downgraded to Channel 231C0 at its existing transmitter site. Additionally, the petition filed by Opelika Broadcasting Company, requesting the allotment of Channel 232A at Opelika, Alabama, as its second local FM transmission service was denied.

DATES: Effective February 26, 2007.

ADDRESSES: Federal Communications Commission, 445 Twelfth Street, SW., Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Sharon P. McDonald, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's *Report and Order*, MB Docket No. 05–79, adopted January 10, 2007, and released January 12, 2007. The full text of this Commission decision is available for inspection and copying during regular business hours at the FCC's Reference Information Center, Portals II, 445 Twelfth Street, SW., Room CY–A257, Washington, DC 20554. The complete text of this decision may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room CY–B402, Washington, DC 20054, telephone 1–800–378–3160 or *http://www.BCPIWEB.com*. The Commission will send a copy of the *Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

■ As stated in the preamble, the Federal Communications Commission amends 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

■ 1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

■ 2. Section 73.202(b), the Table of FM Allotments under Alabama, is amended by adding Waverly, Channel 232A.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. E7–1523 Filed 1–30–07; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 171, 172, 173, 175 and 178

[Docket No. RSPA–04–17664 (HM–224B)]

RIN 2137–AD33

Hazardous Materials Regulations: Transportation of Compressed Oxygen, Other Oxidizing Gases and Chemical Oxygen Generators on Aircraft

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

ACTION: Final rule.

SUMMARY: PHMSA (also, ''we'' or ''us'') is amending the Hazardous Materials Regulations (HMR) to: require cylinders of compressed oxygen and other oxidizing gases and packages of chemical oxygen generators to be placed in an outer packaging that meets certain flame penetration and thermal resistance requirements when transported aboard an aircraft; revise the pressure relief device (PRD) setting limit on cylinders of compressed oxygen and other oxidizing gases transported aboard aircraft; limit the types of cylinders authorized for transporting compressed oxygen aboard aircraft; and convert most of the provisions of an oxygen generator approval into requirements in the HMR. PHMSA is issuing this final rule in cooperation with the Federal Aviation Administration (FAA) to increase the level of safety associated with transportation of these materials aboard aircraft.

DATES: *Effective Date:* The effective date of these amendments is October 1, 2007.

Voluntary Compliance: Voluntary compliance with all these amendments, including those with a delayed mandatory compliance date, is authorized as of March 2, 2007.

FOR FURTHER INFORMATION CONTACT: John A. Gale or T. Glenn Foster, Office of Hazardous Materials Standards, telephone (202) 366–8553, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590–0001, or David Catey, Office of Flight Standards Service, telephone (202) 267–3732, Federal Aviation Administration, U.S. Department of Transportation, 800 Independence Avenue, SW., Washington, DC 20591.

SUPPLEMENTARY INFORMATION:

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I. Background

The National Transportation Safety Board (NTSB) determined that one of the probable causes of the May 11, 1996 crash of ValuJet Airlines flight No. 596 was a fire in the airplane's cargo compartment initiated and enhanced by the actuation of one or more chemical oxygen generators carried as cargo in violation of requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171 through 180). Recommendations issued by the NTSB following this tragedy, in which 110 lives were lost, addressed both the initiation of the fire by the improperly packaged generators (which produce external heat when activated) and the possible enhancement of an aircraft cargo compartment fire (of any origin) by the oxygen produced by the generators or other cargo, such as gaseous oxygen in cylinders and other oxidizing agents. In response to the NTSB recommendations, the Department of Transportation has:

—Prohibited the transportation of chemical oxygen generators (including personal-use chemical oxygen generators) on board passenger-carrying aircraft and the transportation of spent chemical oxygen generators on both passenger-carrying and cargo-only aircraft [61 FR 26418 (May 24, 1996), 61 FR 68952 (Dec. 30, 1996), 64 FR 45388 (Aug. 19, 1999)];

—Issued standards governing the transportation of chemical oxygen generators on cargo-only aircraft (and by motor vehicle, rail car and vessel), including the requirement for an approval issued by PHMSA [62 FR 30767 (June 5, 1997), 62 FR 34667 (June 27, 1997)];

—Upgraded fire safety standards for cargo compartments on aircraft to require a smoke or fire detection system and a means of suppressing a fire or minimizing the available oxygen, on certain transport-category aircraft [63 FR 8033 (Feb. 17, 1998)]; and

—Imposed additional requirements on the transportation of cylinders of compressed oxygen by aircraft and prohibited the carriage of chemical oxidizers in inaccessible aircraft cargo compartments that do not have a fire or smoke detection and fire suppression system [64 FR 45388 (Aug. 19, 1999)].

In the August 19, 1999 final rule, ''Hazardous Materials: Chemical Oxidizers and Compressed Oxygen Aboard Aircraft,'' (Docket No. HM–224A), we amended the HMR to: (1) Allow a limited number of cylinders containing medical-use oxygen to be carried in the cabin of a passenger-carrying aircraft; (2) limit the number of oxygen cylinders that may be carried as cargo in compartments lacking a fire suppression system and require cylinders to be stowed horizontally on the floor or as close as practicable to the floor of the cargo compartment or unit load device; and (3) require each cylinder of compressed oxygen transported in the passenger cabin or a cargo compartment to be placed in an overpack or outer packaging that meets the performance criteria of Air Transport Association Specification 300 for Type I (ATA 300) shipping containers. In the HM–224A rulemaking, we received more than 55 written comments, and 14 persons made oral statements at a public meeting on January 14, 1998. Based on the comments submitted in that proceeding and our assessment of alternatives, we did not adopt the proposal in Docket No. HM–224A to prohibit all transportation of all oxidizers, including compressed oxygen, on passenger-carrying aircraft.

In the preamble to the August 19, 1999 final rule, we explained that testing conducted by FAA indicated the ATA 300 container provides an ''incremental'' level of thermal protection for oxygen cylinders by increasing the time before a cylinder exposed to a fire would release its contents. However, FAA's testing also indicated the risk posed by a compressed oxygen cylinder in a cargo compartment can be further reduced, or even eliminated, if the cylinder is placed in an overpack or outer packaging providing more thermal protection and flame resistance than the ATA 300 containers currently in use. Accordingly, we announced we were ''considering a requirement that an oxygen cylinder may be carried in an inaccessible cargo compartment on an aircraft only when the cylinder is placed in an outer packaging or overpack meeting certain flame penetration resistance, thermal protection, and integrity standards.'' (64 FR 45393). In our earlier June 5, 1997 final rule (also in Docket No. HM–224A), we also indicated we were considering additional packaging requirements for chemical oxygen generators (62 FR at 30769).

On May 6, 2004, we published a notice of proposed rulemaking under Docket HM–224B (69 FR 25469). In the NPRM, we proposed to amend the HMR to: (1) Require cylinders of compressed oxygen and packages of chemical oxygen generators to be placed in an outer packaging that meets certain flame penetration and thermal resistance requirements when transported aboard an aircraft; (2) revise the PRD setting limit on cylinders of compressed oxygen transported aboard aircraft; (3) limit the types of cylinders authorized to transport compressed oxygen aboard aircraft; (4) prohibit the transportation of all oxidizing gases, other than compressed oxygen aboard cargo-only or passenger aircraft; and (5) incorporate most of the provisions of an oxygen generator approval into the HMR.

II. Safety Issues Associated With the Air Transportation of Compressed Oxygen Cylinders and Oxygen Generators

When installed on an aircraft or provided during flight for the use of passengers or crew members, compressed oxygen in cylinders and oxygen generators are subject to requirements in FAA's regulations in Title 14 of the Code of Federal Regulations, and are not subject to the HMR. When transported as cargo, cylinders of compressed oxygen and oxygen generators are subject to requirements in the HMR. Air carriers routinely transport their own oxygen cylinders and oxygen generators as replacement items for use on other aircraft. Some also transport cylinders for their passengers or other customers. Commenters to Docket HM–224A identified a continuing need for the transportation of oxygen cylinders as cargo on both passenger and cargo-only aircraft.

As determined through testing conducted by FAA in 1999, cylinders of compressed oxygen release their contents at temperatures well below those that aircraft cargo compartment liners and structures are designed to withstand. When the surface temperature of a cylinder of compressed oxygen reaches approximately 300 °F, the increase in internal pressure causes the cylinder's pressure relief device to open and release oxygen. In addition to the ValuJet tragedy, three accidents and ten incidents involving airplane cargo compartment fires have occurred between 1986 and 2002. While some of these events involved hazardous materials, in some instances the fire was caused by a malfunction of the aircraft's electrical system. The origin of other fires could not be determined. Regardless of the cause of the fire, the presence of an oxygen generator or a cylinder containing oxygen or another oxidizing gas creates the potential for oxygen or another oxidizing gas to be released and to vent directly into a fire, which significantly increases the risks posed by the fire.

FAA also found that use of an outer packaging may significantly lengthen the time a cylinder will retain its contents when exposed to fire or heat. Some outer packagings meeting the ATA specification 300 Category I extended the time by up to 60 minutes or more. However, the ATA 300 standard does not specifically address thermal protection or flame penetration. An outer packaging designed to provide both thermal protection and flame penetration could provide even more protection. A copy of the test report is available for review in the public docket.

In additional tests conducted in 2002, FAA determined that a sodium chlorate oxygen generator will initiate and release oxygen at a minimum temperature of 600 °F. However, due to uncertainties with other designs and the physical properties of sodium chlorate, the FAA has recommended that oxygen generators not be exposed to temperatures above 400 °F. A copy of this test report is also available in the public docket. This test report shows that an unprotected oxygen cylinder or oxygen generator can quickly and violently release its contents when exposed to temperatures that can be expected from an aircraft cargo compartment fire.

III. Summary of Final Rule

Because of safety concerns associated with the air transportation of compressed oxygen cylinders and oxygen generators, we are amending the HMR to require cylinders of compressed oxygen and chemical oxygen generators to be transported in an outer packaging that: (1) Meets the same flame penetration resistance standards as required for cargo compartment sidewalls and ceiling panels in transport category airplanes; and (2) provides certain thermal protection capabilities so as to retain its contents during an otherwise controllable cargo compartment fire. The outer packaging standard that is being adopted addresses two safety concerns: (1) Protecting a cylinder and an oxygen generator that could be exposed directly to flames from a fire; and (2) protecting a cylinder and an oxygen generator that could be exposed indirectly to heat from a fire. These performance requirements must remain in effect for the entire service life of the outer packaging.

Under this final rule, an outer packaging for a cylinder containing compressed oxygen or another oxidizing gas and a package containing an oxygen generator must meet the standards in Part III of Appendix F to 14 CFR Part 25, Test Method to Determine Flame Penetration Resistance of Cargo Compartment Liners. An outer packaging's materials of construction must prevent penetration by a flame of 1,700 °F for five minutes, in accordance with Part III of Appendix F, paragraphs (a)(3) and (f)(5) of 14 CFR Part 25.

In addition, a cylinder of compressed oxygen or another oxidizing gas must remain below the temperature at which its pressure relief device would activate and an oxygen generator must not actuate when exposed to a temperature of at least 400 °F for three hours. The 400 °F temperature is the estimated mean temperature of a cargo compartment during a halon-suppressed fire.[1] Three hours and 27 minutes is the maximum estimated diversion time world-wide; based on an aircraft flying a southern route over the Pacific Ocean. Data collected during the FAA tests indicate that, on average, a 3AA oxygen cylinder with a pressure relief device set at cylinder test pressure will open when the cylinder reaches a temperature of approximately 300 °F. This result is consistent with calculations performed by PHMSA. In analyzing PRD function, PHMSA calculated that a 3HT cylinder with a PRD set at 90% of cylinder test pressure will vent at temperatures greater than 220 °F. In order to assure an adequate safety margin for all authorized cylinders, including 3HT cylinders, we are amending the HMR to require cylinders of compressed oxygen and other oxidizing gases, which are contained in the specified outer packaging, to maintain an external temperature below 93 °C (199 °F) when exposed to a 400 °F temperature for three hours.

[1] The FAA is currently evaluating other non-ozone-depleting suppression agents that could eventually be used in cargo compartments. Some of these agents can maintain an adequate level of safety in the compartment, but the mean temperature may be slightly higher than 400 °F, which is the level found during typical halon-suppressed fires. If an alternate agent is used, the oven soak temperature level may need to be adjusted accordingly.

IV. Comments and Regulatory Changes

A. General

PHMSA received comments from 24 entities in response to proposals and specific questions in the NPRM concerning outer packaging, PRDs, authorized cylinders, oxidizing gases aboard aircraft, and chemical oxygen generator approvals. These comments were submitted by representatives of trade organizations, hazardous materials shippers, carriers, and packaging manufacturers, including Airbus, Air Line Pilots Association (ALPA), Air Products and Chemicals, Air Transport Association (ATA), Alaska Airlines, Aviation Excellence, Aviation Mobility, Aviosupport, BE Aerospace, Carleton Technologies, Continental Airlines, Draeger Aerospace, Federal Express (FedEx), International Federation of Air Line Pilots Association (IFALPA), Intertechnique, National Transportation Safety Board (NTSB), Northwest Airlines (NWA), Satair, Scott Aviation (Scott), SR Technics Switzerland, United Parcel Service (UPS), Viking Packing Specialist (Viking), and two individuals.

Commenters generally noted our continued efforts to enhance the safe transportation of hazardous materials by air. For example, ALPA applauds our efforts to address the potential hazards associated with oxidizing chemicals, oxygen generators, and gaseous oxygen. Relevant portions of these comments are discussed in the following sections of the preamble.

B. Outer Packaging for Compressed Oxygen Cylinders, Other Oxidizing Gases, and Chemical Oxygen Generators

In the NPRM, we proposed to require an outer packaging for an oxygen cylinder and a package containing an oxygen generator to meet the standards in Part III of Appendix F to 14 CFR Part 25, Test Method to Determine Flame Penetration of Cargo Compartment Liners. We proposed to require the outer packaging to conform to these performance requirements with no deterioration for its entire service life. We also proposed to prohibit cylinders of compressed oxygen contained in an outer packaging from reaching an external temperature of 93 °C (199 °F)—which is below the temperature at which its PRD would actuate—when exposed to a 205 °C (400 °F) temperature for three hours. We proposed to add a thermal resistance test for packagings for oxygen cylinders and oxygen generators in appendix D to Part 178. We further proposed to remove the limits in § 175.85(i) on the number of oxygen cylinders that may be transported in cargo compartments not equipped with sufficient fire suppression systems. We proposed to allow outer packaging to be built either to the ATA Specification 300 standard or to a UN standard at the Packing Group II performance level. We proposed to authorize only rigid outer packagings for compressed oxygen cylinders. In addition, we proposed one year after publication of the final rule as the mandatory date to comply with the thermal resistance and flame penetration standards for outer packagings for oxygen cylinders and oxygen generators transported on board aircraft.

1. Scope of Rulemaking

FedEx and NWA ask PHMSA to reconsider its approach to this rulemaking and begin a more comprehensive assessment with other Federal agencies (including FAA and NTSB), equipment manufacturers, and the air carrier industry. NWA states the requirements on compressed oxygen cylinders proposed in the NPRM are not adequately justified. It differentiates oxygen cylinders from oxygen generators because the latter provide their own heat source and, once initiated, release an uncontrolled flow of oxygen. FedEx suggests the origins and results of cargo compartment fires should be examined in a more comprehensive manner before this rulemaking is implemented. Continental states PHMSA should seek input from both the International Air Transport Association (IATA) and International Civil Aviation Organization (ICAO) regarding the potential impact of the proposed packaging requirement on international regulations and international carriers serving the United States.

ATA states thermal protection of oxygen cylinders and oxygen generators does not increase the level of safety under the extreme conditions assumed in test protocols. ATA also states passenger carriers no longer transporting oxygen generators on passenger aircraft due to post-1996 regulations must transport oxygen generators by ground, and ground transportation of oxygen generators in compliance with post-1996 regulations has not resulted in any incidents involving oxygen generators. ATA recommends PHMSA thoroughly review all incidents pertaining to burned aircraft in order to investigate the condition of any oxygen cylinders or oxygen generators that were on board.

Aviation Excellence, an aircraft parts distributor holding a Competent Authority Approval to ship oxygen generators (UN3356) questions why the transportation of oxygen generators has become a critical concern, and, along with other commenters, cites ValuJet as the only accident of note involving oxygen generators. This commenter asserts the ValuJet incident was likely due to improper marking and loading, not improper packaging standards, and that thick smoke was the likely cause of the ValuJet incident. Aviation Excellence suggests PHMSA should address the reasons a fire occurred in the cargo bay, rather than what effect the fire had on oxygen, and notes non-hazardous materials, such as rubber and plastic, generate deadly gases and smoke when exposed to fire.

Scott notes chemical oxygen generators are currently transported by air as either components or as larger assemblies. When transported as components, the commenter states chemical oxygen generators are cylinders ranging from 2 ½ to 4 inches in diameter and 5 to 11 inches in overall length. The commenter states the size of chemical oxygen generator outer packaging would depend on whether the shipping requirement is for individual generators or a group of generators.

Intertechnique also suggests the exception in § 175.501(c) of the HMR allowing a limited number of oxygen cylinders to be transported in the aircraft cabin should recognize that oxygen cylinders used for carrying supplemental oxygen on board frequently have a large capacity, up to 213 cubic feet. Intertechnique states these cylinders must be transported from their respective manufacturing sites to the aircraft manufacturing facility, as well as to and from maintenance facilities, and restrictions on air transportation would increase turnaround times and operational costs when surface transportation is required. Intertechnique also notes that equipment containing an oxygen cylinder must be considered an oxygen cylinder, even when the cylinder is not apparent as in the case of the large number of protective breathing equipment units used on aircraft.

We disagree with the commenters' assertions that PHMSA did not conduct a comprehensive assessment before initiating this rulemaking and that the requirements proposed in the NPRM were not effectively justified. The safe transportation of hazardous materials by air is an ongoing area of significant concern for the Department. We regularly assess methods to increase the safe transportation of hazardous materials, and incorporate input from other Federal agencies (including NTSB), equipment manufacturers, and the regulated community as we develop new or revised regulatory requirements. This process was applied to this current rulemaking as well.

The FAA and PHMSA have taken a number of steps to reduce the likelihood of a fire on board an aircraft. These include limiting the transport of known flammable materials; imposing restrictions on aircraft systems likely to increase the risk of a fire, requiring increased inspection and maintenance of wiring systems; and incorporating designs to prevent the spread of fire from highly flammable zones. Despite all these measures, it is not possible to totally eliminate fires aboard aircraft. In addition to the risks presented by hazardous materials (whether shipped in violation or conformance with the HMR), structural failures, improper maintenance, and the ignition of non-hazardous materials remain possibilities. For these reasons, we cannot accept claims that PHMSA and the FAA did not conduct a sufficient assessment before initiating this rulemaking.

We also disagree with the commenter that suggested we only addressed the reasons a fire occurs in a cargo bay, rather than what effect a fire has on oxygen. A fire in cargo compartments aboard an aircraft can result from several causes, some of which cannot be controlled through regulations, including illegal shipments of oxidizing agents, heat- or fire-producing chemical interaction between certain goods damaged during shipment, or human error. FAA concluded that the use of an outer packaging may significantly lengthen the time an oxygen cylinder or chemical oxygen generator will retain its contents when exposed to fire or heat. The provisions of this final rule will reduce the risk that a fire on board an aircraft will be significantly worsened by the presence of compressed oxygen cylinders or chemical oxygen generators.

Because the possibility of fire in a cargo compartment cannot be completely eliminated, the FAA has adopted requirements to mitigate risk and increase the likelihood that a fire can be suppressed and contained long enough to land the aircraft. The FAA has upgraded fire safety standards to require inaccessible cargo compartments on passenger aircraft to have a fire detection and three-hour suppression system, by minimizing the available oxygen (e.g., 14 CFR 25.857(c), 25.858, 121.314(c)). In addition, flame penetration and fire resistance requirements apply to cargo compartments on both passenger and cargo-only aircraft (e.g., 14 CFR 25.855, 121.314(a)). However, these requirements do not, and cannot, address those situations where a fire is actually fed by oxygen provided by other cargo, such as cylinders of compressed oxygen or other oxidizing gases or oxygen generators.

Accordingly, as discussed in the ''Background'' section above, we have prohibited the transportation of chemical oxygen generators on board passenger-carrying aircraft and the transportation of spent chemical oxygen generators on both passenger-carrying and cargo-only aircraft, and we issued standards governing the transportation of chemical oxygen generators on cargo-only aircraft, including the requirement for an approval issued by PHMSA. We have also imposed additional requirements on the transportation of compressed oxygen cylinders by aircraft; and prohibited the carriage of chemical oxidizers in inaccessible aircraft cargo compartments that do not have a fire or smoke detection and fire suppression system. The amendments adopted in this final rule are a continuation of our ongoing objective to reduce the risk of another catastrophic event like the ValuJet crash.

Because fires on aircraft cannot be totally eliminated, and the consequences of fire in air transportation are far greater than those in highway transportation, an absence of incidents involving ground transportation of oxidizing gases and oxygen generators does not justify postponing these actions. The fact that an oxygen cylinder or generator did not release oxygen during a particular aircraft fire does not diminish the potential for enhancement of a cargo compartment fire by the release of oxygen and the likely consequences. For these reasons, we disagree with the comment that PHMSA should only address the reasons a fire occurs in a cargo bay, rather than what effect a fire has on oxygen.

We accept the suggestion that international carriers and international regulations should be considered when undertaking any rulemaking potentially affecting international commerce. The escalating quantity of hazardous materials transported in international commerce necessitates the harmonization of domestic and international requirements to the greatest extent possible. However, we cannot wait for an international agreement when it is necessary to address a known safety hazard. Therefore, we intend to submit a paper to the ICAO Dangerous Goods Panel proposing that the ICAO Technical Instructions be amended consistent with this final rule.

We also considered this proposal based on its overall impact on transportation safety and the economic implications associated with its adoption into the HMR. Our goal in this rulemaking is to increase the level of safety for the transportation of oxygen cylinders and oxygen generators currently in the HMR in the most cost-effective manner possible. We believe the adoption of this final rule contributes to meeting that goal.

Larger cylinders used as part of an aircraft's supplemental oxygen system (up to 213 cubic feet) makes it impractical for them to be transported (as cargo) in the aircraft cabin under the exception in § 175.501(c). As noted above, when these cylinders are installed on the aircraft, they are not subject to the HMR, nor are Protective Breathing Equipment (PBEs) that are part of the required equipment on board the aircraft—but alternate packagings may be used for these cylinders and PBEs when carried or shipped as replacement items (or company material), ''provided such packagings provide at least an equivalent level of protection to those that would be required by this'' final rule. 49 CFR 175.8(a)(3) (as adopted at 71 FR 14605 [March 22, 2006]).

We disagree with the commenter's opinion that thick smoke was the likely cause of the ValuJet incident. First, that view has little support in the NTSB's findings (at p. 134 of the accident report) that ''[o]nly a small amount of smoke entered the cockpit before the last recorded flightcrew verbalization * * * including the period when the cockpit door was open,'' and the ''loss of control was most likely the result of flight control failure from the extreme heat and structural collapse,'' although ''the Safety Board cannot rule out the possibility that the flightcrew was incapacitated by smoke or heat in the cockpit during the last 7 seconds of the flight.'' Moreover, even if the commenter were correct, that circumstance would support the measures we are adopting to prevent the enhancement of a cargo compartment fire (and the associated smoke) caused by the release of oxygen from a cylinder or an oxygen generator.

BP Aerospace and Intertechnique recommend an exception from the proposed packaging requirements for cylinders that are nominally empty, with only a small amount of residual pressure, on the ground that the hazards of these ''empty'' cylinders are negligible. BP Aerospace states it is a common practice to transport such cylinders in order to avoid possible contamination of the cylinder from inward leakage. Intertechnique notes many cylinders are shipped before filling (new or repaired cylinders) or after being emptied (for maintenance).

Oxygen is a Division 2.2 gas and, as such, is only subject to the regulations when the pressure in the container (cylinder) equals or exceeds 280 kPa (40.6 psia) at 20 °C (68 °F) (see § 173.115(b)(1)). Therefore, oxygen cylinders where the pressure has been reduced to less than 280 kPa (40.6 psia) are not subject to the regulations and are considered to have been purged to the extent necessary for the purposes of § 173.29(b)(2)(ii). In addition, a completely empty cylinder (either new and never filled or purged of all its contents) is not subject to the packaging requirements adopted in this final rule (or to other transportation requirements in the HMR).

2. Other Oxidizing Gases Aboard Aircraft

Several commenters also addressed our proposal to prohibit the transportation of all oxidizing gases (other than compressed oxygen) aboard both passenger and cargo-only aircraft. In the NPRM, we discussed our concern that cylinders containing these materials, if exposed to a fire, could intensify the fire to the extent that it would overcome the compartment's halon fire suppression system, penetrate the cargo compartment sidewalls, and cause severe damage or destruction of the aircraft. We stated we had no information to support the need for the following materials to be transported aboard aircraft: ''Air, refrigerated liquid, (cryogenic liquid),'' ''Carbon dioxide and oxygen mixtures, compressed,'' ''Nitrous oxide,'' ''Nitrogen trifluoride, compressed,'' ''Compressed gas, oxidizing, n.o.s.,'' and ''Liquefied gas, oxidizing, n.o.s.''

Air Products expressed agreement with the Department on the need to increase the level of safety in the transportation of oxidizing gases by aircraft, and it states the list should not be limited to oxygen. Air Products suggests materials in Division 2.2 with a subsidiary risk of 5.1 can be transported safely by aircraft and pose no great risk to the aircraft unless the oxidizing material is exposed to abnormally high temperatures over an extended period of time. This commenter suggested packaging performance requirements can be met by limiting the fill density pressure of the oxidizing material and configuring the cylinder so that oxidizing material cannot escape at temperatures up to and including 205 °C (400 °F). Air Products submitted alternative wording for a new section under § 173.302a that would pertain to nitrogen trifluoride and nitrous oxide.

Alaska Airlines opposes the proposal to ban Division 2.2 gases with a 5.1 subsidiary risk for transportation by air, stating it is not aware of any experience indicating a safety problem. According to the Alaska Airlines' comments, consumers in Alaska use some of these gases, and in many cases, could not obtain them if not via air transportation. One Anchorage vendor of gas products estimates 20,000 to 50,000 pounds of cylinders of compressed oxygen and nitrous oxide are transported by air every month to medical facilities around the State, with empty cylinders constantly being returned for refilling and return to the hospitals. Alaska Airlines states DOT needs to consider the impact of this proposed rule on the health and welfare of Alaskans, not to mention the subsequent increased cost of medical care. This commenter also notes international regulations identify two additional materials classified as Division 2.2 materials with a 5.1 subsidiary hazard that are permitted on passenger aircraft: ''UN2037, Receptacles, small, containing gas (oxidizing) without a release device, non-spillable,'' and ''UN2037, Gas cartridges (oxidizing) without a release device, non-spillable.'' The commenter concludes that if PHMSA does ban oxidizing gases, it will create additional variances between United States and United Nations dangerous goods regulations DOT has been working to harmonize.

The comments summarized above indicate a continuing need for air transportation of most of the oxidizing gases we had proposed to prohibit on aircraft, including Compressed gas, oxidizing, n.o.s.; Nitrogen trifluoride, compressed; and Nitrous oxide. Based on those comments, we conclude we should not prohibit air transportation of these oxidizing gases; however, the same outer packaging standards adopted for cylinders of compressed oxygen and oxygen generators should also be required for these other oxidizing gases. The only exception is that Air, refrigerated liquid (cryogenic liquid), which is already prohibited on passenger aircraft, will also be prohibited on cargo-only aircraft.

3. Packaging Design Standards

In the NPRM, we proposed to require a cylinder of compressed oxygen to remain below the temperature at which its PRD would activate, and an oxygen generator not actuate, when exposed to a temperature of at least 205 °C (400 °F) for three hours. ALPA recommends the design standards be raised to 260 °C (500 °F), instead of 205 °C (400 °F), and to 3.5 hours, instead of three hours, in cargo compartments required to have an active fire suppression system, and maintain the knock-down fire status to allow for a safety margin for temperature in excess of the expected mean of 205 °C (400 °F). In addition, Aviation Mobility states there is no aircraft that would survive the extreme conditions for the three-hour duration which the rule would require the cylinder to survive without the actuation of the PRD.

We disagree. We continue to believe that these requirements for outer packagings are the most appropriate means to prevent the release of oxidizing gases from a cylinder or chemical generator, which could feed an aircraft compartment fire. The U.S. DOT/FAA Report titled ''Evaluation of Oxygen Cylinder Overpacks Exposed to Elevated Temperature'' (included in the docket of this rulemaking), found that: ''In a Class C compartment, the fire would be detected and agent discharged to extinguish the fire. In the event of a suppressed but not fully extinguished fire, which would be the case if the origin were a deep-seated fire, the temperatures in the compartment could reach 205 °C (400 °F).'' For a deep-seated fire in a Class C cargo compartment, a temperature of 205 °C (400 °F) is the estimated mean temperature of a cargo compartment during a halon-suppressed fire.

The FAA test results support our conclusion that a temperature of at least 205 °C (400 °F) is sufficient for the flame resistant penetration test method. In addition, the conditions noted in the NPRM are a worst-case scenario, and were based on a deep-seated fire in a Class C cargo compartment, the duration of which would be the maximum estimated diversion flight time for an aircraft flying a southern route over the Pacific Ocean. However, limiting the requirement for overpacks capable of meeting the three-hour suppression performance standard to overseas flights would be impractical, since this rulemaking anticipates in most instances the overpacks will be provided with the containers, rather than purchased and maintained by an air carrier. Since the initial shipper may not know the final destination of its product, it would also be unable to reliably determine when to use a three-hour overpack as opposed to a one-hour overpack. In any case, applying a lesser fire penetration and thermal protection standard to overpacks because of the shorter flight times to diversion airports in geographic areas other than the South Pacific would undermine the existing rationale behind our requirements that Class C cargo compartments on airplanes be equipped to meet the three-hour fire suppression standard. Therefore, we are amending the HMR to require each cylinder of compressed oxygen remain below the temperature at which its PRD would activate, and that an oxygen generator not actuate, when exposed to a temperature of at least 205 °C (400 °F) for three hours.

We also received comments on the proposal to require an outer packaging to be built either to the ATA Specification 300 standard or to a UN standard at the Packing Group II performance level. One commenter (Aviation Mobility) states it encloses oxygen cylinders in a manner that provides safe delivery to the gate and use of the cylinder in the passenger compartment without altering the outer packaging. The commenter notes that, under Special Provision A52 of the HMR, an oxygen cylinder may be carried in the passenger compartment or an inaccessible cargo compartment on a passenger aircraft if it is in ''an overpack or outer packaging that conforms to the performance criteria of Air Transport Association (ATA) Specification 300 for Category I shipping containers.'' The same commenter states its specific outer packaging meets the ATA 300 definition of a ''rigid pack'' and questions whether PHMSA intended any difference in its use of the term ''rigid'' in the NPRM.

For clarification, we proposed requiring an outer packaging to be built either to the ATA Specification 300 standard or to a UN standard at the Packing Group II performance level to provide greater flexibility in the design of outer packaging for oxygen cylinders. In the NPRM, we proposed to authorize only rigid outer packagings in order to clarify our original intent to ensure outer packaging provides an adequate level of safety. In addition to meeting the flame penetration and thermal resistance protection requirement, we will continue to require the outer packaging for compressed oxygen cylinders to meet certain performance criteria. Therefore, we are amending the HMR to allow the outer packaging be built either to the ATA Specification 300 standard or to a UN standard at the Packing Group II performance level. In addition, we are amending the HMR to authorize only rigid outer packaging for compressed oxygen cylinders.

4. Packaging Availability and Cost

Commenters expressed concern about the availability and cost of the proposed outer packaging, and the number of different types of outer packagings meeting the proposed thermal resistance and flame penetration requirements. For example, Continental states because this packaging is not yet available, any cost estimate is subject to significant error. Continental estimates the initial cost to provide outer packagings meeting the required flame and temperature penetration standards will exceed $850,000. The same commenter estimates costs of at least $500,000 to modify its medical oxygen service.

Scott states it would need a minimum of nine (9) different-sized ATA 300 specification containers to accommodate all of the high-pressure oxygen cylinders it currently supplies, and additional size packages may be required to adequately accommodate high pressure oxygen cylinders supplied by other entities or to accommodate cylinder configurations for new aircraft development programs. This commenter estimates the average cost of currently used outer packagings would range from $300 to $500 per container. Scott recommends PHMSA conduct additional analyses to determine the number of different outer containers that would be required to accommodate chemical oxygen generators.

Scott also disputes our statement in the NPRM that only a few small aviation entities will require flame and heat protective reusable packaging and suggests PHMSA did not consider the major potential impact of this rule on small entities. According to Scott, ''many small aircraft operators do not provide their own oxygen system maintenance or have extensive spare part inventories but, rather, rely on the shipping of these components to specialized oxygen repair stations, by air, in order to maintain their aircraft in a timely manner.'' Scott states these companies would be required to obtain outer packages meeting the requirements of this proposed rule in order to ship oxygen cylinders and valve and regulator assemblies to oxygen service shops for maintenance. These outer packages ''would then be used to return these items to the operator in the same manner that the present rule has required the operators to purchase ATA 300 specification containers for that purpose.''

ATA contends the requirement for carriers to comply with the proposed outer packaging requirements would be costly and prohibitive to air carriers of oxygen generators, forcing carriers to refuse passengers or cancel flights because of the lack of generators supplying emergency oxygen to aircraft passenger seats. It states it conferred with vendors and found neither existing packaging, nor a design amenable to the proposed requirements in the developmental stage of manufacturing. ATA estimates replacement packaging costs of approximately $2,200,000 to $3,350,000 for its members, without any substantial improvement in safety. This commenter states this cost could effectively double as existing ATA Specification 300 packaging, acquired in response to the final rule in HM–224A, could not be converted for other uses.

NWA states it uses seven cylinder types and estimates four separate sized boxes will be required for its seven cylinder types to meet the proposed packaging requirement. NWA foresees the replacement of 1,400 boxes at twice the cost necessary to replace the boxes that were required by HM–224A. In addition, the commenter says it would be forced to scrap the boxes purchased in compliance with HM–224A before the exhaustion of their useful life. FedEx notes the proposed outer packaging is neither currently available for purchase, nor does it know when it will be available, or at what cost. It estimates the required packaging will range between $600 and $900 per unit, for an estimated cost imposed on its operations of between $360,000 and $540,000.

Intertechnique states the introduction of the packaging proposed in the NPRM will lead to added costs for shipping cylinders from the cylinder manufacturer to aircraft manufacturers and airlines, and to and from airline maintenance sites. Intertechnique asserts there are approximately 500 new cylinders per year requiring outer packagings and those packagings delivered to aircraft manufacturers may be sent back for future shipment (with an estimated loss of 20% per year). It says the outer packagings of cylinders shipped to airlines will be retained by the airlines for their own shipment or repair, and new packagings will have to be bought for each shipment. Intertechnique estimates a replacement rate of 10% per year, with a best estimate need of 300 new outer packagings per year, leading to an average cost increase of the oxygen cylinders and repairs of 10 to 15% depending on the final cost of packaging not yet available on the market.

Satair states it is currently spending approximately $50,000.00 on packaging and other materials to facilitate the shipping of chemical oxygen generators. It estimates a ten-fold increase in packaging and other material costs needed to implement the requirements in the NPRM, for a total of approximately $500,000.00. This commenter considers this to be a significant impact on its business and would have to bill and recover this expense from its customers, the airlines. Aviation Excellence states the additional cost for packaging and return shipments will impose a prohibitive financial burden.

Many of the commenters indicate they do not provide medical oxygen service to persons with disabilities, and, therefore, do not address whether the proposals would increase the cost to transport medical oxygen. However, Continental and ATA state they offer this service and this requirement would have to be evaluated for the cost impacts and feasibility of this service. Aviation Mobility states it is not aware of any outer packaging in existence that would meet the fire resistance criteria proposed in the NPRM. The commenter states the cost of this service would become too expensive to pass along to customers, or for carriers to absorb. This same commenter asserts that, as a result of the costs to acquire the outer packaging specified in this rulemaking and the added weight of such a packaging, most carriers transporting medical oxygen to passenger air carriers will discontinue this service. Further, this commenter states all cost speculations with regard to such a packaging are merely theoretical. ATA recommends PHMSA reconsider this rulemaking action to consider possible disadvantages to disabled passengers requiring medical oxygen.

We considered possible cost increases and the availability of outer packaging for oxygen generators and cylinders containing compressed oxygen and other oxidizing gases. At least one packaging manufacturer (Viking) appears to have addressed the flame penetration and thermal penetration standard and states it is able to produce the required packaging. That manufacturer provided estimates of costs for the existing ATA specification 300 packagings and the new outer packagings, and those estimates were used in our complete analysis of the associated costs to implement this final rule in the regulatory evaluation (available for review in the public docket for this rulemaking).

In that regulatory evaluation, we specifically discussed cost figures provided by other commenters and the basis on which we estimated a total cost of $10.8 million ($7.6 million discounted to present value) over 15 years, for the transport of oxygen cylinders; and $27.0 million ($16.9 million discounted to present value) over 15 years, for the costs associated with the transport of chemical oxygen generators. While some of the cost figures provided by other commenters are higher, those figures are reasonably close to the estimates used in the regulatory evaluation; moreover, the estimates used in the regulatory evaluation do not reflect the likelihood that, when this requirement becomes effective, additional manufacturers will produce the required packaging, thereby reducing purchase prices. With competitive packaging pricing available in the marketplace, air carriers will be in a better position to make cost-effective business decisions to continue providing medical oxygen service to the disabled community and will continue to do so. Even if we were to assume the industry commenters were correct, and the cost of this rule was to double, the benefits would still outweigh the higher costs. Thus, the agency has carefully weighed these comments in deciding to proceed with this rulemaking initiative.

We also estimated benefits of this rule over the next 15 years range from $30 million, if a single cargo aircraft accident is averted, to $357 million, if a single passenger aircraft accident is averted. This indicates a significant potential to improve the level of safety associated with the continued transportation aboard aircraft of packages of chemical oxygen generators and cylinders containing compressed oxygen and other oxidizing gases.

PHMSA continues to believe that only a few small entities will be affected by this rulemaking. For example, we learned from container manufacturers that only ten small air carriers transport cylinders of compressed oxygen. Outside of Alaska, air shipments of other oxidizing gases are very infrequent, according to the comment of Air Products, and most small entities will be able to utilize ground transportation or local companies for shipping cylinders of compressed oxygen or other oxidizing gases.

Therefore, we are amending the HMR to require an outer packaging for an oxygen cylinder and a package containing an oxygen generator to meet the standards in Part III of Appendix F to 14 CFR Part 25, Test Method to Determine Flame Penetration of Cargo Compartment Liners. We are also amending the HMR to require cylinders of compressed oxygen and chemical oxygen generators to be transported in an outer packaging meeting certain flame penetration and thermal resistance requirements when transported aboard an aircraft. In addition, we are amending the HMR to require that the outer packaging be capable of meeting the requirements throughout its service life.

5. Compliance Date

PHMSA received several comments regarding the proposed effective date of one year after publication of the final rule as the mandatory date to comply with this final rule. Many commenters state one year does not provide adequate time to resolve concerns regarding a lack of packaging development and availability, manufacturing lead times, inventory, logistics, and documentation. For instance, Scott states the currently proposed rule, with a proposed compliance date of one year after promulgation, provides neither the time necessary for an orderly process of ensuring compliance, nor a mechanism by which compliance can be readily determined. The commenter also states the demand for reusable flame and heat-resistant packagings required by the proposed rule may be much higher than PHMSA currently envisions. Another commenter (ATA) states a one-year effective date would impose additional costs on carriers by forcing the removal of aircraft from service to replace the outer packaging proposed in the NPRM. In response to our inquiries in the NPRM regarding the effective date, we received recommendations ranging from one to three years for implementation of the effective date of this final rule.

It appears compliance with the additional overpack requirements of one year following the publication of the final rule as proposed in the NPRM may result in insufficient time or undue hardship on the affected parties to come into compliance with the new requirements. A compliance date that allows flexibility for the affected parties and sufficient time for various manufacturers to develop and market the necessary equipment would better serve the overall objectives of this rulemaking. Therefore, we are amending the HMR to establish a mandatory compliance date of two years following the effective date of the final rule.

C. Pressure Relief Device Settings and Authorized Cylinders for Compressed Oxygen and Other Oxidizing Gases

In the NPRM, we proposed amendments to the HMR pertaining to limits on PRD settings and cylinders authorized for the transportation of oxygen aboard aircraft. Compressed Gas Association (CGA) Pamphlet S–1.1, which has been incorporated by reference in the HMR, specifies the rated burst pressure of a rupture disk must be no greater than the cylinder minimum test pressure. However, CGA Pamphlet S–1.1 does not set a lower burst limit on the disks, increasing the risk of oxygen releases at elevated temperatures. To better prevent a cylinder from releasing its contents when exposed to a fire, we proposed to require an oxygen cylinder to be equipped with a PRD that has a rated burst pressure equal to the cylinder test pressure with allowable tolerances of −10 to plus zero percent.

We also proposed to limit cylinders authorized for the transportation of compressed oxygen aboard aircraft to DOT specifications 3A, 3AA, 3AL, and 3HT in order to minimize numerous PRD setting requirements for oxygen cylinders aboard aircraft. Although numerous specifications are authorized for oxygen and other oxidizing gases (49 CFR 173.201, 173.202a, 173.204, 173.204a), we understand these four specifications account for the vast majority of the cylinders used to transport these materials aboard aircraft—in addition to cylinders made of composite materials and authorized under special permit. (Specification 3HT cylinders are only authorized for aircraft use, and specification 3A and 3AA cylinders represent approximately 70% of the cylinders in all service.) This proposed limitation was not intended to restrict the use of composite cylinders that are currently, or may in the future be, authorized for transporting oxygen and other oxidizing gases under special permits.

Several commenters, including ATA, noted the proposed PRD setting for a DOT specification 3HT was incorrect. The NPRM should have stated the rated burst pressure of a rupture disk on a 3HT cylinder must be 90% of the cylinder test pressure. In this final rule, we have corrected this error.

ATA also asks about the proposal for replacement of PRDs specifically on 3HT cylinders, and whether this standard will be applied to other types of cylinders. Aviation Mobility expresses concern that raising the discharge pressure of PRDs on any gas cylinder will increase the potential for catastrophic failure. Continental Airlines states the limit on PRD settings proposed in the NPRM does not significantly increase the level of safety beyond current hazardous materials regulations. It questions the need to raise the PRD standards based on the lack of incidents related to compressed oxygen that meet existing temperature and pressure relief standards. It argues the level of protection of the aircraft transporting the oxygen cylinders is not increased even if the level of protection to the oxygen cylinders is increased.

Continental also raises cost concerns and estimates the costs for its company to meet the new PRD settings could exceed $2,500,000, of which $500,000 would be required to modify its medical oxygen service. According to this commenter, these costs will result in additional expense to disabled customers via increased oxygen service fees, and may force airlines to consider discontinuing this service. Scott suggests the requirement for PRDs apply after the next requalification.

NWA expresses concern about the cost to replace approximately 2,800 PRDs in its current supply of cylinders. The commenter states its cylinder maintenance is performed by a vendor and this rulemaking will force cylinders out of service for an extended period of time. NWA also recommends PHMSA perform an analysis to determine the effects a slow venting cylinder will have on the concentration of oxygen in cargo holds.

For cost reasons and ease of maintenance, according to Intertechnique, most PRDs are standard items, and changing the PRDs to match the new requirements will increase costs and delays. Intertechnique recommends that the reliability of PRDs with a smaller tolerance should be considered. In addition, Intertechnique states increasing the PRD setting does not drastically change the safety level. The leaking of the cylinder will be delayed until the temperature is higher (as will be the pressure), but the energy released at the moment of bursting the device will be higher, thus propelling oxygen with a higher flow and a larger velocity to a larger area. Intertechnique also states proof pressure varies from steel to composite cylinders, and the same PRD can be used for both types. It says changing the tolerance will lead to duplicating the PRD part numbers and cost increases, resulting in confusion within workshops that could lead to errors in installing PRDs. In addition, Intertechnique states the packaging should include a pressure balancing device (PBD) to prevent packaging burst due to pressure change within the cargo compartment during ascents and descents.

PHMSA continues to believe increasing the discharge pressure of PRDs on cylinders used to transport oxygen and other oxidizing gases will significantly increase the level of safety without increasing the potential for catastrophic failure of the packaging. One objective of this rulemaking is to prevent the actuation of the cylinder PRD so as to retain the cylinder's contents during an otherwise controllable cargo compartment fire. The outer packaging requirement proposed in the NPRM is designed to protect a cylinder and oxygen generator that could be exposed directly to flames from a fire, or indirectly, to heat from a fire. A new limit on the PRD settings on cylinders containing compressed oxygen or other oxidizing gases transported aboard aircraft will help ensure the contents of the cylinder are not released into an aircraft cargo compartment in the event of a fire. The design safety margin on the cylinder is high enough that the risk of catastrophic failure of the cylinder is not a serious concern.

Therefore, we are amending the HMR to require a new limit on the PRD settings on cylinders containing compressed oxygen or other oxidizing gases when transported aboard aircraft to ensure the cylinder contents are not released into an aircraft cargo compartment in the event of a fire. In order to accomplish this, we are amending the HMR to limit the PRD to a setting that will prevent it from releasing at temperatures the cylinder will experience while protected by the outer packaging. We are also amending the HMR to require cylinders containing oxidizing gases, including oxygen, to be equipped with PRDs that have a set pressure equal to the cylinder test pressure with allowable tolerances of −10 to plus zero percent.

In order to eliminate a significant portion of the costs associated with this requirement, we are adopting the commenter's suggestion to apply this requirement to cylinders beginning with each individual cylinder's next requalification date. Although not required, many cylinder owners replace the PRD during the five-year requalification as recommended by CGA Pamphlet S–1.1. Because relatively few cylinders are shipped by air, any additional costs associated with replacing the PRD at the next requalification date will be negligible.

Several commenters (Airbus, ATA, Carleton, Draeger, Intertechnique, Satair, Scott Aviation, and UPS) ask PHMSA to reconsider the requirement to limit the transportation of compressed oxygen aboard aircraft to DOT specifications 3A, 3AA, 3AL, and 3HT cylinders. Airbus states this proposed restriction is based on the assumption that these cylinders are the most commonly used for the transportation of compressed oxygen aboard aircraft, and on an apparent intention by PHMSA to limit the number of PRD settings. BE Aerospace contends the large volume of these cylinders is primarily because they have been in existence for many years. Scott confirms that the majority of oxygen cylinders currently in aviation service are DOT specification 3AA and 3HT cylinders.

Several commenters appear to believe we were proposing to exclude composite cylinders on board aircraft, despite the fact that a significant portion of compressed oxygen cylinders are currently made of composite material. For example, Airbus states composite cylinders combine weight-saving potential with significant cost reductions; perform as well as steel/aluminum cylinders; are subject to the same qualification tests as steel/aluminum cylinders; and are likely to be used increasingly in the future, especially the storage of oxygen as part of a gaseous oxygen system and portable oxygen cylinders for first aid. Airbus and others suggest that, if composite oxygen cylinders are not allowed aboard aircraft, many airlines will experience difficulty and increased costs regarding the maintenance and servicing of these composite oxygen cylinders. Carleton recommends that 49 CFR 173.302a(c)(1) be amended to include ''DOT Exemption Cylinders manufactured to the requirements of DOT FRP–1 or DOT–CFFC,'' and that § 173.302a(e)(2) define the PRD requirements for compressed oxygen cylinders and be amended to include ''DOT Exemption Cylinders must be equipped with a PRD as required by the appropriate Specification.'' Carleton also recommends PHMSA amend paragraph (e)(2) to read ''90% of cylinder test pressure'' and change ''−10 to zero percent of cylinder test pressure'' to ''−10 to plus zero percent of cylinder test pressure.''

Composite cylinders are lightweight, possess weight- and fuel-saving potential, and may lead to an overall reduction in the associated costs for air transportation of compressed oxygen. PHMSA recognizes the prevalence of composite cylinders in air transportation, the increased use of these cylinders by industry for the transportation of compressed oxygen, and that these trends are likely to continue in the future. We acknowledge that composite cylinders are currently authorized for the transportation of compressed oxygen aboard aircraft under special permit. No change in the HMR is required to permit composite cylinders to be used in oxygen service. The limitation of cylinders authorized for the transportation of compressed oxygen and other oxidizing gases aboard aircraft to DOT specifications 3A, 3AA, 3AL, and 3HT does not exclude composite cylinders from being utilized for the transport of compressed oxygen by air transportation under the terms of a special permit, which is issued only upon a finding that the use of a composite cylinder achieves a level of safety that is at least equal to that required by this rulemaking. The PRD requirements for composite cylinders will be updated to match the new requirements of this final rule. Consistent with our past practice of adopting special permits into the HMR, we will review these special permits to determine if they are suitable for inclusion into the HMR.

Therefore, we are amending the HMR to require cylinders authorized for the transportation of compressed oxygen aboard aircraft to be limited to DOT specifications 3A, 3AA, 3AL, and 3HT.

D. Limits on Number of Oxygen Cylinders Transported on Aircraft

In HM–224A, we adopted a limitation on the number of cylinders of compressed oxygen allowed to be carried on aircraft: (1) Up to six cylinders belonging to the aircraft carrier plus one cylinder per passenger needing oxygen at destination could be transported in the passenger cabin, and (2) no more than a combined total of six cylinders of compressed oxygen may be carried in inaccessible aircraft cargo compartments that lack a fire or smoke detection system and a fire suppression system. See former 49 CFR 175.10(b), 175.85(i), recodified at 175.501(b) & (c) (71 FR 14586). In the NPRM in this rulemaking, we proposed to remove the limits on the number of oxygen cylinders that may be transported in cargo compartments not equipped with sufficient fire suppression systems.

NTSB did not support the proposal to remove the current limit on the number of compressed oxygen cylinders that may be transported aboard aircraft until sufficient data on the performance and durability of the proposed overpacks has been collected. ALPA notes that, in justifying the proposal to require cylinders of compressed oxygen contained in an outer packaging not reach a temperature of 93 °C (199 °F) when exposed to a 205 °C (400 °F) temperature for three hours, PHMSA outlines conditions expected to be encountered within a cargo compartment during a suppressed cargo fire. The commenter states these conditions are then used as a basis for the requirement that an oxygen cylinder withstand a 1,700 °F flame for 5 minutes, followed by a temperature of 205 °C (400 °F) for 3 hours.

ALPA questions why PHMSA would propose to allow these oxygen cylinders in cargo compartments without any fire or smoke detection or an active fire suppression system. The commenter states if there were to be a fire in a cargo compartment without an active fire suppression system, the temperatures in the compartment would far exceed 205 °C (400 °F). According to ALPA, the only method available to limit the severity of such a fire is to limit the oxygen present within the compartment, either through an airtight under-floor design or by depressurizing the aircraft in the case of the main deck (Class E compartment) of an all-cargo aircraft. By introducing an oxygen cylinder unable to withstand the high temperatures of an unsuppressed fire, the commenter states either method would be negated. The commenter recommends oxygen cylinders be prohibited from transport in compartments without a fire or smoke detection system and an active fire suppression system.

Further, ALPA stresses any fire suppression system required by the rulemaking should be an active fire suppression system, with a knock-down agent (e.g., Halon). While a cargo compartment that limits the flow of oxygen may be considered to have a suppression system, the commenter contends this is clearly not the intent of the rulemaking, and asks that the word ''active'' be included in any discussion of suppression systems. The commenter also requests specific criteria to determine what constitutes passing or failing a visual inspection of oxygen generators by accepting personnel, and suggests a requirement for this person to provide a signature indicating the cylinder has passed a visual inspection. Finally, this commenter expresses concern with the proposal to allow oxygen generators aboard cargo-only aircraft in cargo compartments without an active fire suppression system, as the compartment design criteria are insufficient to withstand the conditions encountered in an unsuppressed fire. The objections by this commenter to this scenario are the same as for oxygen cylinders; specifically, the compartment design criteria are insufficient to withstand the conditions that would be encountered in an unsuppressed fire. The commenter concludes by recommending that oxygen generators be prohibited from transport on both passenger and cargo-only aircraft due to the additional hazard potential even in the presence of fire suppression systems.

Other commenters suggest alternatives to this rulemaking. Intertechnique recommends PHMSA conduct further investigation into this area before incorporating this proposal into the HMR. The commenter notes one procedure to control or suppress fire involves depressurizing the aircraft and suggests tests should include a rapid pressure change of the test chamber to simulate rapid decompression followed by a rapid descent of the burning aircraft. The commenter argues this decompression should not lead to bursting the packaging, and the ingestion of hot gas into the packaging during descent may lead to a rapid increase of the internal temperature that should be evaluated before the introduction of this regulatory change.

We acknowledge the commenters' concerns regarding the transportation of oxygen cylinders in cargo compartments without an active fire suppression system, and have reconsidered this proposed regulatory change. Based on these comments and consistent with current requirements, we are revising § 175.501 to require that, except for Oxygen, compressed, no person may load or transport a hazardous material for which an OXIDIZER label is required in an inaccessible cargo compartment that does not have a fire or smoke detection system and a fire suppression system. We are also revising this section to simplify the stowage requirements of cylinders of compressed oxygen previously located in § 175.85(i)(2) and (3), and to retain the limit of a combined total of six cylinders of compressed oxygen that may be stowed on an aircraft in the inaccessible aircraft cargo compartment(s) that do not have fire or smoke detection systems and fire suppression systems.

E. Chemical Oxygen Generator Approval

In the NPRM, we proposed to add a new § 173.168 that would: (1) Specify the means to be incorporated into an oxygen generator to prevent inadvertent actuation; (2) require the oxygen generator to be capable of withstanding a 1.8 meter drop with no loss of contents or actuation; and (3) specify packaging, shipping paper, and marking requirements for those oxygen generators that are installed in a piece of equipment sealed or otherwise packaged so it is difficult to determine if an oxygen generator is present.

SR Technics supports the additional marking requirement contained in the newly proposed § 173.168. This commenter states it is currently undergoing an evaluation involving the inadvertent transportation of chemical oxygen generators assembled in sealed components. In this situation, personnel handling this material did not realize the generators were installed in the component (passenger service units). In addition, this same commenter suggests chemical oxygen generators are not properly identified on Material Safety Data Sheets (MSDS). The commenter recommends we coordinate efforts with the Occupational Safety and Health Administration (OSHA) so critical safety transportation information is included on a MSDS for chemical oxygen generators.

Scott argues the proposed rule would reword paragraph 173.168(d) to require ''a chemical oxygen generator installed in equipment, (e.g., a PBE) [to] be placed in a rigid packaging * * * that conforms to the requirements capable of meeting the flame penetration and thermal resistance requirements of this proposed rule for shipment by air.'' PBEs, manufactured by Scott, are all one size and shape and, therefore, one size outer packing may suffice for Scott. This commenter states other manufacturers offering PBEs will most likely need a different outer packing. The commenter says PBEs are not the only aviation ''equipment'' in which oxygen generators are installed. For instance, Scott states that, in certain aircraft, it may be practical to replace just the chemical oxygen generator when maintenance is required. However, in other aircraft, it may be safer and more convenient to replace what is termed the ''dropout box,'' or passenger service unit (PSU), rather than just the oxygen generator. According to Scott, the dropout box is an assembly containing one or more oxygen masks, a chemical oxygen generator, and the related equipment needed to cause the box to open and the masks to deploy during a depressurization event.

The same commenter further states chemical oxygen generators are often contained in PSUs, which are segments of the cabin interior ceiling containing a chemical oxygen generator, several passenger oxygen masks, the reading lights, ventilation ducting, attendant call button, and other associated appliances. The commenter suggests the great variety of sizes and shapes of these assemblies means a large number of different sized packages may be required, or that these items may have to be disassembled, their chemical oxygen generators removed for shipment in a separate package, and the items reassembled at destination. The commenter says disassembly for shipment and subsequent reassembly increases cost and the possibility of mis-assembly and the subsequent failure of the oxygen equipment to function properly in an emergency.

Other commenters also express concern about the elimination of approvals for any person except manufacturers of chemical oxygen generators. Aviosupport recommends the proposal to eliminate distributors from being able to handle or repackage chemical oxygen generators to the airline industry be removed from this rulemaking, altogether. Satair states this proposal would not allow it to handle, repack and offer for transportation chemical oxygen generators and PBEs on any mode of transportation, including air. The commenter states such a limitation would create a significant loss of support in the commercial aerospace supply chain and would negatively impact its company. The same commenter further states the Competent Authority approval is a proven tool to ensure safe storage, handling and transportation of chemical oxygen generators and PBEs.

The approval requirement for a chemical oxygen generator is still necessary and will be retained. However, the approval process will apply only to manufacturers of the chemical oxygen generator. This will eliminate the need for other persons to obtain shipment approvals, because we are incorporating into the HMR those aspects of the approvals specifically focused on safety controls, packaging, and marking. Accordingly, in this final rule, we are amending the HMR by adding a new § 173.168 to: (1) Specify means to be incorporated into an oxygen generator design to prevent actuation; (2) require an oxygen generator to be capable of withstanding a 1.8 meter drop with no loss of contents or actuation; and (3) establish packaging, shipping paper, and marking requirements for those oxygen generators that are installed in sealed equipment (or equipment in which it otherwise is difficult to determine if an oxygen generator is present). In addition, we have reconsidered the proposal to amend the shipping paper requirements and are not adopting this provision at this time. The recommendation that we coordinate efforts with OSHA to ensure that critical safety transportation information is included on a MSDS is beyond the scope of this rulemaking, but may be considered in the future.

We also proposed to specify in the HMR that a chemical oxygen generator that has passed the manufacturer's expiration date is forbidden for transportation by aircraft. Through the approval process, PHMSA had not allowed the transportation of expired oxygen generators aboard aircraft. With the elimination of the approval for other than oxygen generator manufacturers, we believe it is now necessary to specify this restriction in the HMR. We did not receive any adverse comments to this specific proposal. Therefore, we are amending the HMR to specify that a chemical oxygen generator that has passed the manufacturer's expiration date is forbidden for transportation by aircraft.

V. Effects on Individuals With Disabilities

Under separate PHMSA and FAA requirements [49 CFR 175.8(b)(1), and 14 CFR 121.574, 125.219, and 135.91, respectively], which this rulemaking would not amend, passengers may not carry their own oxygen dispensing systems aboard aircraft for use during flight. Air carriers are permitted to provide oxygen for passenger use in accordance with specified requirements in the aforementioned rules, although some air carriers may choose not to provide this service for their passengers. In the NPRM, PHMSA requested comments on whether the new proposed provisions placed on carriage of air carriers' own oxygen cylinders will significantly interfere with carriers' ability to provide this service, or increase the costs of this service, to passengers. This topic is covered above under ''Outer Packaging for Compressed Oxygen Cylinders and Oxygen Generators.''

The Office of the Secretary, PHMSA and FAA have initiated projects separate from this rulemaking action to explore whether safe alternatives exist for accommodating passenger needs in regard to use of medical oxygen. These projects may result in proposals to amend the relevant portions of the HMR and FAA regulations, as well as those of the Office of the Secretary implementing the Air Carrier Access Act of 1986 (49 U.S.C. 41705), which prohibits discrimination in regard to air traveler access on the basis of disability.

VI. Regulatory Analyses and Notices

A. Statutory/Legal Authority for Rulemaking

This final rule is published under the authority of Federal hazardous materials transportation law (Federal hazmat law; 49 U.S.C. 5101 *et seq.*) and 49 U.S.C. 44701. Section 5103(b) of Federal hazmat law authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce. Section 1.53 of 49 CFR delegates the authority to issue regulations in accordance with 49 U.S.C. 5103(b) to the Administrator of the Pipeline and Hazardous Materials Safety Administration. United States Code § 44701 authorizes the Administrator of the Federal Aviation Administration to promote safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards for practices, methods, and procedure the Administrator finds necessary for safety in air commerce and national security. Under 49 U.S.C. 40113, the Secretary of Transportation has the same authority to regulate the transportation of hazardous material by air, in carrying out § 44701, that he has under 49 U.S.C. 5103.

B. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is considered a significant regulatory action under section 3(f) of Executive Order 12866 and, therefore, was reviewed by the Office of Management and Budget (OMB). This rule is significant under the Regulatory Policies and Procedures of the Department of Transportation (44 FR 11034). The costs associated with the transport of oxygen cylinders are estimated to be $10.8 million over 15 years ($7.6 million discounted; the majority of which is believed to be associated with the transport of oxygen cylinders aboard passenger-carrying aircraft). The costs associated with the transport of chemical oxygen generators is estimated to be $27.0 million over 15 years ($16.9 million discounted). All costs have been discounted to present value at 7% and are expressed in 2004 dollars). The benefits of this rulemaking range from $30 million, if a single cargo aircraft accident is averted to $357 million, if a passenger aircraft accident is averted. Therefore, we conclude this final rule will be cost beneficial. A copy of the regulatory evaluation is available for review in the public docket.

C. Executive Order 12988

This final rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden. The changes to the HMR in this final rule will not have a retroactive effect. Under PHMSA's procedural rules, there is a right to administratively appeal this final rule to PHMSA's Administrator (49 CFR 106.100 *et seq.*), but such an administrative appeal is not a prerequisite to seeking judicial review in accordance with 49 U.S.C. 5127.

D. Executive Order 13132

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (''Federalism''). This final rule preempts State, local and Indian tribe requirements, but does not amend any regulation that has direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

The Federal hazardous materials transportation law, 49 U.S.C. 5101–5127, contains an express preemption provision (49 U.S.C. 5125(b)) that preempts State, local, and Indian tribe requirements on the following subjects:

(1) The designation, description, and classification of hazardous material;

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous material;

(3) The preparation, execution, and use of shipping documents related to hazardous material and requirements related to the number, contents, and placement of those documents;

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; and

(5) The design, manufacture, fabrication, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This final rule addresses items 2 and 5 above and would preempt any State, local, or Indian tribe requirements not meeting the ''substantially the same'' standard.

Federal hazardous materials transportation law provides at § 5125(b)(2) that, if DOT issues a regulation concerning any of the covered subjects, DOT must determine and publish in the **Federal Register** the effective date of Federal preemption. The effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. This effective date of preemption is 90 days after the publication of this final rule in the **Federal Register**.

E. Executive Order 13175

This final rule has been analyzed in accordance with the principles and criteria contained in Executive order 13175 (''Consultation and Coordination with Indian Tribal Governments''). Because this final rule will not have tribal implications and does not impose substantial direct compliance costs on Indian tribal governments, the funding and consultation requirements of Executive Order 13175 do not apply, and a tribal summary impact statement is not required.

F. Regulatory Flexibility Act, Executive Order 13272, and DOT Procedures and Policies

The Regulatory Flexibility Act of 1980 establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation.'' To achieve that principle, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rational for their actions. The Act covers a wide-range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA) as described in the Act.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, 5 U.S.C. 605(b) provides that the head of the agency may so certify and an RFA is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The Small Business Administration recommends that ''small'' represent the impacted entities with 1,500 or fewer employees. For this final rule, small entities are part 121 and part 135 air carriers with 1,500 or fewer employees that are approved to carry hazardous materials. DOT identified 729 air carriers that meet this definition. DOT contacted several of these entities to estimate the number of containers that each small air carrier uses to transport oxygen cylinders aboard aircraft in other than the passenger cabin. All the entities that were contacted maintained that although they are approved to carry hazardous materials, they transport no oxygen cylinders in cargo compartments. From conversations with container manufacturers, DOT learned that approximately ten small air carriers transport compressed oxygen cylinders. DOT believes that each of the ten small air carriers would need approximately 5 compressed oxygen containers to comply with the final rule. DOT also estimates that each of ten small carriers will need approximately 5 oxygen generator containers to comply with the final rule.

After calculating the prorated annualized costs per entity using the same assumptions that were used in the cost section (all costs have been discounted to present value at 7% and are expressed in 2004 dollars), DOT has determined that the incremental cost impact per small entity would be $451 (See Table 3 of the regulatory evaluation in the public docket), which PHMSA considers ''de minimus'' for a small business (See Appendix C) . The baseline costs per small entity shown in Table 3 are generated from Appendix C by adding the baseline discounted costs of oxygen cylinders and chemical oxygen generator overpacks. Similarly, the costs in Table 3 are generated by adding discounted costs of the rule for oxygen cylinder and chemical oxygen generator overpacks. Annualized costs are calculated by applying a capital recovery factor to total incremental costs and measuring the annual impact of the regulation.

Thus, DOT has determined that this final rule will not have a significant impact on a substantial number of small entities. Accordingly, pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), DOT certifies that this rule will not have a significant economic impact on a substantial number of small entities.

G. International Trade Impact Assessment

The Trade Agreements 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 affect of this final rule and has determined that it will have only a domestic impact and therefore it will not affect any trade-sensitive activity.

H. Unfunded Mandates Reform Act of 1995

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.'' The FAA currently uses an inflation-adjusted value of $120.7 million in lieu of $100 million.

This final rule does not contain such a mandate. The requirements of Title II do not apply.

I. Paperwork Reduction Act

This final rule results in an information collection and recordkeeping burden increase under OMB Control Number 2137–0572, due to changes in package design and testing requirements for compressed oxygen and oxygen generators. There is an editorial change with no change in burden under OMB Control Number 2137–0557, due to changes in section designations regarding approval requirements for oxygen generators. PHMSA currently has approved information collections under OMB Control Number 2137–0572, ''Testing Requirements for Non-Bulk Packaging'' with 32,500 burden hours, and an expiration date of July 31, 2007, and OMB Control Number 2137–0557, ''Approvals for Hazardous Materials'' with 25,605 burden hours, and an expiration date of March 31, 2008. Under the Paperwork Reduction Act of 1995, no person is required to respond to an information collection unless it displays a valid OMB control number.

PHMSA estimates this rulemaking will result in approximately 10 additional respondents, 500 additional responses, 2,500 additional burden hours, and $750,000 additional burden costs. The new total information collection and recordkeeping burden for OMB Control Number 2137–0572 would be as follows:

''Testing Requirements for Non-Bulk Packaging''

OMB Number 2137–0572:

Total Annual Number of Respondents: 5,010.

Total Annual Responses: 15,500.

Total Annual Burden Hours: 32,500.

Total Annual Burden Cost: $812,500.00.

Requests for a copy of this information collection should be directed to Deborah Boothe or T. Glenn Foster, Office of Hazardous Materials Standards (PHH–11), Pipeline and Hazardous Materials Safety Administration, Room 8430, 400 Seventh Street, SW., Washington, DC 20590–0001, Telephone (202) 366–8553.

J. Environmental Assessment

The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321–4347) requires Federal agencies to consider the consequences of major Federal actions and prepare a detailed statement on actions significantly affecting the quality of the human environment. We developed an environmental assessment (EA) to consider the effects of these revisions on the environment and determine whether a more comprehensive environmental impact statement may be required. We have concluded that there are no significant environmental impacts associated with this final rule. An environmental assessment prepared for this final rule has been placed in the public docket for this rulemaking.

K. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

L. Privacy Act

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted 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 (Volume 65, Number 70; Pages 19477–78) or you may visit *http://dms.dot.gov.*

List of Subjects

49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Reporting and recordkeeping requirements.

49 CFR Part 172

Education, Hazardous materials transportation, Hazardous waste, Labeling, Markings, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 173

Hazardous materials transportation, Packaging and containers, Radioactive materials, Reporting and recordkeeping requirements, Uranium.

49 CFR Part 175

Air Carriers, Hazardous materials transportation, Radioactive materials, Reporting and recordkeeping requirements.

49 CFR Part 178

Hazardous materials transportation, Motor vehicle safety, Packaging and containers, Reporting and recordkeeping requirements.

■ In consideration of the foregoing, we are amending 49 CFR chapter I as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

■ 1. The authority citation for part 171 continues to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.45 and 1.53; Pub. L. 101–410, section 4 (28 U.S.C. 2461 note); Pub. L. 104–134, section 31001.

■ 2. In § 171.11, paragraph (d)(16) is revised to read as follows:

§ 171.11 Use of ICAO Technical Instructions.

* * * * *

(d) * * *

(16) A package containing Oxygen, compressed, or any of the following oxidizing gases must be packaged as required by parts 173 and 178 of this subchapter: carbon dioxide and oxygen mixtures, compressed; compressed gas, oxidizing, n.o.s.; liquefied gas, oxidizing, n.o.s.; nitrogen trifluoride; and nitrous oxide.

* * * * *

PART 172—HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, AND TRAINING REQUIREMENTS

■ 3. The authority citation for part 172 continues to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.45 and 1.53.

§ 172.101 [Amended]

■ 4. In the Hazardous Materials Table in § 172.101, for the shipping name ''Air, refrigerated liquid, (cryogenic liquid),'' Column (9B) is revised to read ''Forbidden.''

§ 172.101 [Amended]

■ 5. In the Hazardous Materials Table in § 172.101, for the shipping name ''Oxygen, compressed,'' in column (7), Special Provision ''A52'' is removed.

§ 172.101 [Amended]

■ 6. In the Hazardous Materials Table in § 172.101, for the shipping name ''Oxygen generator, chemical,'' in Column (7), Special Provisions ''60, A51'' are removed and Column (8B) is revised to read ''168.''

§ 172.102 [Amended]

■ 7. In § 172.102, in paragraph (c)(1), Special Provisions ''60'' is removed.

§ 172.102 [Amended]

■ 8. In § 172.102, in paragraph (c)(2), Special Provisions ''A51'' and ''A52'' are removed.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

■ 9. The authority citation for part 173 continues to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.45 and 1.53.

■ 10. Section 173.168 is added to read as follows:

§ 173.168 Chemical oxygen generators.

An oxygen generator, chemical (defined in § 171.8 of this subchapter) may be transported only under the following conditions:

(a) *Approval.* A chemical oxygen generator that is shipped with a means of initiation attached must be classed and approved by the Associate Administrator in accordance with the procedures specified in § 173.56 of this subchapter.

(b) *Impact resistance.* A chemical oxygen generator, without any packaging, must be capable of withstanding a 1.8 meter drop onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause actuation or loss of contents.

(c) *Protection against inadvertent actuation.* A chemical oxygen generator must incorporate one of the following means of preventing inadvertent actuation:

(1) A chemical oxygen generator that is not installed in protective breathing equipment (PBE):

(i) Mechanically actuated devices:

(A) Two pins, installed so that each is independently capable of preventing the actuator from striking the primer;

(B) One pin and one retaining ring, each installed so that each is independently capable of preventing the actuator from striking the primer; or

(C) A cover securely installed over the primer and a pin installed so as to prevent the actuator from striking the primer and cover.

(ii) Electrically actuated devices: The electrical leads must be mechanically shorted and the mechanical short must be shielded in metal foil.

(iii) Devices with a primer but no actuator: A chemical oxygen generator that has a primer but no actuating mechanism must have a protective cover over the primer to prevent actuation from external impact.

(2) A chemical oxygen generator installed in a PBE must contain a pin installed so as to prevent the actuator from striking the primer, and be placed in a protective bag, pouch, case or cover such that the protective breathing equipment is fully enclosed in such a manner that the protective bag, pouch, case or cover prevents unintentional actuation of the oxygen generator.

(d) *Packaging.* After September 30, 2009 a chemical oxygen generator and a chemical oxygen generator installed in equipment, (e.g., a PBE) must be placed in a rigid outer packaging that—

(1) Conforms to the requirements of either:

(i) Part 178, subparts L and M, of this subchapter at the Packing Group I or II performance level; or

(ii) The performance criteria in Air Transport Association (ATA) Specification No. 300 for a Category I Shipping Container.

(2) With its contents, is capable of meeting the following additional requirements when transported by cargo-only aircraft:

(i) The Flame Penetration Resistance Test in part III of Appendix F to 14 CFR part 25, modified as follows:

(A) At least three specimens of the outer packaging materials must be tested;

(B) Each test must be conducted on a flat 16 inch x 24 inch test specimen mounted in the horizontal ceiling position of the test apparatus to represent the outer packaging design;

(C) Testing must be conducted on all design features (latches, seams, hinges, etc.) affecting the ability of the outer packaging to safely prevent the passage of fire in the horizontal ceiling position; and

(D) There must be no flame penetration of any specimen within 5 minutes after application of the flame source, and the maximum allowable temperature at a point 4 inches above the test specimen, centered over the burner cone, must not exceed 205 °C (400 °F).

(ii) The Thermal Resistance Test specified in Appendix D to part 178 of this subchapter.

(iii) None of the following conditions may occur when one generator in the package is actuated:

(A) Actuation of other generators in the package;

(B) Ignition of the packaging materials; and

(C) A temperature above 100 °C (212 °F) on the outside surface temperature of the package.

(iv) All features of the packaging must be in good condition, including all latches, hinges, seams, and other features, and the packaging must be free from perforations, cracks, dents, or other abrasions that may negatively affect the flame penetration resistance and thermal resistance characteristics of the packaging, verified by a visual inspection of the package before each shipment.

(e) *Equipment marking.* The outside surface of a chemical oxygen generator must be marked to indicate the presence of an oxygen generator (e.g., ''oxygen generator, chemical''). The outside surface of equipment containing a chemical oxygen generator that is not readily apparent (e.g., a sealed passenger service unit) must be clearly marked to indicate the presence of the oxygen generator (example: ''Oxygen Generator Inside'').

(f) *Items forbidden in air transportation.* (1) A chemical oxygen generator is forbidden for transportation on board a passenger-carrying aircraft.

(2) A chemical oxygen generator is forbidden for transportation by both passenger-carrying and cargo-only aircraft after:

(i) The manufacturer's expiration date; or

(ii) The contents of the generator have been expended.

■ 11. In § 173.302a, paragraph (f) is added to read as follows:

§ 173.302a Additional requirements for shipment of nonliquefied (permanent) compressed gases in specification cylinders.

* * * * *

(f) *Compressed oxygen and oxidizing gases.* A cylinder containing oxygen, compressed; compressed gas, oxidizing, n.o.s.; or nitrogen trifluoride is authorized for transportation by aircraft only when it meets the following requirements:

(1) Only DOT specification 3A, 3AA, 3AL, and 3HT cylinders, and UN pressure receptacles ISO 9809–1, ISO 9809–2, ISO 9809–3 and ISO 7866 cylinders are authorized.

(2) Cylinders must be equipped with a pressure relief device in accordance with § 173.301(f) and, beginning with the first requalification due after October 1, 2007:

(i) The rated burst pressure of a rupture disc for DOT 3A, 3AA, and 3AL cylinders must be 100% of the cylinder minimum test pressure with a tolerance of −10 to plus zero percent; and

(ii) The rated burst pressure of a rupture disc for a 3HT must be 90% of the cylinder minimum test pressure with a tolerance of −10 to plus zero percent.

(3) After September 30, 2009, the cylinder must be placed in a rigid outer packaging that—

(i) Conforms to the requirements of either part 178, subparts L and M of this subchapter at the Packing Group I or II performance level or the performance criteria in Air Transport Association (ATA) Specification No. 300 for a Category I Shipping Container;

(ii) Is capable of passing, as demonstrated by design testing, the Flame Penetration Resistance Test in part III of Appendix F to 14 CFR part 25, modified as follows:

(A) At least three specimens of the outer packagings materials must be tested;

(B) Each test must be conducted on a flat 16 inch x 24 inch test specimen mounted in the horizontal ceiling position of the test apparatus to represent the outer packaging design;

(C) Testing must be conducted on all design features (latches, seams, hinges, etc.) affecting the ability of the outer packaging to safely prevent the passage of fire in the horizontal ceiling position; and

(D) There must be no flame penetration of any specimen within 5 minutes after application of the flame source and the maximum allowable temperature at a point 4 inches above the test specimen, centered over the burner cone, must not exceed 205 °C (400 °F); and

(iii) Prior to each shipment, passes a visual inspection that verifies that all features of the packaging are in good condition, including all latches, hinges, seams, and other features, and that the packaging is free from perforations, cracks, dents, or other abrasions that may negatively affect the flame penetration resistance and thermal resistance characteristics of the packaging.

(4) After September 30, 2009, the cylinder and the outer packaging must be capable of passing, as demonstrated by design testing, the Thermal Resistance Test specified in Appendix D to part 178 of this subchapter.

(5) The cylinder and the outer packaging must both be marked and labeled in accordance with part 172, subparts D and E of this subchapter.

(6) A cylinder of compressed oxygen that has been furnished by an aircraft operator to a passenger in accordance with 14 CFR 121.574, 125.219, and 135.91 is excepted from the outer packaging requirements of paragraph (f)(3) of this section.

■ 12. In § 173.304a, paragraph (f) is added to read as follows:

§ 173.304a Additional requirements for shipment of liquefied compressed gases in specification cylinders.

* * * * *

(f) *Oxidizing gases.* A cylinder containing carbon dioxide and oxygen mixture, compressed; liquefied gas, oxidizing, n.o.s.; or nitrous oxide is authorized for transportation by aircraft only when it meets the following requirements:

(1) Only DOT specification 3A, 3AA, 3AL, and 3HT cylinders, and UN pressure receptacles ISO 9809–1, ISO 9809–2, ISO 9809–3 and ISO 7866 cylinders are authorized.

(2) Cylinders must be equipped with a pressure relief device in accordance with § 173.301(f) and, beginning with the first requalification due after October 1, 2007:

(i) The rated burst pressure of a rupture disc for DOT 3A, 3AA, and 3AL cylinders must be 100% of the cylinder minimum test pressure with a tolerance of −10 to plus zero percent; and

(ii) The rated burst pressure of a rupture disc for a 3HT must be 90% of the cylinder minimum test pressure with a tolerance of −10 to plus zero percent.

(3) After September 30, 2009, the cylinder must be placed in a rigid outer packaging that—

(i) Conforms to the requirements of either part 178, subparts L and M, of this subchapter at the Packing Group I or II performance level, or the performance criteria in Air Transport Association (ATA) Specification No. 300 for a Category I Shipping Container;

(ii) Is capable of passing, as demonstrated by design testing, the Flame Penetration Resistance Test in part III of Appendix F to 14 CFR part 25, modified as follows:

(A) At least three specimens of the outer packaging materials must be tested;

(B) Each test must be conducted on a flat 16 inch x 24 inch test specimen mounted in the horizontal ceiling position of the test apparatus to represent the outer packaging design;

(C) Testing must be conducted on all design features (latches, seams, hinges, etc.) affecting the ability of the outer packaging to safely prevent the passage of fire in the horizontal ceiling position; and

(D) There must be no flame penetration of any specimen within 5 minutes after application of the flame source and the maximum allowable temperature at a point 4 inches above the test specimen, centered over the burner cone, must not exceed 205 °C (400 °F); and

(iii) Prior to each shipment, passes a visual inspection that verifies that all features of the packaging are in good condition, including all latches, hinges, seams, and other features, and the packaging is free from perforations, cracks, dents, or other abrasions that may negatively affect the flame penetration resistance and thermal resistance characteristics of the container.

(4) After September 30, 2009, the cylinder and the outer packaging must be capable of passing, as demonstrated by design testing, the Thermal Resistance Test specified in Appendix D to part 178 of this subchapter.

(5) The cylinder and the outer packaging must both be marked and labeled in accordance with part 172, subparts D and E of this subchapter.

(6) A cylinder of compressed oxygen that has been furnished by an aircraft operator to a passenger in accordance with 14 CFR 121.574, 125.219, and 135.91 is excepted from the outer packaging requirements of paragraph (f)(3) of this section.

PART 175—CARRIAGE BY AIRCRAFT

■ 13. The authority citation for part 175 continues to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.53.

■ 14. Section 175.501 is revised to read as follows:

§ 175.501 Special requirements for oxidizers and compressed oxygen.

(a) Compressed oxygen, when properly labeled Oxidizer or Oxygen, may be loaded and transported as provided in this section. Except for Oxygen, compressed, no person may load or transport a hazardous material for which an OXIDIZER label is required under this subchapter in an inaccessible cargo compartment that does not have a fire or smoke detection system and a fire suppression system.

(b) In addition to the quantity limitations prescribed in § 175.75, no more than a combined total of six cylinders of compressed oxygen may be stowed on an aircraft in the inaccessible aircraft cargo compartment(s) that do not have fire or smoke detection systems and fire suppression systems.

(c) When loaded into a passenger-carrying aircraft or in an inaccessible cargo location on a cargo-only aircraft, cylinders of compressed oxygen must be stowed horizontally on the floor or as close as practicable to the floor of the cargo compartment or unit load device. This provision does not apply to cylinders stowed in the cabin of the aircraft in accordance with paragraph (e) of this section.

(d) When transported in a Class B aircraft cargo compartment (see 14 CFR 25.857(b)) or its equivalent (i.e., an accessible cargo compartment equipped with a fire or smoke detection system, but not a fire suppression system), cylinders of compressed oxygen must be loaded in a manner that a crew member can see, handle and, when size and weight permit, separate the cylinders from other cargo during flight. No more than six cylinders of compressed oxygen and, in addition, one cylinder of medical-use compressed oxygen per passenger needing oxygen at destination—with a rated capacity of 1000 L (34 cubic feet) or less of oxygen—may be carried in a Class B aircraft cargo compartment or its equivalent.

(e) A cylinder containing medical-use compressed oxygen, owned or leased by an aircraft operator or offered for transportation by a passenger needing it for personal medical use at destination, may be carried in the cabin of a passenger-carrying aircraft in accordance with the following provisions:

(1) No more than six cylinders belonging to the aircraft operator and, in addition, no more than one cylinder per passenger needing the oxygen at destination, may be transported in the cabin of the aircraft under the provisions of this paragraph (e);

(2) The rated capacity of each cylinder may not exceed 1,000 L (34 cubic feet);

(3) Each cylinder must conform to the provisions of this subchapter and be placed in:

(i) An outer packaging that conforms to the performance criteria of Air Transport Association (ATA) Specification 300 for a Category I Shipping Container; or

(ii) A metal, plastic or wood outer packaging that conforms to a UN standard at the Packing Group I or II performance level.

(4) The aircraft operator shall securely stow the cylinder in its overpack or outer packaging in the cabin of the aircraft and shall notify the pilot-in-command as specified in § 175.33 of this part; and

(5) Shipments under this paragraph (e) are not subject to—

(i) Sections 173.302(f) and 173.304a(f) of this subchapter, subpart C of part 172 of this subchapter, and, for passengers only, subpart H of part 172 of this subchapter;

(ii) Section 173.25(a)(4) of this subchapter; and

(iii) Paragraph (b) of this section.

PART 178—SPECIFICATIONS FOR PACKAGINGS

■ 15. The authority citation for part 178 continues to read as follows:

Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.53.

■ 16. A new Appendix D to part 178 is added to read as follows:

Appendix D to Part 178—Thermal Resistance Test

1. *Scope.* This test method evaluates the thermal resistance capabilities of a compressed oxygen generator and the outer packaging for a cylinder of compressed oxygen or other oxidizing gas and an oxygen generator. When exposed to a temperature of 205 °C (400 °F) for a period of not less than three hours, the outer surface of the cylinder may not exceed a temperature of 93 °C (199 °F) and the oxygen generator must not actuate.

2. *Apparatus.*

2.1 *Test Oven.* The oven must be large enough in size to fully house the test outer package without clearance problems. The test oven must be capable of maintaining a minimum steady state temperature of 205 °C (400 °F).

2.2 *Thermocouples.* At least three thermocouples must be used to monitor the temperature inside the oven and an additional three thermocouples must be used to monitor the temperature of the cylinder. The thermocouples must be 1⁄16 inch, ceramic packed, metal sheathed, type K (Chromel-Alumel), grounded junction with a nominal 30 American wire gauge (AWG) size conductor. The thermocouples measuring the temperature inside the oven must be placed at varying heights to ensure even temperature and proper heat-soak conditions. For the thermocouples measuring the temperature of the cylinder: (1) two of them must be placed on the outer cylinder side wall at approximately 2 inches (5 cm) from the top and bottom shoulders of the cylinder; and (2) one must be placed on the cylinder valve body near the pressure relief device.

2.3 *Instrumentation.* A calibrated recording device or a computerized data acquisition system with an appropriate range should be provided to measure and record the outputs of the thermocouples.

3. *Test Specimen.*

3.1 *Specimen Configuration.* Each outer package material type and design must be tested, including any features such as handles, latches, fastening systems, etc., that may compromise the ability of the outer package to provide thermal protection.

3.2 *Test Specimen Mounting.* The tested outer package must be supported at the four corners using fire brick or other suitable means. The bottom surface of the outer package must be exposed to allow exposure to heat.

4. *Preparation for Testing.*

4.1 It is recommended that the cylinder be closed at ambient temperature and configured as when filled with a valve and pressure relief device. The oxygen generator must be filled and may be tested with or without packaging.

4.2 Place the package or generator onto supporting bricks or a stand inside the test oven in such a manner to ensure even temperature flow.

5. *Test Procedure.*

5.1 Close oven door and check for proper reading on thermocouples.

5.2 Raise the temperature of the oven to a minimum temperature of 205 °C ± 2 °C (400 °F ± 5 °F). Maintain a minimum oven temperature of 205 °C ± 2 °C (400 °F ± 5 °F) for at least three hours. Exposure time begins when the oven steady state temperature reaches a minimum of 205 °C ± 2 °C (400 °F ± 5 °F).

5.3 At the conclusion of the three-hour period, the outer package may be removed from the oven and allowed to cool naturally.

6. *Recordkeeping.*

6.1 Record a complete description of the material being tested, including the manufacturer, size of cylinder, etc.

6.2 Record any observations regarding the behavior of the test specimen during exposure, such as smoke production, delamination, resin ignition, and time of occurrence of each event.

6.3 Record the temperature and time history of the cylinder temperature during the entire test for each thermocouple location. Temperature measurements must be recorded at intervals of not more than five (5) minutes. Record the maximum temperatures achieved at all three thermocouple locations and the corresponding time.

7. *Requirements.*

7.1 For a cylinder, the outer package must provide adequate protection such that the outer surface of the cylinder and valve does not exceed a temperature of 93 °C (199 °F) at any of the three points where the thermocouples are located.

7.2 For an oxygen generator, the generator must not actuate.

Issued in Washington, DC on January 25, 2007 under authority delegated in 49 CFR part 1.

Thomas J. Barrett,

Administrator.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

RIN 0648–AT67

[Docket No. 061109296–7009–02; I.D. 110606A]

Fisheries of the Northeastern United States; Atlantic Bluefish Fisheries; 2007 Atlantic Bluefish Specifications; Quota Adjustment; 2007 Research Set-Aside Project

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule; final specifications for the 2007 Atlantic bluefish fishery.

SUMMARY: NMFS issues final specifications for the 2007 Atlantic bluefish fishery, including state-by-state commercial quotas, a recreational harvest limit, and recreational possession limits for Atlantic bluefish off the east coast of the United States. The intent of these specifications is to establish the allowable 2007 harvest levels and possession limits to attain the target fishing mortality rate (F), consistent with the stock rebuilding program contained in Amendment 1 to the Atlantic Bluefish Fishery Management Plan (FMP), as well as ensuring compliance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This action will publish final specifications that are modified from those contained in the proposed rule.

DATES: This rule is effective March 2, 2007, through December 31, 2007.

ADDRESSES: Copies of the specifications document, including the Environmental Assessment (EA) and the Initial Regulatory Flexibility Analysis (IRFA) are available from Daniel Furlong, Executive Director, Mid-Atlantic Fishery Management Council, Room 2115, Federal Building, 300 South Street, Dover, DE 19901–6790. The specifications document is also accessible via the Internet at *http://www.nero.noaa.gov*. NMFS prepared a Final Regulatory Flexibility Analysis (FRFA), which is contained in the classification section of this rule. The FRFA consists of the IRFA, public comments and responses contained in this final rule, and a summary of impacts and alternatives contained in this final rule. The small entity compliance guide is available from Patricia A. Kurkul, Regional Administrator, Northeast Regional Office, National Marine Fisheries Service, One Blackburn Drive, Gloucester, MA 01930–2298, and on the Northeast Regional Office's website at *http://www.nero.noaa.gov/nero/nr/*.

The Northeast Fisheries Science Center (Center) 41st Stock Assessment Review Committee (SARC) Bluefish Assessment Report (updated for 2006) is available at: *http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0514*.

FOR FURTHER INFORMATION CONTACT: Allison McHale, Fishery Policy Analyst, (978) 281–9103, or Michael Pentony, Supervisory Policy Analyst, (978)281–9283.

SUPPLEMENTARY INFORMATION:

Background

The Atlantic bluefish fishery is cooperatively managed by the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission). The management unit for bluefish (*Pomatomus saltatrix*) is the U.S. waters of the western Atlantic Ocean.

The FMP requires that the Council recommend, on an annual basis, total allowable landings (TAL) for the fishery, consisting of a commercial quota and recreational harvest limit (RHL). A research set aside (RSA) quota is deducted from the bluefish TAL (after any applicable transfer) in an amount proportional to the percentage of the overall TAL as allocated to the commercial and recreational sectors. The annual review process for bluefish requires that the Council's Bluefish Monitoring Committee (Monitoring Committee) review and make recommendations based on the best available data including, but not limited to, commercial and recreational catch/landing statistics, current estimates of fishing mortality, stock abundance, discards for the recreational fishery, and juvenile recruitment. Based on the recommendations of the Monitoring Committee, the Council makes a recommendation to the Northeast Regional Administrator (RA). Because the Bluefish FMP is a joint plan with the Atlantic States Marine Fisheries Commission (Commission), the Commission meets during the annual specification process to adopt complimentary measures.

In July 2006, the Monitoring Committee met to discuss the updated estimates of bluefish stock biomass and project fishery yields for 2007. In August 2006, the Council approved the Monitoring Committee's recommendations and the Commission's Bluefish Board (Board) adopted complementary management measures. Detailed background information regarding the status of the bluefish stock and the development of the 2007 specifications for this fishery was provided in the proposed specifications (71 FR 68524, November 27, 2006). That information is not repeated here.

RSA Quota

A request for proposals was published on December 23, 2005, to solicit research proposals to utilize RSA in 2007 based on research priorities identified by the Council (70 FR 76253). One research project that would utilize 363,677 lb (164,961 kg) of bluefish RSA has been conditionally approved by NMFS and is currently awaiting notice of award. Therefore, this final rule implements a 363,677–lb (164,961–kg) RSA quota for the 2007 bluefish fishery. If this project is not approved by the NOAA Grants Office, the research quota associated with the disapproved proposal will be restored to the bluefish TAL through publication in the **Federal Register**.

Final Specifications

The FMP specifies that the bluefish stock is to be rebuilt to B_{MSY} over a 9–year period and requires the Council to recommend, on an annual basis, a level of total allowable catch (TAC) consistent with the rebuilding program in the FMP. An estimate of annual discards is deducted from the TAC to calculate the TAL that can be made during the year by the commercial and recreational fishing sectors combined. The FMP rebuilding program requires the TAC for any given year to be set based either on the target F resulting from the stock rebuilding schedule specified in the FMP (0.31 for 2007), or the F estimated in the most recent fishing year (F_{2005} = 0.15), whichever is lower. An overall TAC of 32.033 million lb (14,530 mt) is recommended as the coastwide TAC by the Council at its August 2006 meeting to achieve the target fishing mortality rate (F = 0.15) in 2007, consistent with the rebuilding schedule specified in Amendment 1.

The TAL for 2007 is derived by subtracting an estimate of discards of