engine powered airplanes.

3. An operator eligible to operate under this subpart may elect to operate in accordance with Part 121 of this chapter, rather than this subpart.

PROPOSED ADDITIONAL "PLACEHOLDER" CHANGE TO FAR 135

(X) After [EFFECTIVE DATE OF THIS SUBPART], each certificate holder that conducts cargo operations within the state of Alaska in aircraft whose payload capacity is more than 7,500 lb. shall comply with Part 121 of this chapter.

(Y) If authorized by the Administrator upon application, each certificate holder that conducts operations under this part to which paragraph (X) of this section does not apply, may comply with Part 135 of this chapter

Issued in Washington, DC on

[Director, Office of Primary Interest, signs an NPRM]

---

[i] Proposed rule language also provides a five per cent increase above the 18,000 lb. maximum payload "if approved by the Administrator." This will allow operators access to limited payload increases to account for anticipated small increases in certificated maximum takeoff weight developed by manufacturers of aircraft at the upper end of the payload range.

[ii] These larger, older FAR 125 aircraft, with a cargo payload of more than 18,000 lb up to a maximum of 30,000 lb are limited in number (fewer that 30 in late 2004 and continuing to decrease) and will be phased out over time through attrition as their continued operation becomes economically unfeasible. The 24 June 2004 date was selected arbitrarily by ARC committee members to establish a cutoff date beyond which operators could not add aircraft in this group that would eligible for relief under this "grandfather" feature of the proposed rule.

[iii] A stretched, remanufactured, modernized version of the turboprop Convair 580 (Allison Convair)

[iv] Data provided by airplane manufacturers, their associated leasing entities, and industry data collection enterprises. Numbers presented are deliberately conservative.

[v] Minimum Equipment Lists (MELs) are developed by operators from FAA-produced Master MELs (MMELS) applicable to specific aircraft types or related groups of aircraft, and approved by operators' certificate holding district offices. MELs are intended to provide controlled, short-term relief from specific equipment requirements so equipment can be removed for repair, aircraft rotated to stations where repairs can be made, etc.

END OF DOCUMENT