REGULATORY EVALUATION, REGULATORY FLEXIBILITY DETERMINATION, TRADE IMPACT ASSESSMENT, AND UNFUNDED MANDATES DETERMINATION

FINAL RULE

ANTIDRUG AND ALCOHOL MISUSE PREVENTION PROGRAMS FOR PERSONNEL ENGAGED IN SPECIFIED AVIATION ACTIVITIES (14 CFR 121)

OFFICE OF AVIATION POLICYAND PLANS
OPERATIONS REGULATORY ANALYSIS BRANCH
APO-310

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TABLE OF CONTENTS

Executive Summary ____ *i*
I. Introduction and Background ____ *1*
II. The Final Rule ____ *2*
III. Comments ____ *3*
IV. Cost of Compliance ____ *26*
V. Analysis of Benefits ____ *44*
VI. Comparison of Costs and Benefits ____ *50*
VII. Final Regulatory Flexibility Determination ____ *51*
VIII. International Trade Impact Statement ____ *56*
IX. Unfunded Mandates Determination ____ *56*
APPENDIX A ____ *57*
APPENDIX B ____ *69*

Executive Summary

This regulatory evaluation examines the costs and benefits of a final rule to the antidrug and alcohol misuse prevention program regulations that emphasizes that each individual who performs a safety-sensitive function is subject to testing. Those regulations also apply to those who perform a safety-sensitive function directly or by contract (including by subcontract at any tier) for an employer.

Total Costs and Benefits of this Rulemaking

Over 10 years, costs sum to $3.08 million and cost savings sum to $790,300, for net total costs of $2.29 million ($1.76 million, discounted). The FAA estimates 10-year benefits sum to $15.07 million ($10.59 million, discounted).

Who is Potentially Affected by this Rulemaking

Private Sector

This rulemaking directly affects regulated employers (part 121 and 135 certificate holders, and operators as defined in § 135.1(c)). This rulemaking indirectly affects contractors and subcontractors, including non-certificated maintenance contractors (NCMS), performing maintenance and preventive maintenance for these regulated employers at any tier. Approximately 300 NCMS will have to develop antidrug and alcohol misuse prevention programs, affecting about 5,000 employees in 2006, rising to approximately 5,700 employees by 2015.

Government

The FAA will need to process the submitted registration information from each of the subcontractors.

Our Cost Assumptions and Sources of Information

The FAA is not changing the current regulations, but is simply clarifying them. As such, there would be no additional costs. However, the FAA recognizes that, due to conflicting guidance, some companies may have to modify their current antidrug and alcohol misuse prevention programs or implement such programs. The FAA does not know how many additional employees or contractor companies will be subject to antidrug and alcohol misuse prevention programs, but will base costs on the following assumptions:

- The number of regulated employers affected by this rulemaking, as defined by the 14 CFR part under which they operate, are as follows - Part 121 – 101, Part 121/135 – 18, Part 135 – 2,443, and operators as defined in § 135.1(c) – 250;
- There are currently 582 NCMS with antidrug program plans and alcohol misuse prevention programs.

- The FAA is basing costs on an increase of 50%, for an additional 291 contractors; this is expected to rise to 309 in 2015.
- The FAA will base costs on subcontractors initiating and implementing their own programs as opposed to their being covered under another company's program or using a service agent with already-established procedures.
- The FAA will base costs, in this analysis, on an additional 2.5% maintenance workers being subject to the antidrug and alcohol misuse prevention programs. Accordingly, the FAA expects an additional 5,000 employees to be subject to these proposed rules in 2006; thus each of these companies will have to test 17 employees in 2006.
- The FAA estimates that the number of employees in the maintenance sector grows at 1.5% per year. Thus, the number of additional employees to be tested is expected to rise to 5,700 in 2015.
- The FAA assumes that there will be two supervisors per contractor and the attrition rate for mechanics is approximately 10% per year.

The FAA believes that the actual number of employees, additional companies, costs of program development, and employees per company will be less than what is being assumed for this analysis, but the FAA is using this number so as to be conservative and not underestimate costs.

Additional Assumptions

- Discount rate – 7%
- Period of analysis – 2006 through 2015
- All monetary values are expressed in 2004 dollars.
- Price of a drug test - $45
- Price of an alcohol test - $34
- Time for a drug or alcohol test (hours) – 0.75
- One instructor for every 20 supervisors and/or employees to be trained.
- Value of fatality avoided - $3.0 million
- Value of serious injury avoided – $580,700
- Value of avoiding a destroyed aircraft - $205,500
- Value of avoiding a substantially damaged aircraft - $27,700

Alternatives We Considered

As this rule simply emphasizes sections of existing regulations, no alternatives were considered.

Benefits of this Rulemaking

The major benefit from this rulemaking will be the prevention of potential injuries and fatalities and property losses resulting from accidents attributed to neglect or error on the part of individuals whose judgment or motor skills may be impaired by the presence of drugs and/or alcohol.

Over the last 10 years, there were 1,056 accidents attributable to maintenance as either a cause or a factor in the NTSB accident report. Of these, there were 61 part 135 accidents, or an average of six a year; eight of these, or about one a year, resulted in at least two fatalities per accident. These eight accidents resulted in 39 fatalities, or an average of about five fatalities per accident. While there have been no documented aviation accidents directly attributed to the misuse or abuse of drugs or alcohol, the FAA believes it is possible that such misuse or abuse may have contributed to aviation-related accidents. Accordingly, the FAA believes it is prudent to base benefits on avoiding one such part 135 accident over the next 10 years, thus avoiding an estimated total of five fatalities and one destroyed or damaged airplane. These numbers of accidents, fatalities, and destroyed airplanes are less than or equal to 1% of all maintenance-related accidents that had occurred over the last 10 years; the FAA considers these benefits to be both conservative and reasonable.

The total benefits of this rulemaking were calculated by assuming an equally likely chance of avoiding these accidents in each of the next 10 years. Total benefits sum to $15.07 million ($10.59 million, discounted).

Costs of this Rulemaking

Assuming, under this proposal, an additional 2.5% maintenance workers will be subject to the antidrug and alcohol misuse prevention programs, from 2006 to 2015, $3.08 million and 10-year cost savings summing to as much as $790,300, for net total costs of approximately $2.29 million ($1.76 million, discounted); almost all of these costs are private sector costs. The costs are in four areas; the cost savings will be discussed below:

1) Testing costs - All the new employees will be subject to all the normal tests – pre-employment, random, post-accident, reasonable cause/suspicion, return to duty, and follow-up. The cost of testing includes both the actual cost of the test as well as the cost of the employee's time. Over 10 years, additional testing costs sum to $2.33 million ($1.69 million, discounted).

2) Training and Education Costs - For both the antidrug and alcohol misuse prevention programs, the employer must train each supervisor who will make reasonable cause/suspicion determinations. Supervisors must also receive training on the effects and consequences of drug use. In addition, all employees need to be trained as to the requirements of the antidrug and alcohol misuse prevention programs. All companies will be required to establish education programs for both the antidrug and the alcohol misuse prevention programs. Over 10 years, total training and education costs sum to $619,700 ($506,800, discounted).

3) Program Development and Maintenance Costs – Each subcontractor will have to devote resources to developing antidrug and alcohol misuse prevention testing programs. In addition, each of these subcontractors will have to spend time to produce information required for their registration and submit it to the FAA. At

the FAA, the submitted information will have to be processed, and also entered into the appropriate database. Over 10 years, total program development and maintenance costs sum to $111,200 ($101,300, discounted).
4) Annual Documentation Costs – Each subcontractor needs to document certain events; over 10 years, annual documentation costs for these events sum to $19,800 ($15,500, discounted). They include:

- A company's supervisory personnel who make the reasonable cause and reasonable suspicion testing determinations must receive specific training on specific indicators of probable drug use and alcohol misuse. The regulations require each company to document the training;
- Employees also need to be trained as to the requirements of the antidrug program. The regulations require each company to document this training;
- Companies will have to document all reasonable cause/suspicion cases;
- If a post-accident alcohol test is not administered within 2 hours following the accident, the employer has to document the reasons the test was not promptly administered. In addition, if a post-accident test is not administered within 8 hours following the accident, the employer also has to document the reasons the test was not promptly administered;
- Each company must notify the FAA of any employee holding a 14 CFR part 61, 63, or 65 certificate who refused to submit to a required drug or alcohol test; and
- The Medical Review Officer (MRO) needs to send a positive drug test report to the FAA after verifying a positive drug test result for any employee holding an airman medical certificate.

Insurance companies value substance abuse programs and see the testing in these programs as beneficial, reducing their expected payouts. Companies that have these programs and testing often have their worker's compensation insurance reduced an average of 5%. Given a company with 17 employees comprised of 2 supervisors and 15 non-supervisors, these savings will sum to about $250 per company per year. Ten year costs savings sum to as much as $790,300 ($550,500, discounted).

Regulatory Flexibility Determination

For the approximately 300 contractors that will need to put together antidrug and alcohol misuse prevention programs and then implement them, this rule will cost $2.29 million over 10 years ($1.76 million, discounted), or annualized costs of about $800 for each contractor. These contractors will absorb some of these costs, while the rest will be passed on. Given such low annualized costs, the FAA does not believe that most of the costs will be passed on to companies at other tiers or the regulated employers. For the purposes of this analysis, the FAA will assume that all of the additional NCMS cost is passed along to the regulated employers.

Using this assumption, we will determine the maximum additional cost impact to these regulated employers.

For this analysis, the FAA considers each part 135 certificate holder and operator under § 135.1(c) to be a small entity. The FAA also considers some of the part 121 and 121/135 certificate holders to be small entities. The FAA examined the costs of this rule two different ways:

A) The costs are shared equally by all regulated employers; and

B) In order to determine the maximum impact of this rule, the entire cost is borne by one regulated employer that needs a variety of safety-sensitive maintenance functions performed by multiple contractors.

A) Given 2,562 air carrier certificate holders and 250 operators under §135.1(c), the cost borne by each regulated employer will equal about $800 ($600, discounted), or annualized cost of about $100. The costs to each air carrier certificate holder would be less than 0.0002% of their annual revenues, while the costs to each operator under §135.1(c) would be less than 0.15% of their annual revenues. Given that the majority of §135.1(c) operators usually has one or two aircraft, and operates in and out of one airport, it is unlikely that they would interact with multiple subcontractors in the regular course of business operations. Therefore, it is unlikely that their annualized costs as a percentage of annual revenues would be much higher than 0.15%.

B) Under this scenario, the entire cost would be borne by one regulated employer. It is highly unlikely that one or a small number of regulated employers would bear the costs of this rule exclusively because the regulated employers vary in size, number of aircraft, and geographic location. The smaller the operator, the fewer aircraft that operator would use, hence the smaller the number of subcontractors that operator would use for safety-sensitive maintenance. Therefore, this scenario would not be applicable to many small entities, including many part 135 operators or any operator under § 135.1(c).

Annualized costs equal about $251,200, or less than 0.5% of average annual revenues for any of the categories of regulated employers that would require safety-sensitive maintenance functions performed by multiple contractors. Clearly, no regulated employer is going to absorb all, or even most, of the costs to the exclusion of the other regulated employers, so the impact on their revenues will be much lower. In addition, it is highly unlikely that all of the additional costs to the NCMS will be passed along to these regulated employers.

Under both scenarios, the economic impact is minimal. Therefore, we certify that this action will not have a significant economic impact on a substantial number of small entities.

The rule is not expected to adversely affect international trade or impose unfunded mandates costing more than $120.7 million in a year on state, local, or tribal governments or on the private sector.

I. Introduction and Background

In 1988, the FAA published a final rule, Antidrug Program for Personnel Engaged in Specified Aviation Activities (53 FR 47024), which required specified aviation employers to initiate antidrug programs for personnel performing safety-sensitive functions. The antidrug rule was modified in 1994[1] to incorporate specific requirements from the Omnibus Transportation Employee Testing Act of 1991 (the Act) (49 USC 45101, et seq.). The Act also required the FAA, along with the Office of the Secretary of Transportation (OST), as well as the other Department of Transportation (DOT) modal administrations to promulgate alcohol misuse prevention programs.

In 1994, the FAA also published a final rule, Alcohol Misuse Prevention Program for Personnel Engaged in Specified Aviation Activities (59 FR 7380; February 15, 1994), which required specific aviation employers to conduct alcohol testing. The FAA issued an NPRM, Notice No. 02-04 (67 FR 9366; February 28, 2002), proposing administrative changes and clarifying the antidrug and alcohol misuse prevention program regulations, 14 CFR part 121, appendices I and J. The FAA subsequently published a final rule to effect these changes (69 FR 1840; January 12, 2004).

In Notice 02-04, the FAA proposed to clarify that each person who performs a safety-sensitive function directly for a regulated employer is subject to testing for drug use and alcohol misuse and that each person who performs a safety-sensitive function at any tier of a contract for that employer is also subject to testing.[2] Several commenters stated that this was more than a clarifying change. The commenters suggested that there would be an economic impact from this proposed change. Therefore, the FAA removed this issue from the final rule and considered it in a Supplemental Notice of Proposed Rulemaking (SNPRM), Notice 02-08 (69 FR 27980; May 17, 2004). In the SNPRM, the FAA proposed the same language as in the NPRM and asked commenters to provide economic information to help the Agency address the concerns they raised.

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[1] Antidrug Program for Personnel Engaged in Specified Aviation Activities, (59 FR 42911; August 19, 1994).

[2] Many contractors use subcontractors, who in turn, use subcontractors, in the compilation of a contract. The phrase "at any tier" refers to all subcontractor levels.

II. The Final Rule

In Notice No. 02-04, the FAA proposed to clarify that each person who performs a safety-sensitive function directly or by contract (including by subcontract at any tier) for an employer is subject to testing. The FAA stated that this was not a substantive change because the current rule language states that anyone who performs a safety-sensitive function "directly or by contract" must be tested. The regulations have always required that any person actually performing a safety-sensitive function be tested, and we were clarifying that performance "by contract" means performance under any tier of a contract. However, due to conflicting guidance given out by the FAA in the past, some maintenance providers may have been confused about testing employees performing work under a subcontract. For a fuller discussion of previous guidance, see Notice 02-04 (67 FR 9369-9370) and 02-08 (69 FR 27980).

The current FAA drug and alcohol testing regulations require the testing of anyone performing the specified safety-sensitive functions. The FAA believes that the potential reach of performing by "contract" goes beyond those who have a direct contract with the air carrier. In the SNPRM, the FAA again proposed to emphasize that each person who performs a safety-sensitive function directly or by contract (including by subcontract at any tier) for an employer is subject to drug and alcohol testing. To do otherwise would constrict the scope of the testing requirement that all persons who perform a safety-sensitive function must be tested. The FAA will rescind all conflicting informal guidance regarding subcontractors upon publication of the final rule.

Any employee who performs a safety-sensitive function (as listed in 14 CFR part 121, appendices I and J) will affect aviation safety. Thus, it is important any individuals who perform any type of safety-sensitive function be subject to drug and alcohol testing under the FAA regulations. We acknowledge the aviation industry uses subcontractors to perform safety-sensitive functions on a frequent basis. It would not achieve the goals of aviation safety for the FAA to excuse from testing requirements those individuals who are actually performing a safety-sensitive function merely because of the tier of the contract under which they are performing. For more than a decade, it has been our experience that many regulated employers and contractor companies have recognized contractors and subcontractors must be subject to testing.

It is important to note the FAA does not directly regulate subcontractors for drug and alcohol testing purposes. In 14 CFR part 121, appendices I and J, the FAA

defines who is a regulated "employer" for drug and alcohol testing purposes.[3] Currently, a regulated employer must ensure any individual performing a safety-sensitive function by contract is subject to drug and alcohol testing programs under the FAA regulations. The regulated employer can either test the individual under the employer's own testing programs, or, if the contractor company chooses to obtain and implement its own FAA drug and alcohol testing programs, the contractor company can test the individual.

III. Comments

The FAA received approximately 30 comments that dealt with the economic issues raised by the SNPRM. Commenters included the Air Transportation Association of America (ATA); Regional Airline Association (RAA); International Brotherhood of Teamsters; Aircraft Mechanics Fraternal Association; the Office of Advocacy at the Small Business Administration; United Technologies Corporation (UTC); and Aeronautical Repair Station Association (ARSA), which filed joint comments on behalf of itself and 12 other associations.

1. Regulatory Flexibility Act Issues

Comment: ARSA, RAA, and five part 145 repair stations all stated FAA failed to conduct a complete Initial Regulatory Flexibility Analysis (IRFA) for the SNPRM.

FAA Response: As discussed in the Preamble, the FAA disagrees with these commenters who raised Regulatory Flexibility Act (RFA) issues. The drug and alcohol testing regulations directly apply to air carriers operating under 14 CFR parts 121, 135, and § 135.1(c), and air traffic control facilities not operated by the FAA or operated by or under contract to the U.S. military (note that for these testing purposes, repair stations are contractors, and, thus are not regulated employers). Contractors can choose to obtain antidrug and alcohol misuse prevention programs. If they make this choice, then such contractors must follow the FAA's testing regulations.

The Preamble includes numerous court case citations that the RFA only applies to small entities directly regulated by the proposed rule and does not apply to small businesses indirectly affected by the regulation of other entities. A regulatory

[3] An employer directly regulated by the FAA drug and alcohol testing regulations is "a part 121 certificate holder, a part 135 certificate holder, an operator as defined in § 135.1(c) of this chapter, or an air traffic control facility not operated by the FAA or by or under contract to the U.S. military."

agency may elect to evaluate the costs of the proposal on small businesses indirectly affected (in this case, contractors), but is not required to do so; their evaluating these costs does not obligate them to do a full RFA analysis. In addition, the regulatory agency is not obligated "to assess the impact on all of the nation's small businesses possibly affected by a rule," even though that rule may have economic impacts on many sectors of the economy.

Comment: The Office of Advocacy of the U.S. Small Business Administration expressed concerns about the FAA's belief that the proposed action would not have a significant economic impact on a substantial number of small entities, and believes that the FAA should publish an IRFA for comment. These concerns were due to a belief that the FAA lacked the factual basis to support its decision to certify the proposed rule under the RFA. In support of its recommendation that the FAA publish an IRFA, the Office stated that:

- "The FAA should expand its analysis of the economic impacts to small entities outside the aviation industry," as there are entities, in addition to the part 145 repair stations, that would be affected by this rulemaking;
- "The FAA analysis lacks the specificity required by the RFA," as the FAA used aggregated data to calculate costs per firm among small entities; and
- "The FAA has not provided any criteria by which it can judge whether the number of businesses absorbing economic impacts in any given industry will be substantial," as the "FAA did not break out the costs of the rule for each affected industry."

FAA Response: As discussed in the response to the previous comment, since the regulated entities are the aforementioned air carriers and not the part 145 repair stations or their subcontractors, the FAA is not required to perform an IRFA on these small entities.

Comment: RAA maintained that the RFA required the FAA, not the commenters to the docket, to determine the number of small businesses covered by this proposal and how many would be significantly impacted.

FAA Response: The FAA disagrees with RAA, as it is appropriate for a regulatory agency to call for or invite comments when it does not have the data.

2. <u>ARSA's Joint Industry Comments</u>

The most voluminous set of comments came through the Aeronautical Repair Station Association (ARSA), and these comments represented 12 other industry associations. The main set of comments were submitted on August 16, 2004 and entitled <u>Joint Industry Comments.</u> ARSA submitted additional comments on

August 30, 2004. In the summary of comments and answers below, the FAA uses the word 'ARSA' to refer to both documents.

ARSA expressed serious concerns about certain aspects of the SNPRM's Regulatory Evaluation;[4] these concerns were based, in part, on the results of two surveys. They also used the analysis of Dr. Darryl Jenkins in their critique of the cost section of this analysis. The FAA will discuss the core of ARSA's comments as a whole, separate from the rest of the comments and separate from other individual topics.

Comment: ARSA conducted two surveys. The first surveyed FAA-certificated repair stations concerning their practice of using Non-Certificated Maintenance Subcontractor (NCMS) to perform contracted maintenance functions. The second surveyed NCMS concerning the maintenance work they perform for certificated repair stations. These surveys sought to determine the accuracy of the FAA's assumptions, particularly concerning the number of NCMS that the proposed rule would affect. ARSA wanted to ensure that they were using a statistically valid sample and eliminated duplicate NCMS in developing their industry-wide profile. Appendix A shows the results of the Repair Station Survey and Appendix B shows the results of the NCMS Survey.

A total of 371 respondents completed the Repair Station Survey. From these respondents ARSA identified 347 distinct FAA-certificated repair stations; the others involved duplicate submissions. Nearly 70 percent of the respondents had annual revenues below $6 million, qualifying them as small businesses, reflecting the small business character of most companies in the aviation maintenance industry. According to Dr. Jenkins, "the respondents are a diverse and statistically valid sample of the approximately 5,000 FAA certificated repair stations."

FAA Response: The FAA questions ARSA's contention that their surveys were diverse and statistically valid samples. The responses would meet these criteria only if the sample was done in a random fashion.[5] ARSA presented its survey to a clearly defined audience, thereby targeting exactly who they wanted to respond to

[4] Draft Regulatory Evaluation, Initial Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Determination, Supplemental Notice of Proposed Rulemaking, Antidrug and Alcohol Misuse Prevention Programs for Personnel Engaged in Specified Aviation Activities (14 CFR 121) (Misuse), FAA, September 2003. This is available in the docket.

[5] Random sampling is a sampling technique where a group of subjects (a sample) is selected for study from a larger group (a population). Each individual is chosen entirely by chance and each member of the population has a known, but possibly non-equal, chance of being included in the sample. By using random sampling, the likelihood of bias is reduced. Source: http://www.stats.gla.ac.uk/steps/glossary/sampling.html#randsamp

the survey.[6] However, ARSA did not document if the recipients were selected in a statistically random manner or how many potential respondents were sent the survey. If the recipients were selected in a statistically random manner, there should not have been any duplicates. However, as ARSA points out, there were duplicate responses. A total of 371 respondents completed the Repair Station Survey. ARSA reported that they eliminated 42 duplicates, leaving them with 347 distinct FAA-certificated repair stations. Since 371 minus 42 equals 329, it is clear that several repair stations submitted more than two sets of answers. Similarly, a total of 134 respondents completed the NCMS survey, but 18 of the 134 responses were either duplicate responses from the same company or were certificated repair stations, leaving 116 distinct NCMS respondents.

If ARSA used data from any repair station or NCMS that answered the respective survey, neither survey would represent a random selection as there would be no way to know how representative of the entire population the respondents were. In addition, ARSA did not explain how they dealt with duplicate responses. Thus, it does not appear that the responses represent a statistically valid representation of either the repair station or the NCMS industry.

Comment: There were 10 questions in the ARSA Repair Station Survey. The initial questions established facts about the population responding to the survey, such as the number of individuals employed or the annual revenue. The follow-on questions established information about their practice of using NCMS to perform contracted maintenance functions. There were 12 questions in the NCMS Survey. As with the Repair Station survey, the first few questions simply established facts about the population responding to the survey, while the follow-on questions dealt with the maintenance work they perform for certificated repair stations. ARSA based its economic analysis and critique of the FAA's analysis on the two surveys' results.

FAA Response: The FAA examined the published results of both of the ARSA surveys and has problems accepting the results of both of them.

The FAA found the following problems with the results of the repair station survey:
- ARSA pointed out that while they received 371 respondents, they identified 347 distinct FAA-certificated repair stations; the others involved duplicate submissions. However, the answers to each of the questions in the survey include all 371 respondents, rather than 347. The survey's answer to question 6, about whether the company has FAA/DOT antidrug and alcohol misuse prevention programs shows 363 'yes' and 'no' answers (322 saying 'yes' and 41 saying 'no').

[6] Not all repair stations are members of ARSA, thus diminishing the objectivity of the survey.

Given a distinct population of 347, it is not clear what the real breakdown is, if 322 had programs and 25 did not, 306 had programs and 41 did not, or somewhere in between. Thus, the FAA cannot depend on this information.
- ARSA specified that only those respondents that answered 'no' to question 6 should answer questions 7 through 9. Thus, assuming, in fact, that 41 respondents did not have programs, there only should have been 41 responses to each question. However, 124 respondents answered question 7, 108 answered questions 8, and 102 answered question 9. Thus, the FAA cannot depend on the answers to these questions.
- On question 7, which asked if the repair station had a contract with a part 121 or part 135 air carrier to perform maintenance on its behalf, 63 answered 'yes' and 61 answered 'no'. Since the aforementioned 41 is less than the total of both the 'yes' or 'no' answers, the true answer could have been all 'yes', all 'no', or some combination of 41 'yes' and 'no's. Similar anomalies occurred with the answers to questions 8 and 9. Thus, the FAA cannot depend on the answers to these questions.
- Question 10 asked about the end users of their work with the possible answers being 'part 121 or part 135 air carriers,' 'non-air carrier operators,' and 'both air carriers and non-air carrier operators.' Less than a quarter deal only with the air carriers. Some of the non-air carrier operators are not subject to drug and alcohol testing under the FAA regulations, but without a breakout of which non-air carrier operators would be subject to this testing, the FAA cannot depend on this information.
- Question 11 asked how many NCMS does each repair station use. Using the 371 respondents shown in this table, the average company uses approximately 5 NCMS, based on a weighted average. However, this does not mean that these 371 respondents use a total of 1,855 companies (371 x 5), as many of the same respondents use the same NCMS. Given that 6 respondents use at least 50 NCMS, the true total of NCMS used by these respondents range from 50 to 1,735 (the 347 distinct respondents times 5).

The FAA had similar problems with the results of the NCMS Survey:
- ARSA received 134 responses, but could not use 18 of them as they were either duplicate responses or were from certificated repair stations. Thus, the true population of their responses was not 134, but 116. As with the Repair Station Survey, ARSA should have published and used answers only from the 116 distinct respondents instead of the 134 that are shown in the answers to the survey questions.
- Question 4 gathered information on each respondent's maintenance functions. The FAA notes that a percentage of these respondents' maintenance functions

showed that they would not need antidrug and alcohol misuse prevention programs.[7]
- The survey's answers to question 5, about whether the company has FAA/DOT antidrug and alcohol misuse prevention programs show 129 'yes' and 'no' answers (25 saying 'yes' and 104 saying 'no'). Given a distinct population of 116, it is not clear what the real breakdown is, if 25 had programs and 91 did not, 12 had programs and 104 did not, or if the breakdown was somewhere in between. Thus, the FAA cannot depend on this information.
- ARSA specified that only those respondents that answered 'no' to question 5 should answer questions 6 through 8. Thus, assuming, in fact, that 104 respondents did not have programs, there should only have been this many responses to each question, but this was not the case. Thus, the FAA cannot depend on the answers to these questions.
- Question 8 asked about the end users of their work, with the same choices as with question 10 in the repair station survey. Only 57 respondents provided answers specifying the types of air carrier or non-air carrier operators that they interact with, while 49 answered that they didn't know. Given 106 distinct respondents, it is impossible to know the exact proportions of respondents' answers. In addition, as with the repair station survey, less than a quarter of those who answered deal with part 121 or 135 air carriers. Some of the non-air carrier operators are not subject to drug and alcohol testing under the FAA regulations, but without a breakout of which non-air carrier operators would be subject to this testing, the FAA cannot depend on this information.
- Question 10 asked the respondents if they had to implement antidrug and alcohol misuse prevention programs, would they do it. The survey showed that 71% would implement such programs and continue providing services to the aviation industry; the FAA notes that this seems to be different from what many commenters have said.
- Question 9 asked what percentage of the respondent's business is related to aviation. The average respondent's percentage of business related to aviation is 58.8%. It is unfortunate that there is no information on how questions 9 and 10 inter-relate; it would be useful to see a correlation between the percentage of business related to aviation as compared to which companies would implement antidrug and alcohol misuse prevention programs and continue providing services to the aviation industry. In addition, since some of the respondents to question 4 show that they would not need such programs, their answers should not have been included in the answers to either question 9 or 10.

Thus, the FAA does not find most of the survey information useful or credible.

[7] These responses included writing technical manuals, distributing hardware, or not performing any maintenance functions.

Comment: Dr. Jenkins critiqued FAA's analysis based, in part, on ARSA's survey data. Dr. Jenkins' objections to the FAA's analysis are as follows:

a. The FAA claims that this proposed rule would affect approximately 300 NCMS. Through their two surveys, ARSA compiled a list of 580 separate NCMS that the rule would apply to. (ARSA, in their cover letter, said "The reader must remember that the FAA's number (297) is meant to represent the **entire** population, while ARSA's number (580) represents less than 10 percent of the entire population, based on the survey results." (emphasis added by ARSA).)

b. The FAA offers no rationale for its use of 25% as the number of additional non-certificated entities that the rule would impact. "Without any empirical data to support its assertion, the FAA's estimate that only 297 NCMS would be affected by the proposed rule has no significance," and "is without scientific merit."

c. The repair station survey respondents "representing nearly seven percent of the approximately 5,000 FAA certificated repair stations are a statistically valid sample of the repair station industry."

d. The answers to question 11 of the Repair Station Survey show a weighted average of approximately five NCMS per repair station; Dr. Jenkins adjusted this to 4.53 to account for the duplicate responses to the survey. Thus, given approximately 5,000 FAA-certificated repair stations, there are approximately 22,000 NCMS (calculation: 4.53 x 5,000). He estimates that about half of the respondents do not use NCMS, so, applying this average to half of the repair stations, 2,500, gives a population of 12,000 NCMS (calculation: 4.53 x 2,500). Thus, there is a "statistically valid estimate of 12,000 to 22,000 NCMS to which the proposed rule could apply." This range "disproves the FAA estimate of 297 affected NCMS by a greater than .01 level of significance."

e. The aforementioned 12,000 to 22,000 range includes only those NCMS directly contracting with a certificated repair station; this estimate did not account for NCMS on the second contractual tier and below. The true number may be exponentially larger than 22,000, leading to "the conclusion that the FAA woefully underestimated the number of NCMS in its regulatory evaluation."

FAA Response: The FAA does not find Dr. Jenkins' analysis convincing for the following reasons (the following five answers, a. through e., correspond directly to the five points, a. through e., directly above):

a. The FAA did not claim that the rule would only apply to 297 NCMS; instead, its analysis was based on the rulemaking affecting an additional 297 NCMS's on top of the approximately 1,200 that currently have antidrug and alcohol misuse prevention programs. Thus, the FAA's number is not the "entire population" affected by this rulemaking.

b. The FAA has significant contact with the aviation industry and its contractors through the drug and alcohol testing regulations. The FAA's Drug Abatement Division inspects and investigates regulated entities and the contractors opting to conduct drug and alcohol testing. Between March 1, 2002, the month after the Notice of Proposed Rulemaking first introduced the language explicitly referencing subcontractors at any tier, and April 30, 2005, the Drug Abatement Division conducted more than 3,000 on-site inspections/investigations. We believe this contact with our industry and its contractors (including subcontractors) has provided us with substantial expertise to understand our industry. Based on our inspection experience and expertise, we estimated an additional 297 NCMS's would opt to conduct drug and alcohol testing as a result of the proposed rule change.

c. As discussed above, the FAA disputes ARSA's claim that the approximately 350 respondents to the survey (seven percent of ARSA's stated number of FAA certificated repair stations, 5,000) are a statistically valid sample of the repair station industry.

d. The multiplication of 2,500 and 5,000 FAA-certificated repair stations by 4.53 NCMS per station to obtain a range of 12,000 to 25,000 NCMS that would be affected by this rulemaking, respectively, makes sense if and only if each NCMS only works for no more than one repair station. Otherwise, there will be double counting. Nothing in the ARSA data shows that each NCMS repair station connection is unique. According to ARSA's logic, if there were a hundred repair stations, there would need to be 453 NCMS. But, since many of these repair stations could use the same NCMS, in this case, the true number of NCMS would range from 5 to 453. In addition, Dr. Jenkins did not explain which statistical distribution he used to calculate his 1% level of significance, thus diminishing the usefulness of this calculation.

FAA data shows that there are currently 5,140 certificated repair stations and of those, 3,166 have an A449 paragraph in their operations specifications (Ops Specs).[8] [9] There is no correlation between the number of repair stations with an A449 paragraph in their Ops Specs and the number that use NCMS. ARSA submitted no data supporting their contention that half of these repair stations use NCMS, and the FAA does not find that number credible, for at the time of the SNPRM's publication, there were 930 active 145 repair stations,[10] a figure much lower than the 2,500 ARSA used in its analysis.

e. The supposition that the true number of NCMS, impacted by this rulemaking, may be exponentially larger than 22,000 and that this estimate did not account for NCMS on the second contractual tier and below does not make

[8] Office of Aerospace Medicine, April 2005.

[9] An A449 is the information in a certificated company's operations specification that shows they have a D&A testing program

[10] Office of Aerospace Medicine, April 2005.

sense. The same NCMS may be in the first tier for one repair station, in the second tier for a second, and the third tier for a third, so the same NCMS could be counted many times.

Comment: ARSA, using FAA data from the SNPRM's Regulatory Evaluation, divided the 10-year cost of the rule, $3.57 million, by the average of 306 NCMS over the 10-year period examined by the SNPRM[11] to derive an annual cost of $1,170 per company ($3.57 million divided by 10 years divided by 306 NCMS). As discussed above, ARSA, quoting Dr. Jenkins, contends that the actual number of NCMS affected by this rule ranges from 12,000 to 22,000. Assuming the same cost per company ($1,170), ARSA concluded that the 10-year cost of the rule ranged from $140 million to $257 million ($1,170 x 12,000 to $1,170 x 22,000).

FAA Response: ARSA's calculations are correct if and only if the true number of NCMS ranges from 12,000 to 22,000. In the discussion above, the FAA explains why it did not believe ARSA's range held any credence.

Comment: ARSA objected to the FAA's inclusion of only those SIC Codes related to Part 145 repair (SIC Code 4581, 7622, 7629, and 7699), as they claim that this under-represents the industries that this rulemaking affects. Instead, the FAA should have used the North American Industry Classification System (NAICS) code for all applicable industries affected by this rulemaking. Through their survey, ARSA identified a wide array of industries that would be affected, and contends that certificated repair stations would not be as affected as other companies. The proposed rule would have its largest impact on those businesses that do not work exclusively in the aviation maintenance industry, but instead provide specific support services for repair stations.

FAA Response: The FAA erred in using the SIC code rather than NAICS code, which the Small Business Administration (SBA) requires, but both these codes were used simply to identify the group the Agency was looking at. There is a direct correlation between these two codes on SBA's website, so in that context, it doesn't matter which the FAA used. In the SNPRM, the FAA concentrated on analyzing the certificated repair stations, rather than businesses that do not work exclusively in the aviation maintenance industry. While ARSA did identify additional industries that this rulemaking might affect, which include businesses that provide this type of support service for certificated repair stations, they did not document what percentage of NCMS would be affected. Question 4 in the NCMS survey only asks the respondent what maintenance function they perform; as noted above, some of these industries would not be subject to this rulemaking. In the Regulatory Evaluation, the FAA never specified which industries the additional

[11] The FAA used 306 companies based on an average of companies over a 10 year period.

297 NCMS worked in, so they could encompass businesses that do not work exclusively in the aviation maintenance industry.

Comment: ARSA maintains that the FAA's cost analysis for the proposed rule failed to consider the entire scope of the rule's effects, as it did not look at compliance costs, specifically the costs of modifying existing processes and procedures, and changes in market competition. The compliance costs should include repair stations overseeing NCMS' participation in antidrug and alcohol misuse prevention programs, which repair stations are typically not equipped to do, so it would be costly for them to do this. Even more onerous and costly would be the requirement that repair stations oversee the participation in a program of every subcontractor at any lower tier involved in the maintenance process.

ARSA maintains that the FAA failed to acknowledge or analyze the changes in market competition. In their cover letter, ARSA provided information, taken from their NCMS Survey, showing what percentage of NCMS with annual revenues below a certain level or with a small percentage of their business aviation related would stop performing aviation maintenance if required to participate in antidrug and alcohol misuse prevention programs. For instance, more than 55% of NCMS with annual revenues under $750,000 would stop performing aviation maintenance if required to participate in such programs. This would change the market dynamics of the entire industry. In addition, bringing the contracted work in-house would compel employees, who had not been subject to testing, to suddenly have to submit to testing. "It is not unreasonable to expect law-abiding employees who do not abuse drugs and alcohol to have reservations about the invasion of privacy related to mandatory screening." Such employees may either demand salary increases or decide to leave the industry, also changing market dynamics.

FAA Response: As shown in the Regulatory Evaluation, the cost of setting up or participating in antidrug and alcohol misuse prevention programs is low; in this analysis, the FAA estimated these costs to be around $1,200 annually per entity. So the FAA questions ARSA's contention that it would be costly for NCMS's to participate in such programs. The final rule does not create new burdens for repair stations or other contractors to oversee the specifics of antidrug and alcohol misuse prevention programs of subcontractors, so there would be no applicable compliance costs.

The FAA does not and cannot calculate the change in market competition; there are too many variables to measure. The Office of Management and Budget (OMB) has never required regulatory agencies to perform dynamic equilibrium analyses in the area of market competition. There is no information in Appendix B that shows at what revenue level or percentage of aviation business NCMS's would stop performing aviation maintenance if required to participate in antidrug

and alcohol misuse prevention programs. However, question 10 of the NCMS Survey showed that that 71% of NCMS would implement such programs and continue providing services to the aviation industry.

ARSA also submitted no documentation that employees would decide to leave the aviation industry if required to submit to drug and alcohol testing under the FAA regulations. Instead, the commenter used a number of 'what ifs' and assumptions. These regulations have been in effect for over 10 years, and there has not been any evidence of these problems since then. The FAA does not expect any such problems now. In addition, Federal Courts have upheld the constitutionality of drug and alcohol testing. See Bluestein v. Skinner, 908 F.2d 451 (9th Cir. 1990) (upheld drug testing under the FAA's and DOT's regulations); and International Brotherhood of Teamsters v. Federal Highway Administration, 56 F.3d 242 (D.C. Circuit 1995) (upheld the DOT regulations on alcohol testing). For those employees who think that drug testing is an invasion of privacy, the company could use relatively minimal amounts of education to explain the rationale. According to a Gallup survey,[12] a majority of employees favor drug testing of the following types of workers by the following types of percentages:

- Safety-sensitive, 95%,
- Office workers, 69%,
- Health care workers, 92%,
- Factory workers, 81%, and
- People in their "own occupations", 78%.

Comment: ARSA maintains that "the FAA's interest does not lie in reducing absenteeism, increasing worker productivity, decreasing medical costs, and improving general safety in the work place, particularly in businesses outside the FAA's traditional regulatory purview."

FAA Response: In the Regulatory Evaluation, the FAA did not base its benefits on factors such as reducing absenteeism or decreasing medical costs. These were discussed after the discussion of the prevention of accidents, and were not quantified for use in the cost-benefit comparison.

Comment: ARSA contends that numerous aviation entities have commented that the cost of antidrug and alcohol misuse prevention programs would be much higher than the FAA's assumed $1,170 per year. In particular, in comments submitted to the docket for the SNPRM, UTC discussed additional costs of having antidrug and alcohol misuse prevention programs, detailing a series of costs for

[12] Laboratory Corporation of America® Holdings quoting Current, WF. In favor of a drug-free workplace: Why Drug Testing? Coral Springs, FL, 1999. Source: http://www.labcorp.com/ots/why_drug_test.html

both first year and subsequent year programs. For the first year, these costs would sum to $6 million; testing programs alone would exceed $900,000 for the first year and $130,000 for subsequent years. "These numbers reflect a substantial difference from the FAA's estimates," casting doubt on "the validity of the FAA's estimated annual cost of $1,170 per company."

FAA Response: UTC, five repair stations, and a commenter who filed comments on behalf of three trade groups provided cost data related to their perceived antidrug and alcohol misuse prevention program costs. With the exception of UTC, the commenters simply stated what the cost would be, but provided no documentation for these costs. Since the FAA could not verify their cost data, we could not use their information.

UTC had provided cost information to the NPRM. The FAA questioned UTC's numbers, as described in the comments section of the SNPRM Regulatory Evaluation, and requested additional documentation.[13] Their additional documentation still did not explain these cost estimates satisfactorily, so the FAA did not accept them and did not use them. In their comments based on the SNPRM's Regulatory Evaluation, they said "UTC has again reviewed the economic impact data it provided to the FAA in 2002 and 2003. UTC continues to stand behind its calculation methods and the figures provided. The figures below (as shown in their comment) are updated to reflect current 2004 costs." Since this data provided no new information, the FAA is unable to use their cost data.

3. <u>Businesses ceasing doing aviation-related work due to this rulemaking</u>

ARSA, AOPA, 11 part 145 repair stations, 2 individuals, and a commenter who filed comments on behalf of three trade groups believe that implementing antidrug and alcohol misuse prevention programs would be expensive and cause a number of the sub-tier contractors to cease doing aviation-related business. Thus the small repair stations would lose business, putting them at a disadvantage with the larger repair stations. ARSA's comments on this topic and the corresponding FAA responses are discussed above.

Comment: AOPA, seven repair stations, and two individuals believe that small machine shops would cease doing any aviation business if they have to implement a drug and alcohol (D&A) program, given the fact that their volume of business is small and "the prospect of implementing an FAA approved D&A program seems daunting." This would lead to higher cost to aviation with no enhancement to safety. With fewer competitors, the NCMS that continue to work in the industry

[13] <u>Misuse</u>, pages 35 to 40.

would be able to charge a premium for their services, thus changing the dynamics of market competition.

FAA Response: The FAA maintains that companies that do business with regulated entities must be free of drug use and alcohol misuse. Even though it is possible that some businesses would cease doing operations rather than implementing these testing programs, safety is paramount, and it is vital that testing be conducted at all subcontractor levels. However, the FAA is not convinced that many small contractors would stop doing business, as no commenter provided any statistics or documentation showing that many small contractors would stop doing business. In fact, based on the answers to question 10 of the ARSA NCMS Survey, 71% would implement antidrug and alcohol misuse prevention programs and continue providing services to the aviation industry. Given that the FAA believes that most NCMS would implement such a program, the FAA does not believe that the market dynamics would change precipitously. In addition, the FAA does not understand how either implementing or being covered under another company's program would be daunting.

Comment: AOPA and eight repair stations and a commenter who filed comments on behalf of three trade groups believe that the proposed rule would drive certain companies out of the aviation business, increasing the repair stations costs as they would lose business, have to bring the contracted work in-house, stop accepting the work, or have to search for another contractor. Bringing the work in-house would be costly, as repair stations would have to engage in "employee education and training, program development and maintenance and annual documentation and record retention procedures." Estimates on annual costs ranged from $10,000 to $300,000 and on additional capital expenditures ranged from $50,000 to $150,000; one commenter believes that "it would not be cost effective to bring any contracted activities in-house as the equipment cost would run into the tens if not hundred million dollar range."

FAA Response: As shown in the Regulatory Flexibility Determination section of the SNPRM Regulatory Evaluation, the FAA estimates annualized costs of $1,200 for subcontractors to initiate and implement their own programs. Because this option is more expensive than a subcontractor company being covered under another company's program or using a service agent with already-established procedures, the annualized cost of $1,200 is an upper, not a lower bound. Given this relatively low cost, the FAA is not convinced that this program would create the economic burdens that these commenters believe will happen. In addition, the FAA wonders why subcontractors would willingly give up their profits from the work that these repair stations believe they would have to bring in-house. None of the repair stations provided any documentation for these additional costs, so the FAA is unable to use this data.

Comment: One repair station believes that some companies would pass the costs of establishing and maintaining antidrug and alcohol misuse prevention programs on to their customers, including both those in the aviation industry and those outside the aviation industry, resulting in increased costs.

FAA Response: As discussed above, the FAA estimates annualized costs of no more than $1,200 to implement a program, so little in the way of increased costs would be passed on to their customers.

Comment: One repair station said that some of the processes used by their contractors are proprietary and/or patented and therefore unattainable otherwise.

FAA Response: This repair station referred to the proprietary and/or patented nature of a number of processes used by some of its contractors, however the commenter did not provide specific information to support its claim concerning proprietary and/or patented processes. The FAA drug and alcohol testing regulations apply to maintenance and preventive maintenance duties performed for regulated employers. We do not find it credible that maintenance and preventive maintenance duties required for multiple regulated employers can only be performed using contractors with exclusive rights to proprietary and/or patented processes.

Comment: Two repair stations and one individual point out that part 145 repair stations already inspect their contractor's work to determine an article's airworthiness, and they would continue to do this whether the NCMS had antidrug and alcohol misuse prevention programs or not.

FAA Response: The FAA applauds the commenters' inspection of their contractor's work to determine an article's airworthiness, and that they would continue to do this whether or not the NCMS had such programs. However, by law, the FAA requires that the appropriate maintenance authority determine the article's airworthiness.

Comment: One repair station believes that companies may have a big problem if they cross-utilize their employees.

FAA Response: The FAA regulations only require individuals who perform safety-sensitive functions for a regulated employer to be subject to drug and alcohol testing. As we said in the SNPRM (69 FR 27984) "For business reasons, an employer may decide not to designate all employees as eligible to be cross-utilized to perform safety-sensitive functions." Thus, only the individuals the contractor designates as eligible to be cross-utilized would need to be subject to

testing. This is not a new concept; contractors have cross-utilized individuals for safety-sensitive functions for more than 10 years.

4. <u>Expansion of the Antidrug and Alcohol Misuse Prevention Programs</u>

AOPA, USA Jet Airlines, Inc., the Aircraft Electronics Association, and six part 145 repair stations all expressed concerns that this rulemaking would unnecessarily expand the antidrug and alcohol misuse prevention programs.

Comment: AOPA and six part 145 repair stations believe that as long as Part 145 certificated repair stations fulfill their obligation to make airworthiness determinations, an expansion of the antidrug and alcohol misuse prevention programs would be unnecessary and overly burdensome.

FAA Response: While these part 145 repair stations are required to make airworthiness determinations, checking for airworthiness is not the same as checking for drug abuse or alcohol misuse related problems.

Comment: The Aircraft Electronics Association was concerned that this rulemaking would cover all part 145 repair stations and their subcontractors, even though the vast majority of them have been shown not to have an illegal drug or alcohol abuse problem.

FAA Response: The FAA is not expanding coverage, but simply clarifying existing regulations. While the vast majority of repair stations and their subcontractors may not have had a problem with substance abuse, that is not a reason not to test. As long as some safety-sensitive employees test positive for drug and/or alcohol misuse, it is important to subject all such employees to testing.

Comment: The Aircraft Electronics Association says that while the FAA is using all of the positive drug test results from maintenance workers as the basis for expanding and revising the current regulations, the Agency failed to show how these changes would apply to "the small businesses that will be mostly impacted by the Agency's actions." USA Jet Airlines, Inc. believes that smaller companies will have proportionately higher expenses from the repair facilities and their subcontractors.

FAA Response: This rulemaking does not expand or revise the current applicability of the regulations, as it is simply a restatement of existing policy. The major reason for this rulemaking is increased safety; the number of positive tests was used as one of the justifications of this action, but was not the basis. The FAA did examine the impact on small businesses in its Initial Regulatory Flexibility Determination and estimated an annualized cost of about $1,200.

Neither commenter explained why they believe that smaller businesses would be impacted much more than larger businesses.

Comment: USA Jet Airlines, the Aircraft Electronics Association, and one repair station believe that those companies with smaller maintenance staffs, who more often use third parties for repairs than larger companies, will be harmed financially by the significant extra monitoring and auditing responsibilities as well as the expense of additional administrative oversight for their subcontractors at any tier.

FAA Response: Part 145 repair stations and their subcontractors will not have additional administrative oversight. As described in the Preamble, while auditing may be excellent business practice, it has not been required under the FAA's regulations and is not required under this final rule. The safety of the air carrier's maintenance and operations ultimately rests with the air carrier, not with the part 145 repair stations and their subcontractors.

5. <u>Assumptions used in the SNPRM's Regulatory Evaluation</u>

ARSA, RAA, UTC, the Aircraft Electronics Association, a part 145 repair station, and an individual submitted comments about the assumptions used in FAA's Regulatory Evaluation. ARSA's comments and the corresponding FAA responses are discussed above.

Comment: RAA and a part 145 repair station both are concerned that the FAA is not recognizing the general decline in the number of positive test results during the 10-year period examined by the analysis. Since the "maintenance personnel category is by far the largest category of 'safety sensitive' people tested, so it is only reasonable to assume that their category would have the larger of the positive results. A more significant factor would be the rate per category." The commenters believe that the positive rate for maintenance employees is not much different than it is for all employees. The part 145 repair station is concerned that the FAA does not distinguish between positive drug test results of employees of large businesses verses small businesses. While this commenter agrees that 15,340 positive drug test results are "disgraceful", it states the Agency makes an assumption that each person who tested positive was performing a safety sensitive job.

FAA Response: By statute, the only people who are subject to testing are those performing safety-sensitive functions. The FAA examined the positive test results for the antidrug and alcohol tests and did not find a general decline over the 10-year period examined by the Regulatory Evaluation. As shown in Table A-1 in Appendix A, in 1996, the percentage of positive alcohol tests was 0.16%, in 1998 it was 0.29%, and in 2003, it was 0.24%.

Maintenance workers have among the highest rate of positives, both in total number of positives and in percentages, which is what the SNPRM mentioned. As shown in Table A-2 in Appendix A, from 2001 to 2003, the total percentage of drug-related positive tests was 1.00% for all safety-sensitive employees, 1.28% for maintenance employees, and 0.84% for all safety-sensitive employees excluding maintenance employees. The percentage of positives for maintenance workers was about 53% higher than for all other tested employees.[14]

The FAA examined the results of random drug testing for companies with fewer than 50 employees compared to companies with 50 or more employees for 1999, 2000, 2001, and 2002. Over those 4 years, the companies with fewer than 50 employees had positive rates ranging from 56% to 112% higher than the larger companies. Nearly 70 percent of the respondents to ARSA's Repair Station Survey had annual revenues below $6 million, qualifying them as small businesses; these higher percentage rates underscore the importance of testing at all tiers.

Comment: UTC and an individual cite the number of positive drug and alcohol tests, in general, and for maintenance workers, in particular, to show that the current system is working. The drug and alcohol tests identified those covered workers who were violating the regulations, while testing prevented them from continuing to perform safety-sensitive work. Thus, the current program, as being administered, is producing the desired result, which is to ensure that aviation maintenance has not been compromised. "Several links in the safety chain would have to fail for the accident to occur." Thus, it is clear to both commenters, that, after 4 years of testing programs, "there should be some traceable accidents or incidents that are causally linked to illegal drug use or alcohol misuse."

FAA Response: Given that all the workers know about these tests, the fact that there are this many positive test results shows the scope of the potential problem. Thus, the statistics showing the number of positive drug and alcohol tests not only show that the system is working, but also points out that the problem still exists. These commenters are saying that the existing rules are deterrence enough for the other safety-sensitive employees; the FAA disagrees. With regards to the commenters' contention that there should be evidence of accidents linked to illegal drug use or alcohol misuse, the FAA disagrees. As the Regulatory Evaluation to the SNPRM stated "it would be difficult to directly tie poor maintenance work, due to illegal drug use or alcohol misuse, to an accident that may occur weeks or months later, particularly to all the contract workers at all the different tiers."[15]

[14] This is derived by dividing 1.28% by 0.84%.
[15] Misuse, page 21.

Only one link in the safety chain would have to fail for an accident to occur. If one maintenance worker performed a repair while under the influence of drugs or alcohol and an accident resulted, to assume that a supervisor would be able to equate errors or flaws made by one person is a weak supposition on which to base aviation safety.

Comment: UTC stated there was no evidence in the Regulatory Evaluation that indicated that the information "provided by UTC was fully considered by the FAA with any credence given." They also said that "the FAA has asked for input repeatedly and then has ignored it, dismissed it, or has discussed only certain portions of the information received from industry." They claim that "the current proposals will add tremendous extra costs and complexities to an industry that cannot afford them." This commenter said that it made a special effort in early 2003 to respond to a specific FAA request for additional information as they believed that the Regulatory Evaluation substantially understated costs. For these comments, they updated the cost data that they provided the FAA for the SNPRM to reflect 2004 costs.

FAA Response: The commenter is invited to reexamine the Regulatory Evaluation to the SNPRM, from pages 35 to 40, which is located in the docket, where the FAA went into great detail about UTC's initial letter, the FAA's concerns and reply letter, and UTC's reply, including their belief that some of the information that they provided contained "confidential commercial and financial information."[16] This discussion also explains the FAA's concerns with UTC's analysis and the reasons that the Agency could not use the submitted information. As UTC resubmitted the same cost data, adjusted to reflect 2004 costs, the FAA stands by its reasons as expressed in the Regulatory Evaluation for not accepting this data.

Comment: RAA states "if a carrier is not currently testing subcontractors that do not have airworthiness responsibility for their work, then the carrier's testing pools will be greatly enlarged, resulting in additional expenses for the airline." They also discuss some of the problems that the airlines would have identifying which employees would actually need to be tested.

FAA Response: While the FAA agrees that airlines face expenses for testing safety-sensitive employees, the air carrier should have been testing these employees. The additional costs to the air carriers attributable to clarifying this rule, are discussed in this regulatory evaluation.

[16] Misuse, page 37.

6. Safety Benefits

The International Brotherhood of Teamsters, Aircraft Mechanics Fraternal Association (AMFA) Local 33, a company that provides employment screening and testing, and an individual all provided comments in favor of testing. ARSA, RAA, AOPA, UTC, and seven part 145 repair stations submitted comments critical of the safety benefits in the FAA's Regulatory Evaluation. ARSA's comments and the corresponding FAA responses were discussed above.

Comment: A commenter, the provider of services for establishing drug- and alcohol-free workplace programs, believes that "the small additional cost involved in bringing the Aviation Industry into compliance with this historical regulatory requirement will be more than offset by the safety and security benefits that will result from this clarification." An individual notes that some commenters have said the proposal would create an economic burden, but says that "an accident would also be an economic burden and would negatively impact the 'whole industry.'"

AMFA Local 33 criticized those commenters who quoted the FAA's statement that "there have been no documented aviation accidents directly attributed to the misuse or abuse of drugs or alcohol," using it to buttress opposition to this rulemaking. This commenter emphasizes that the commenters who use this quote "neglect to add the remaining portions of that specific paragraph that indicate there are numerous documented cases where, but for the FAA's limited ability to investigate accidents with a focus on an individuals personal habits, health or sobriety, the evidence points to the likelihood of this result." They go on to point out that "if one were to argue that since there has been no documented correlation between aviation accidents and drug or alcohol abuse, the current system must be working effectively," this ignores the "fact that the FAA's Anti-Drug and Alcohol Misuse and Prevention Programs are inherently *policies of prevention*, rather than reaction (emphasis added by the commenter). The potential for drug and alcohol abuse by employees exists, and therefore it would be incredibly shortsighted and naïve to delay action until the ultimate consequence plays itself out with the cost in human life." They go on to say that "while implementing drug and alcohol programs will come at a cost, we must take into account the added legal safeguards and fairness this will provide to the aviation maintenance industry overall." One of the benefits "will be the reduction in costs related to employee accidents in the workplace."

The International Brotherhood of Teamsters cited the positive test result data provided in the SNPRM preamble. Regarding the 15,340 positive test results for maintenance workers between 1990 and 2001, the union noted "these results are startling given that the antidrug and alcohol misuse program requirements are well

publicized and familiar to all aviation workers. One must wonder to what extent drug and alcohol use might be found in the population of maintenance workers not currently being tested if the results are so dramatic in a population that knows it will be tested!"

FAA Reply: The FAA agrees with these commenters that the proposal will enhance safety and will have benefits that exceed the costs.

Comment: RAA, citing the DOT/FAA Economic Analysis of Investment and Regulatory Decisions-Revised Guide, believes that the FAA erred in its cost benefit analysis in not identifying and costing out alternatives to the proposed rule. They claim "that alternative for which benefits exceed cost by the greatest amount is identified as the project alternative to be undertaken."

FAA Response: The report from which the commenter is quoting is basic generalized guidance for use in the conduct of economic analysis of investments and regulations subject to FAA decision making. In rulemaking contexts, however, the requirement to conduct alternatives analysis is provided by Executive Order 12866 (Regulatory Planning and Review) and the Unfunded Mandates Act of 1995, which require an examination of alternatives only if the costs in any year exceed $100 million. FAA points out, however, that we give consideration to plausible alternatives prior to initiating rulemakings. As this rule simply emphasizes sections of existing regulations, no alternatives were considered.

Comment: RAA notes that the only benefit cited in the Regulatory Evaluation was the avoidance of a Part 135 accident within the next 20 years. Since the avoidance of a Part 135 accident doesn't benefit a Part 121 operator, an obvious alternative would be a proposal that limits the applicability of the rule to Part 135 operations only.

FAA Response: In the Regulatory Evaluation to the SNPRM, the FAA stated "all types of aircraft from gliders to Boeing 767's were involved in either accidents in which maintenance errors were either a cause or a factor in the event."[17] As shown on page 22 of this Regulatory Evaluation, from January 1993 through December 2002, among part 121 airplanes, there were 27 accidents, resulting in 200 fatalities, 11 serious injuries, 39 minor injuries, with 2 destroyed airplanes and 21 substantially damaged aircraft; in all these cases maintenance errors were either a cause or a factor in the event.[18] Thus, the same benefits analysis could have been done for part 121 air carriers. Since the smaller repair stations and their

[17] Misuse, page 23.
[18] Misuse, page 22.

subcontractors more typically deal with part 135 operators, the FAA based their benefits calculations on part 135 accidents.

Comment: RAA understood the benefits analysis to be based on avoiding one accident in a 5-passenger airplane within 20 years. They point out that the smallest size airplane for Part 121 operations is a 19-seat airplane, while a typical regional jet could have 45-50 passengers. This commenter also asks if the proposed benefit is based on avoiding one accident in a 5-passenger airplane in 20 years, what would be the benefits for a larger airplane? They do not believe that it is logical to project a part 121 operator having one accident in the next 20 years where only 5 fatalities occur.

FAA Response: The benefits discussion in the Regulatory Evaluation does not talk about a 5-passenger airplane. Instead, it is based on an average of 5 fatalities per part 135 accident. The actual language was "there were 6 part 135 accidents that resulted in at least two fatalities over the last ten years, or an average of about 1 every 2 years. The actual number of fatalities from these accidents summed to 29, or an average of about 5 fatalities per accident."[19] Since there were 6 accidents over a 10-year period, the FAA used an average of one every 2 years. This commenter did not seem comfortable basing benefits on one accident in 20 years. To avoid overestimating benefits, the FAA chose to be prudent and base benefits on only a fraction of the part 135 accidents. And, as shown in the FAA response to the previous comment, there have been numerous part 121 accidents resulting from maintenance errors that were either a cause or a factor in the event.

Comment: RAA and three part 145 repair stations believe that extending testing to any tier should have a demonstrable safety benefit. Similarly, AOPA claims that the Agency failed to provide any accident data that can be attributed to drug and alcohol abuse by maintenance personnel. After a careful review of the aviation accident statistics, they were unable to locate any data where drug and/or alcohol impairment of maintenance personnel was attributed as the cause or factor to an accident. Thus, they contend that there is no safety justification for the SNPRM. A part 145 repair station also wonders how the proposal would save money and lives if there were no statistics for accidents for part 121 carriers. None of these commenters believe that the Regulatory Evaluation shows such a positive cost-benefit result and believe that the safety benefits are questionable.

FAA Response: The FAA disagrees, as the cost benefit analysis shows a positive result given what the FAA believes are to be reasonable, conservative assumptions. In the Regulatory Evaluation, the FAA showed that there have been a number of aviation-related accidents where drugs and/or alcohol were a factor in

[19] Misuse, page 23.

the accident, though not the direct cause. The Agency maintains that the absence of such data does not prove the lack of a problem. As shown in the Regulatory Evaluation, "maintenance employees have among the highest positive rates on alcohol and drug tests among aviation-related employees, so the connection between illegal drug use and alcohol misuse and maintenance related accidents certainly could exist."[20] Not only are maintenance workers rarely tested after an accident, "but it would be difficult to directly tie poor maintenance work, due to illegal drug use or alcohol misuse, to an accident that may occur weeks or months later, particularly to all the contract workers at all the different tiers."[21]

Comment: UTC, AOPA, and five part 145 repair stations take issue with the Regulatory Evaluation's benefits of $7.53 million, given the FAA's admission that there is no evidence tying aviation accidents to drug abuse or alcohol misuse, particularly by maintenance workers. They quote the analysis, which says that "the FAA acknowledges the fact that there has not been an aviation accident or incident attributed to a maintenance worker misusing or abusing drugs or alcohol," to claim that the "safety impact of imposing drug and alcohol requirements on these unregulated entities would be negligible." Two of these commenters added that the rule would increase "costs, limit contracting resources and impose additional regulatory burdens on our company and our contractors," while doing little to increase aviation safety.

FAA Reply: As noted in the Regulatory Evaluation, "drug and alcohol misuse, while rare, have not been absent from aviation-related accidents."[22] As noted in a previous evaluation, "alcohol misuse has not been officially cited as a causative factor of any large commercial passenger carrying aircraft accident; no statistical database is available from which to estimate how many accidents were the consequence of alcohol impaired pilots, mechanics, or anyone else with safety sensitive duties."[23] In its original drug abuse and alcohol misuse evaluations, the FAA based benefits on the prevention of a substance abuse-related aviation accident. In the alcohol misuse prevention analysis, benefits based on preventing such an accident summed to $267.5 million in 1992 dollars.[24] So the FAA has based benefits on a substance abuse related accident even though, as noted above, there has not been a record of such accidents.

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[20] Misuse, page 20.
[21] Misuse, page 21.
[22] Misuse, page 19.
[23] Final Regulatory Impact Analysis, Regulatory Flexibility Determination, and Trade Impact Assessment, Final Rule, Alcohol Misuse Prevention Program for Personnel Engaged in Specified Aviation Activities (Alcohol), Office of Aviation Policy, Plans, and Management Analysis, FAA, February 1994, page 50.
[24] Alcohol, page 51.

As noted in the Regulatory Evaluation to the SNPRM, given the relatively high positive testing rate for drug abuse and alcohol misuse by maintenance employees, "the FAA believes it is possible that the misuse of drugs or alcohol by members of the aviation community may have contributed to additional accidents or incidents. The FAA acknowledges the fact that there have not been any aviation accidents or incidents directly attributed a maintenance worker misusing or abusing drugs or alcohol."[25] However, safety concerns are paramount. The FAA cannot wait for an accident to happen and in the analysis, the FAA cited over 1,000 accidents, occurring over 10 years, that listed maintenance as either a cause or a factor in the accident report. In many of these accidents, there were fatalities, serious injuries, or minor injuries and either a destroyed aircraft or damage to the aircraft. The FAA based benefits on "less than or equal to 1% of all maintenance-related accidents that had occurred over the last 10 years," and believes that benefits are conservative.[26] These benefits contrast with what the FAA believes to be relatively minimal costs; the FAA estimated annualized costs of about $1,200 per entity for small businesses.

7. Foreign Repair Stations

ARSA, RAA, the International Brotherhood of Teamsters, three part 145 repair stations, and one individual all expressed concerns about this rulemaking prompting air carriers to use foreign repair stations.

Comment: The International Brotherhood of Teamsters and one individual were concerned that the risks are greater with foreign subcontracting and that the safety record of international repair stations has the potential for safety disasters.

FAA Response: Since the SNPRM did not propose any changes to extend drug and alcohol testing outside the United States and its territories, and since this rulemaking and these programs do not affect any foreign repair stations, these comments are outside the scope of this rulemaking.

Comment: ARSA, RAA, and three part 145 repair stations believe that this rule will make it even harder for the domestic part 145 repair stations to stay competitive with the foreign part 145 repair stations that are exempt from these requirements. RAA and a repair station said that Canadian repair stations, in particular, could benefit from this rule.

FAA Response: Given the relatively low annual cost for a subcontractor to be covered by another company's program (estimated at less than $1,200 annually),

[25] Misuse, page 20.
[26] Misuse, page 24.

and given the cost of transporting parts to a foreign repair station as well as the additional inconveniences if the repair were faulty, the FAA does not believe that foreign repair stations will gain any competitive advantage from this rule.

Comment: RAA said that most European countries do not perform drug and alcohol tests, and that their safety record is comparable to the record of part 145 repair stations within the U.S.

FAA Response: This comment is out of scope; the purpose of this rulemaking is not to justify whether drug and alcohol testing should be conducted in the United States. Instead, it is to make it clear all persons performing safety-sensitive functions by contract must be subject to testing, regardless of whether the contract is a direct contract or a subcontract.

IV. Cost of Compliance

In this analysis, the FAA estimated future costs for a 10-year period, from 2006 through 2015. As required by the Office of Management and Budget, the present value of this stream of costs was calculated using a discount factor of 7 percent. All costs in this analysis are in 2004 dollars.

Assumptions and Basic Data

As stated above, we are not changing the current regulations, but are simply clarifying them. As such, there would be no additional costs. However, the FAA recognizes that, due to conflicting guidance, some companies may have to modify their current antidrug and alcohol misuse prevention programs or implement such programs. The FAA does not know how many additional employees or contractor companies will be subject to antidrug and alcohol misuse prevention programs, but bases costs on the following assumptions:

- The number of regulated employers affected by this rulemaking, as defined by the 14 CFR part under which they operate, are as follows:[27]
  - Part 121 - 101
  - Part 121/135 – 18
  - Part 135 - 2,443
  - Operators under § 135.1(c) - 250

[27] Source: The National Vital Information Subsystem (NVIS), April 2005. NVIS is a subsystem of the Flight Standards Automation System, a comprehensive information system used primarily by inspectors to record and disseminate data associated with inspector activity and the aviation environment. This system maintains up-to-date information about the aviation community within Flight Standards jurisdiction.

- There are currently 582 contractors to these certificated carriers with antidrug and alcohol misuse prevention programs. All of them are NCMS's.[28] The FAA assumes that the safety-sensitive employees affected by this rulemaking will be maintenance and preventive maintenance (hereafter referred to as "maintenance") workers;
- The FAA believes that the number of NCMS's that will need to put together antidrug and alcohol misuse prevention programs and then implement them may increase. The FAA bases costs on an increase of 50% of the current number of contractors with programs, for an additional 291 contractors. The FAA believes that the actual number will be less than this, but is using this number so as to be conservative and not underestimate costs;[29]
- These numbers, 582 NCMS and a 50% increase are different than those used in the regulatory evaluation for the SNPRM. Appendix B explains the reasons for the:
  - differences between the 1,188 contractors we referenced in the SNPRM Regulatory Evaluation and the approximately 580 non-certificated contractors that currently have programs.
  - adjustment in the percentage of non-certificated entities that will be indirectly affected by this rulemaking from 25% to 50%.
- FAA data shows that in 2003, there were 190,501 maintenance workers for the aviation industry.[30] The FAA bases costs, in this analysis, on an additional 2.5% of maintenance workers being subject to the antidrug and alcohol misuse prevention programs. The FAA believes that the actual number will be less than this, but is using this number so as to be conservative and not underestimate costs;
- The FAA estimates that the number of safety-sensitive employees in the maintenance sector will grow at 1.5% per year.[31] Accordingly, the FAA estimates that there will be 199,203 maintenance employees in 2006, meaning that the FAA expects an additional 4,980 employees to be subject to this rule;[32]

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[28] These companies are non-certificated because they have no operating certificates issued by the FAA. Certificate holders, such as part 121s and 135s have operating certificates issued by the FAA and therefore, the FAA can track them. These companies (the non-certificated) do not have certificates, therefore, we cannot track them and do not know the total number of NCMS.

[29] Office of Aerospace Medicine, April 2005.

[30] This is made up of:
- part 121 – 66,220 employees;
- part 135 - 21,980 employees;
- part 145 – 94,230 employees;
- part 135.1(c) - 114 employees; and
- Other – 7,957 employees.

[31] Misuse, page 4.

[32] This is calculated by multiplying 199,136 by 2.5%.

thus each company will have to test approximately 17 employees (calculation: 4,980 divided by 291). The fact that many of these companies have fewer than 17 employees underscores the FAA's belief that we are overestimating the number of employees who will be added under this rule;

- These 17 employees are already working for the subcontractor company and providing safety-sensitive services to other companies at a higher tier. However, due to the conflicting guidance, they and the subcontractor company they are working for have not implemented testing. Program coverage can be calculated one of three ways: the subcontractor company can elect to implement its own programs; it can use a service agent with already-established procedures; or it can choose to be covered under the regulated employer's programs. If the subcontractor company obtains coverage under the programs of a service agent or a regulated employer, the cost will be less than implementing its own programs. Thus, to be conservative and not underestimate costs, the FAA bases costs on all subcontractors initiating and implementing their own programs.
- The FAA assumes that there will be two supervisors per contractor.[33] The attrition rate for mechanics that service general aviation is approximately 10 percent;[34] the FAA assumes the same attrition rate for all maintenance employees and their supervisors.
- Given a 1.5% increase in the number of maintenance employees, the total number of maintenance employees will rise from about 199,200 in 2006 to about 227,800 in 2015, so the number of additional maintenance employees that the FAA believes will be covered by this rulemaking will rise from about 5,000 in 2006 to approximately 5,700 in 2015. The FAA does not know whether the 1.5% annual increase will be:
  a) solely in the number of employees, thus increasing the number of employees per company from 17.1 to 19.6,
  b) solely in the number of companies from 291 to 333, thus keeping the number of employees per company the same at 17.1, or
  c) a combination in the growth of both the number of employees and the number of companies.

  For the purposes of this analysis, the FAA uses c), assuming that the 1.5% growth is a combination of the two, so that while the number of employees grows at 1.5%, the number of additional companies grows at 0.75%, from 291 in 2006 to 309 in 2015, and that the number of employees per company will also grow at 0.75%, from 17.1 in 2006 to 18.4 in 2015. Table 1 shows the

[33] Office of Aerospace Medicine, April 2005.

[34] U.S. Department of Transportation, Federal Aviation Administration, Pilot and Aviation Maintenance Technician Blue Ribbon Panel. Pilots and Aviation Maintenance Technicians for the Twenty-First Century, An Assessment of Availability and Quality. (Washington, D.C.: Government Printing Office, August 1993), Table 3.

numbers of new companies, supervisors, employees, and employees per company covered in this analysis.

Table 1 – Companies, Employees, and Supervisors					
Year	Companies	Total Employees	Employees per company	Supervisors	Non-Supervisory Employees
2006	291	4,980	17.1	582	4,398
2007	293	5,055	17.2	586	4,469
2008	295	5,131	17.4	590	4,541
2009	297	5,208	17.5	594	4,614
2010	299	5,286	17.7	598	4,688
2011	301	5,365	17.8	602	4,763
2012	303	5,445	18.0	606	4,839
2013	305	5,527	18.1	610	4,917
2014	307	5,610	18.3	614	4,996
2015	309	5,694	18.4	618	5,076

The FAA also uses the following cost, time, and salary assumptions in this analysis:

- Price of a drug test - $45; [35]
- Price of an alcohol test - $34;
- Time for a drug test (hours) - 0.75;
- Time for an alcohol test (hours) - 0.75;
- Maintenance employee salary - $33.07/hour; [36]
- Maintenance supervisor salary - $39.68/hour; [37]
- Instructor - $36.37/hour; [38]
- Clerical - $18.62/hour; [39]

[35] The source for the information on the drug and alcohol tests is the Office of Drug and Alcohol Policy and Compliance, in the Office of the Secretary of Transportation. This cost covers, among other things, collection of specimens, reporting, recordkeeping, and chain-of-custody procedures, as well as the cost of the technician.

[36] Searles, Robert, "Operations Planning Guide: Salary Survey," The McGraw-Hill Companies, Inc., 1999. The FAA used the salary of maintenance technician from the Summary Table, and then increased these salaries by 1.2345 to account for all fringe benefits and then divided by 2,080 to obtain the employee's hourly wage. This wage was increased by the Gross Domestic Product deflator.

[37] The FAA assumes that, on average, supervisors earn 20 percent more than their employees, so that their hourly salary would be $39.68.

[38] The FAA assumes that the instructors who teach the maintenance supervisors about the requirements of the alcohol misuse prevention and antidrug requirements earn 10 percent more than maintenance personnel.

- Administrative employee at subcontractor - $21/hour; [40] and
- One instructor for every 20 supervisors and/or employees to be trained.

All employees who are subject to drug testing under FAA regulations will be subject to the following types of tests – pre-employment, random, post-accident, reasonable cause, and return to duty and follow-up testing. In addition, all employees who are subject to alcohol misuse prevention program testing will also be subject to these same tests with one exception, as most employees are not subject to alcohol pre-employment tests. Based on historical data,[41] the FAA uses the following percentages to calculate the number of additional tests, as shown in Table 2:

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[39] Salaries for clerical and aviation-related company manager were obtained from Bureau of Labor Statistics, Employer Costs for Employee Compensation – March 2000, June 29, 2000, page 15, Table 10, http://stats.blw/govecthome.htm. This wage was increased by the Gross Domestic Product deflator.

[40] This cost figure was calculated by the Office of Management and Budget to represent an average for all of the employees who might handle a document from clerical to administrative to managerial staff. Source: OST Office of Drug and Alcohol Policy and Compliance, "Drug and Alcohol Testing Program 83-C Submission," July 26, 2000. It was updated to reflect the inflation rate.

[41] Office of Aerospace Medicine, February 2005 – use of data from 2001 to 2003.

Table 2 – Testing Rates for Maintenance Employees		
Type of Test	Alcohol Misuse Prevention Program	Antidrug Program
Pre-Employment[42]	0.37%	18.45%
Random	10.00%	25.00%
Post-Accident	0.05%	0.09%
Reasonable Suspicion/Cause	0.05%	0.16%
Return to Duty	0.04%	0.17%
Follow-Up - Current Year[43]	0.23%	0.83%
Follow-Up - Subsequent Year	0.23%	0.66%

Two of the cost analyses described below, testing costs and employee training costs, involve all employees, both supervisors and non-supervisors. For these two sets of calculations, the FAA uses a weighted wage rate applicable to all employees, based on the information in Table 1, as shown in Table 3:

Table 3 – Weighted Wage Rates					
	2006	2007	2008	2009	2010
Hourly Wage	$33.84	$33.84	$33.83	$33.82	$33.82
	2011	2012	2013	2014	2015
Hourly Wage	$33.81	$33.81	$33.80	$33.79	$33.79

A total of 887 companies submitted FAA Drug and Alcohol Testing Management Information System (MIS) Data Collection Form reports for 2003. There is also an alcohol MIS form and the same companies submitted those forms. According to the DOT summary, these 887 companies had 375,508 employees. The other

[42] For 2006, the pre-employment testing rate for the antidrug program for entities that have not been testing prior to this final rule will be 100 percent, as all existing employees, working for these subcontractors, will need to be tested. After 2006, the percentage will drop to 18.45%.

[43] For follow-up testing for drugs and alcohol, the requirement is the same, which is at least six tests in the 12 months following the employee's return to duty. The requirements also state that follow-up testing shall not exceed 60 months after the date the individual begins to perform or returns to the performance of a safety-sensitive function. The amount of testing is determined by a Substance Abuse Professional (SAP). The SAP may terminate further testing after the first six tests have been conducted if he/she determines that no further testing is necessary.

Based on historical data, the FAA is basing costs, for the alcohol misuse prevention program, on a total of 10 tests, 5 done in the year that the infraction occurred and 5 in the subsequent calendar year. For the antidrug program, the FAA is basing costs, based on historical data, on 9 tests, 5 done in the year that the infraction occurred and 4 in the subsequent calendar year.

companies, 5,705, did not report because each had fewer than 50 safety-sensitive employees, and thus were not required to report.

The 877 reporting companies included 436 with fewer than 50 employees, having a total of 6,041 safety-sensitive employees. The 436 companies represent a random sample that the Office of Aerospace Medicine selected. Assuming that the companies in the random sample were representative of all companies having fewer than 50 employees, the FAA estimated that 5,705 non-reporting companies had a total of 79,576 employees.

The FAA used the above numbers to estimate the total number of safety-sensitive employees in the industry. Table 4 shows the breakdown in the 877 companies that submitted data for the 2001 MIS reports between the 436 companies with fewer than 50 employees and all other reporting companies:

Table 4 – Number of Covered Companies and Safety-Sensitive Employees				
	Covered Companies		Safety-Sensitive Employees	
Data in the 2003 MIS reports		887		375,508
Companies with Fewer than 50 Employees	*436*		*6,041*	
All Other Reporting Companies	*451*		*369,467*	
Non-Reporting Companies (With fewer than 50 Employees)		5,705		79,576
TOTAL, All Companies		6,592		455,804

Testing Costs

Table A-3 in Appendix A shows both the increase in the total number of maintenance employees and those additional maintenance employees covered by this analysis from 2006 to 2015. Given testing percentages shown in Table 2, the number of additional tests will be:

- 534 alcohol-misuse tests and 6,287 drug tests in 2006,
- 556 alcohol-misuse tests and 2,293 drug tests in 2007, rising to
- 624 alcohol-misuse tests and 2,582 drug tests in 2015.[44] [45]

[44] The higher number of drug tests in 2006 vis-à-vis the other years is due to the assumption that 100 percent of all employees of entities that have not been testing prior to this final rule would be tested under pre-employment testing that year, dropping to 18.45 percent in subsequent years.

[45] This is derived by multiplying the number of new maintenance employees to be covered by the percentages shown in Table 2 and summing them for the two types of testing programs, alcohol misuse prevention and antidrug. In 2006, the number of alcohol pre-employment tests would be 18 (4,980 x 0.37%), random tests would be 498 (4,980 x 10%), post-accident

The corresponding costs of the alcohol misuse tests and drug tests will be:

- $18,200 and $282,900, respectively, in 2006,
- $18,900 and $103,200, respectively, in 2007, rising to
- $21,200 and $116,200, respectively, in 2015,[46]

The corresponding cost of the employees' time for these two types of tests will be:

- $13,600 and $159,600, respectively, in 2006,
- $14,100 and $58,200, respectively, in 2007, rising to
- $15,800 and $65,400, respectively, in 2015.[47]

Over 10 years, the total costs of the additional alcohol misuse tests sums to $346,800, and the total costs of the additional drug tests sums to $1.98 million. Over 10 years, the costs for the additional testing sums to $2.33 million ($1.69 million, discounted).

Training and Education Costs

For both the antidrug and alcohol misuse prevention programs, the employer must train each supervisor who will make reasonable cause/suspicion determinations. This training must be at least 60 minutes for each program. Employees and supervisors must also receive training on the effects and consequences of drug use on personal health, safety, and work environment, as well as the manifestations and behavioral cues that may indicate drug use and abuse. The regulations do not specify the amount of time associated with this training; for this rulemaking, the FAA assumes 30 minutes.

Supervisors must also receive recurrent supervisory training; however this is only mandated by the antidrug rule and not the alcohol misuse prevention program rule. The rules do not say when this must occur or how long the training should be; however, FAA has recommended recurrent training every 12 to 18 months. For this rulemaking, the FAA assumes that this recurrent training occurs every 12 months and takes 60 minutes.

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would be 2 (4,980 x 0.05%), reasonable cause would be 2 (4,980 x 0.05%), return to duty would be 2 (4,980 x 0.04%), and follow-up for the current year would be 12 (4,980 x 0.23%). And, in 2006, the number of drug pre-employment tests would be 4,980 (4,980 x 100%), random tests would be 1,245 (4,980 x 25%), post-accident would be 5 (4,980 x 0.09%), reasonable cause would be 8 (4,980 x 0.16%), return to duty would be 8 (4,980 x 0.17%), and follow-up for the current year would be 41 (4,980 x 0.83%).

[46] This is derived by multiplying the number of tests by $34 for the alcohol misuse prevention program tests and by $45 for the antidrug program tests. For example, in 2004, the cost would be the number of alcohol tests (534) times $34 per test, which equals $18,156.

[47] This is derived by multiplying the number of tests by three-quarters of an hour times the applicable weighted wage rate shown in Table 3. For example, in 2006, the number of alcohol tests (534) times 0.75 hours times $33.84 per test equals $13,533.

As shown in Table A-4 in Appendix A, there will be an additional 582 supervisors in 2006, rising to 618 in 2015.[48] Due to the assumed 10% turnover, a total of 640 new supervisors will need to take initial training in 2006, costing $38,100 in supervisor time.[49] The cost for the 32 instructors will be $1,700 for their time.[50] Due to industry growth and turnover within the companies, the FAA assumes that in 2007, this will sum to 63 supervisors, costing $3,750 for their time and $200 for the 4 instructors.[51] Over 10 years, initial training costs sum to $72,500 for supervisor time and $3,700 for the instructors.

Recurrent training will begin in 2007, as 523 supervisors will need to spend an hour in this training, costing $20,800, and the cost for the 27 instructor's time will be about $1,000. [52] Over 10 years, recurrent training costs sum to $192,100 for supervisor time and $9,000 for the instructors. The total costs, over 10 years, for training supervisors, sums to $277,200 ($197,400, discounted), as can be seen in Table A-4.

All employees need to be trained as to the requirements of the antidrug program. The numbers of companies, as well as the employees and supervisors taking part in the different programs, can be seen in Table A-5 and the program costs can be seen in Table A-6. For the antidrug program, the FAA has told industry that they need to do some form of "interactive" training (by interactive CD-ROM, instructor, teleconference, etc.). The FAA assumes an average of 60 minutes for the antidrug training. There is no recurrent training for the antidrug program.

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[48] This is derived by multiplying the number of newly covered contractor companies by 2. So, in 2006, the number of new maintenance supervisors would be 582 (291 x 2).

[49] The FAA assumes a 10% turnover rate. So, in the first year, the number of supervisors needing to be trained would be 582, plus an additional 58 due to turnover (10% x 582) or 640. Given an hourly salary of $39.68 and 1½ hours of class, total costs would be $37,436 (640 x $39.68 x 1.5 hours).

[50] The 640 supervisors would require 32 instructors (640/20). The cost for 32 instructors would be $1,746 (32 x $36.37 x 1.5 hours).

[51] As shown in Table 1, there would be an additional 2 companies in 2007, equating to an additional 4 supervisors. Applying the 10% turnover rate to the 586 supervisors (293 companies x 2 supervisors) equals an additional 59 supervisors to be trained. Multiplying 63 (4 new and 59 from turnover) supervisors time 1.5 hours times $39.68 equals $3,750. Given one instructor for every 20 supervisors, rounding up, the 63 supervisors would need 4 instructors; multiplying 4 instructors times 1.5 hours time $36.37 equals $218.

[52] The number requiring recurrent training equals the number of supervisors from the year before minus the turnover rate for the current year. So, in 2006, there would be 523 supervisors needing recurrent training (calculation: 586 in 2004 minus 59). The costs would equal $20,409 (523 x $39.68 x 1 hour). Given one instructor for every 20 supervisors, rounding up, 27 instructors would be needed for these 523 supervisors, at a cost of $982 (27 x $36.37 x 1 hour).

For the alcohol misuse prevention program, there is a requirement to provide current educational materials to safety-sensitive employees. These materials average 10 to 15 pages. For the purposes of this analysis, the FAA assumes that twelve pages are used and that they will be photocopied, at a cost of 10 cents a page, for a total cost per package of $1.20. With 4,980 new employees in 2006, costs will be $6,000 that year (calculation: 4,980 employees times $1.20). As the number of new employees increases from 75 in 2007 to 84 in 2015, annual costs will range from $90 to $100; total 10 year costs sum to about $6,800. The FAA assumes that it will take no more than half an hour per employee to read the material. Given 4,980 employees in 2006, reading time costs will be $84,300. [53] As the number of new employees increases from 75 in 2007 to 84 in 2015, annual costs rise from $1,300 to $1,400; total 10 year costs sum to $96,300.

As noted above, the training time for the antidrug program will be 60 minutes, so the cost for each employee will be the weighted wage rate shown in Table 3 above; given 4,980 employees in 2006, training costs will be about $168,500. [54] As the number of new employees increases from 75 in 2007 to 85 in 2015, annual costs rise from $2,500 to $2,800; total 10 year costs sum to $192,700.

The FAA assumes, for the purposes of this analysis, that 80% of the companies will use videotapes or written materials followed by a question and answer session; the respondent to the questions will be paid at $25 per hour.[55] The training could be conducted by the company or through a consortium or third party administrator. The videotapes can cost anywhere from $0 to $100 (in some cases, free videos are available from county drug education programs).[56] For the purposes of this analysis, the FAA uses an average cost of $50 per videotape, and that an average of 20 employees take this training at the same time. The remaining 20% are likely to be using a live instructor, at a cost of $36.37 per hour, and each class of 20 employees will have one instructor.

For those companies using videos, the FAA assumes that each company will obtain a video only once and use the same one in subsequent years. First year costs will be $11,600, [57] while subsequent year costs will be $80 each.[58] Ten year costs for videos sums to $12,400. These companies will need 200 people available in 2006 to oversee or monitor the classes and answer questions, costing

[53] This is the product of 4,980 employees and the wage rate of $33.07 times half an hour.
[54] This is the product of 4,978 employees and the wage rate of $33.07.
[55] Office of Aerospace Medicine, April 2005.
[56] Office of Aerospace Medicine, April 2005.
[57] This is the product of 291 companies times $50 per video times 80%.
[58] This is the product of 2 companies times $50 per video times 80%.

$5,000. [59] As there is no recurrent training requirement, only new employees will need to see this video in subsequent years, so the number of overseers/monitors will decrease to three in 2007 and four each year thereafter, costing about $100 per year; 10-year costs for these overseers/monitors sums to $5,900.

For those companies using an instructor, 50 instructors will be needed in 2006, costing $1,800, [60] while 2 instructors will be needed in subsequent years for the new employees, costing under $100 per year.[61] Ten year costs for instructors sum to $2,500.

As shown in Table A-6, 10 year costs for the required employee training sums to $316,500 ($285,500, discounted).

All companies will be required to establish education programs for both the antidrug program and the alcohol misuse prevention program. The education program for the antidrug program must include the display and distribution of:

- information material,
- a community service hot-line telephone number, and
- the employer's policy regarding drug use in the workplace.

The alcohol misuse prevention program must explain the alcohol misuse prevention program requirements and its policies and procedures with respect to meeting those requirements.

The FAA expects that it will take each company 2 hours to establish each education program.[62] Thus, in 2006, for the 291 new companies, the costs for each program will total $12,200. [63] As each company will need to establish two programs (alcohol misuse and antidrug), each company's costs will sum to $24,400. For the two additional new companies in the subsequent years, costs for each program will be $100. Total 10 year costs for each program sums to $13,000, for a total for both programs summing to $26,000 ($23,900, discounted).

As can be seen in Table A-7 in Appendix A, over ten years, total training and education costs sum to $619,700 ($506,800, discounted).

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[59] This is calculated by dividing 3,982 employees (80% of 4,978) by 20 employees per classroom, rounding up, and multiplying by $25.

[60] Rounding up, the 996 employees (20% of 4,978) would need 50 instructors; multiplying 50 instructors times 1 hour time $36.37 equals $1,819.

[61] Fewer than 20 employees would need an instructor-led class, but it is unlikely that all these employees would be available at the same time, so the FAA is assuming 2, rather than 1, instructor; multiplying 2 instructors times 1 hour time $36.37 equals $73.

[62] Office of Aerospace Medicine, April 2005.

[63] This is calculated by multiplying 291 companies by 2 hours by $21 an hour.

Program Development and Maintenance Costs

In the economic evaluation of the 1994 alcohol rule,[64] the FAA estimated that program development costs would need a minimum of 16 additional administrative hours for a small part 121 or 135-certificate holder. The FAA believes that the administrative burden on subcontractors will be less than or equal to those of small part 121 or 135-certificate holders, and so, to be conservative and not underestimate costs, the FAA uses 16 hours to compute start-up program development costs; the costs for each subcontractor will be $336 (calculation: $21/hour times 16 hours).[65] The bulk of these program development costs will take place in 2006, as 291 companies will develop their programs at a cost of $97,800. [66] In each of the subsequent years, the costs for the two additional companies will be $672 (calculation: 2 companies times $336). Total 10 year costs sum to $103,800 ($95,500, discounted).

Each of these subcontractors will need to register with the FAA that they now do drug and alcohol testing under the FAA regulations, so they will have to spend time to produce information required for their registration and submit it to the FAA. The FAA estimates that each submission will take 20 minutes at $21 per hour. Total first year costs will be $2,000. [67] The FAA estimates that it will take 20 minutes to process new submissions and other amendments; total annual costs for these sum to about $300 in each year after 2006. [68] [69] Ten year costs, in the private sector, equal $4,600 ($3,700, discounted).

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[64] Alcohol, page 30.

[65] As noted above, in the Assumptions and Basic Data section, the hourly wage for an administrative employee at a subcontractor is $21 per hour.

[66] This is the product of $336 times 291 companies.

[67] This is the product of the number of certificate holders, 291, times one third of an hour times the salary of $21 per hour.

[68] In the Regulatory Evaluation to the recent final rule, the FAA assumed that, in every year after 2005, part 135.1(c) operators and contractors will file 105 amendments per year. In this rulemaking, the FAA identified 213 part 135.1(c) operators and 582 contractors that will be affected by these rule changes, or 795 businesses. As the 291 new contractors that the FAA is using in this analysis is 37% of these 795 businesses, the FAA assumes 39 amendments per year (calculation: 105 x 37%). In addition, as discussed above, there will be two new companies submitting plans each year.

[69] This is obtained by summing two separate activities, each taking one third of an hour at $21 per hour:

- Annual amendments filed - 39; and
- Annual number of new companies – 2.

Hence, 41 times $21 times 1/3 of an hour equals $287.

At the FAA, the submitted information will have to be processed. An administrative assistant, a FG-7 being paid at $24.67 per hour,[70] will enter this information into a database. The FAA assumes that the administrative assistants will need 10 minutes to input the information. First year costs will be $1,200, [71] while each subsequent year cost will be about $200; [72] costs over 10 years sum to $2,700 ($2,100, discounted).

Over 10 years, total program development and maintenance costs sum to $111,200 ($101,300, discounted), as shown in Table A-8.

Annual Documentation Costs

As discussed above, each company's supervisory personnel who make reasonable cause testing determinations must receive specific training on specific indicators of probable drug use. The antidrug regulations require each company to document both the initial and recurrent training. The FAA costs this documentation out at $1.2858 per record.[73] As shown in Table A-2, 640 supervisors will be taking initial training in 2006, 63 will be taking initial training and 523 will be taking recurring training, for a total of 586 supervisors in 2007, etc. Hence, this documentation will cost about $800 in 2006 (calculation: 640 x $1.2858), about $750 in 2007, etc., summing to $7,800 ($5,500, discounted) over 10 years.

The same sort of documentation is needed for the supervisors who determine whether reasonable suspicion exists concerning probable alcohol misuse. As discussed above, there is no recurrent training, so there is only a requirement to document initial training. As shown in Table A-2, 640 supervisors will be taking this training in 2006, 63 will be taking this training in 2005, etc. Hence, this documentation will cost about $800 in 2006 (calculation: 640 x $1.2858), about $80 in 2007, etc., summing to $1,600 ($1,300, discounted) over 10 years.

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[70] All hourly wage rates for government employees were increased by 32.45% to account for all fringe benefits. This fringe benefits factor was derived from Table 4-5, page 4-22, Economic Analysis of Investment and Regulatory Decision--A Guide, FAA APO-98-4, January 1998. The annual 2004 salary for a FG-7 is $38,741. Multiplying by 1.3245 and dividing by 2080 hours yields $24.67 per hour.

[71] This is obtained by multiplying the number of certificate holders, 291, times one sixth of an hour times the salary of $24.67 per hour.

[72] This is obtained by summing two separate activities, each taking one sixth of an hour times $24.67 an hour, equaling $169:

- Annual amendments filed – 39; and
- Annual number of new companies – 2.

[73] The FAA and the other DOT modes are directed by DOT to price record creation at $1.145, record filing at $ 0.118, and record storage at $0.0228 for all documents related to the alcohol misuse prevention program and the antidrug program.

As discussed above, employees also need to be trained as to the requirements of the antidrug program. The antidrug regulation requires documentation of this training. As shown in Table A-3, 4,980 employers will be taking this training in 2006, 75 will be taking this training in 2007, etc. Hence, this documentation will cost about $6,400 in 2004 (calculation: 4,980 x $1.2858), about $100 in 2007, etc., summing to $7,300 ($6,600, discounted) over 10 years.

Companies will have to document all reasonable suspicion cases. As shown in Table 4, 887 companies reported information on their 2003 MIS forms. The 887 companies conducted 215 reasonable suspicion tests, or 24.24% of reporting companies conducted such tests. Thus, in 2006, given 291 new companies considered in this analysis, 71 companies (calculation: 291 x 24.24%) will report such tests, at a cost of about $100 (calculation: $71 times $1.2858). Costs, over 10 years, sum to about $900 ($600, discounted).

The aforementioned 887 companies conducted 232 post-accident alcohol tests, or 26.16% of reporting companies conducted such tests. Thus, in 2006, given 291 new companies considered in this analysis, 76 companies (calculation: 291 x 26.16%) will report such tests, at a cost of about $100 (calculation: $76 times $1.2858). Costs, over 10 years, sum to $1,000 ($700, discounted).

If a post-accident alcohol test is not administered within 2 hours following an accident, the employer has to document this, stating the reasons the test was not promptly administered. The aforementioned 887 companies reported that they conducted 455 post-accident drug tests and 232 post-accident alcohol tests. The difference, 223, or 25.14% of the total number of companies, is the number of alcohol tests not performed in 2 hours. Thus, in 2006, given 291 new companies, 73 (calculation: 291 x 25.14%) companies will report such tests, at a cost of about $100 (calculation: $73 times $1.2858). Costs, over 10 years, sum to $1,100 ($800, discounted).

If a post-accident alcohol test is not administered within 8 hours following the accident, the employer has to cease attempts to administer such a test and must document this. The FAA does not have this information reported, and so uses the same number, 223, or 25.14%, as the number of alcohol tests not performed in 8 hours. Thus, in 2006, given 291 new companies, 73 (calculation: 291 x 25.14%) companies will report such tests, at a cost of about $100 (calculation: $73 times $1.2858). Costs, over 10 years, sum to $1,100 ($800, discounted).

Each company must notify the FAA of any employee subject to drug testing who refused to be tested.[74] The FAA received 34 such refusals[75] out of the 6,952 covered companies, which averages out to 0.49% of all covered companies sending in a report. Applying this percentage to the 291 new companies to be considered in this analysis yields an average of one report in 2006 (calculation: 0.49% x 291). Each notification takes 0.25 hours, so the cost, in 2006, will be $5. [76] Through 2013, there will be one additional report, and for 2014 and 2015, there will be two reports; 10 year costs sum to about $60 ($40, discounted).

When a person who holds an FAA issued part 67 airman medical certificate has a positive drug test result, the Medical Review Officer (MRO) needs to send a positive drug test report regarding that individual to the FAA after verifying a positive drug test result. The FAA received 33 such reports from the 6,952 covered companies, which averages out to 0.47% of all covered companies sending in a report. Applying this percentage to the 291 new companies to be considered in this analysis yields an average of one report in 2006 (calculation: 0.47% x 291). Each notification takes 0.25 hours, so the cost, in 2006, will be $5. [77] In all subsequent years, there will be one additional report; 10 year costs sum to $50 ($35, discounted).

Each company must notify the FAA of any employee subject to alcohol misuse prevention program testing who refused to be tested. The FAA received 16 such refusals[78] out of the 6,952 covered companies, which averages out to 0.23% of all covered companies sending in a report. Applying this percentage to the 291 new companies to be considered in this analysis yields an average of one report in 2006 (calculation: 0.18% x 291). Each notification takes 0.25 hours, so the cost, in 2006, will be $5. [79] In all subsequent years, there will be one additional report; 10 year costs sum to $50 ($35, discounted).

When a person who holds an FAA issued part 67 airman medical certificate has an alcohol test result of 0.04 or above, the employer needs to send a report to the FAA after the alcohol test result. The FAA received 16 such reports from of the 6,952 covered companies, which averages out to 0.23% of all covered companies sending in a report. Applying this percentage to the 291 new companies to be

[74] Companies are not required to report refusals to submit to pre-employment or return to duty testing for either antidrug or alcohol misuse prevention programs.
[75] There were 25 people who refused a drug-related test and 9 people who refused both drug and alcohol related tests.
[76] This is obtained by multiplying 1 company times 0.25 hours times $21.
[77] This is obtained by multiplying 1 company times 0.25 hours times $21.
[78] There were 7 people who refused an alcohol-related test and 9 people who refused both drug and alcohol related tests.
[79] This is obtained by multiplying 1 company times 0.25 hours times $21.

considered in this analysis yields an average of one report in 2006 (calculation: 0.18% x 291). Each notification takes 0.25 hours, so the cost, in 2006, will be $5.[80] In all subsequent years, there will be one additional report; 10 year costs sum to $50 ($35, discounted).

As shown in Table A-9 in Appendix A, over 10 years, annual documentation costs sum to $19,800 ($15,500, discounted).

Worker's Compensation

Insurance companies value substance abuse programs and see the testing in these programs as beneficial, reducing their expected payouts. Companies that have these programs and are testing often have their worker's compensation insurance premiums reduced an average of 5%,[81] though not all company's programs are set up this way.

There are many variables involved when an insurance company calculates a workers compensation insurance quote.[82] For this analysis, the FAA is assuming a company has an Industrial Mechanic with a rating of .0052. [83] Given a mechanic's

[80] This is obtained by multiplying 1 company times 0.25 hours times $21.

[81] Office of Aerospace Medicine, April 2005.

[82] These can include:

- Number of locations
- Number of employees by location
- Annual payroll by location
- Type of business entity (partnership, LLC, corporation, etc.)
- Social security number or FEIN of business owner
- Recent claims history
- Length of time in current location
- Length of time in business
- Description of general business operations
- Whether or not you own your building
- Building value (if owned)
- Square footage (if owned)
- Year the building was built (if owned or leased)
- Value of building improvements (if leased)
- Recent claims history
- Value of owned and leased building contents

[83] Insurance companies use a numeric rating corresponding to the risk of being injured on a job. For example, a person working a desk job would be given a ranking of say .0010 or .0020 because of the risk of being injured on the job is very small. A rating of .0075 for an oil crew rig in Baghdad would be larger based on the chances of being injured are increased. All of the factors listed in the previous footnote are taken into consideration in determining this rating, and this rating can be thought of as akin to auto insurance rating, where more accidents or tickets equals a poor credit score and higher rates. Based on information

annual salary of about $55,700, the worker's comp premium for that employee will be $290/year,[84] and given a mechanic supervisor's annual salary of about $66,900, the worker's compensation premium for that supervisor will be $348/year.[85] A 5% discount will save a company about $15 per employee[86] and $17 per supervisor.[87] Given a company with 17 employees comprised of 2 supervisors and 15 non-supervisors, these savings will sum to about $250 per company per year. Since the FAA does not know how many companies can achieve such cost savings, for the purpose of this analysis, the FAA assumes that all companies will have their premiums reduced by 5%, which may overstate these cost savings.

To help offset the costs of implementing a drug-free workplace program, some insurance companies offer workman's compensation credits to employers in states that allow it. Alabama, Florida, Georgia, Tennessee, Texas, Washington, and Virginia have adopted such premium credits as part of an overall trend to promote the adoption of workplace substance abuse programs (this is not to be confused with the aforementioned insurance cost savings). The FAA is not quantifying these insurance premium credits; however, these credits could increase the cost savings that some companies could enjoy by implementing substance abuse programs.

As shown in Table A-10, 10 year costs savings sum to $790,300 ($550,500, discounted).

Net Total Costs

Table 5 shows total 10-year costs summing to $3.08 million and 10-year cost savings summing to $790,300, for net total costs of $2.29 million ($1.76 million, discounted). Table A-11 shows the year-by-year costs for each of these categories.

provided by a drug and alcohol testing corporation, the FAA determined that using .0052 as a rating factor for an industrial mechanic/airplane mechanic was appropriate.

[84] This is calculated by multiplying .0052 by $55,719 to equal $290 per year.

[85] This is calculated by multiplying .0052 by $66,857 to equal $348 per year.

[86] A 5% discount times $290 equals $14.50.

[87] A 5% discount times $348 equals $17.40.

Table 5 – Total Ten Year Costs		
Category	Total Costs	Discounted Costs
COSTS		
Testing	$2,330,952	$1,691,101
Training and Education	$619,734	$506,765
Program Development and Maintenance	$111,161	$101,269
Annual Documentation	$19,765	$15,500
Total Costs	**$3,081,612**	**$2,314,635**
COST SAVINGS		
Worker's Compensation Premiums	$790,265	$550,538
Total Cost Savings	**$790,265**	**$550,538**
TOTAL NET COSTS	**$2,291,347**	**$1,764,097**

V. Analysis of Benefits

The FAA's objective in this final rule is to foster an environment free of illegal drug use and alcohol misuse for personnel engaged in critical aviation safety occupations. We are doing this by subjecting to testing each individual who performs a safety-sensitive function directly or by contract (including by subcontract at any tier). The public expects, and is entitled to, an environment free of illegal drug use and alcohol misuse in aviation.

The major benefits of this rule will come from improved safety. The program will act directly to prevent employees from going on duty after they have used illegal drugs or are impaired by alcohol and will deter the on-duty use of these substances.

The FAA concludes that two specific sets of benefits will accrue from this rule:

- The prevention of potential injuries and fatalities and property losses resulting from accidents attributed to illegal drug use or neglect or error on the part of individuals whose judgment or motor skills may be impaired by the presence of alcohol or drugs; and
- The potential reduction in absenteeism, lost worker productivity, and other costs to employers as well as improved general safety in the work place by the deterrence of illegal drug use and/or alcohol misuse.

The Prevention of Accidents

Illegal drug use and/or alcohol misuse, while rare, have been involved in some aviation accidents. A review of the safety record indicates that a fatal accident involving a passenger-carrying commercial airline occurred where the pilots used

illegal drugs; a Continental Express flight crashed near Durango, Colorado, on January 19, 1988. Cocaine and cocaine metabolites were found in the captain's body. No official determination has been made as to whether or not the amount of cocaine taken by the captain was sufficient to impair his flying abilities or whether the captain or the copilot was at the controls at the time of the accident. In 1983, a fatal accident occurred involving an all-cargo aircraft, operating under part 135, where the pilot and copilot were found to have been exposed to marijuana. No determination has been made that drugs were the causative factor in this accident.

On October 26, 1995, there was an accident over Paint Rock, Texas; a Beech 65-B80 airplane crashed due to "the pilot's impairment of judgment and performance due to alcohol which resulted in his improper decision to shutdown an engine, and his failure to maintain adequate airspeed for single-engine flight."[88] Since 1982, there have been 7 part 135 accidents where the NTSB determined that alcohol was either the cause of the accident or one of the factors contributing to the accident.[89] In addition, there have been several accidents where the investigators found traces of alcohol in the deceased pilot or the copilot, but were unable to determine if that alcohol was a result of the normal decomposition process. In March 1990, before the FAA promulgated alcohol testing, three commercial pilots were arrested for operating a common carrier while under the influence of alcohol in violation of federal alcohol law. All three were subsequently convicted and, based on test results, all three would have been in violation of the alcohol testing regulations.

The FAA believes it is possible that the illegal drug use or alcohol misuse by members of the aviation community may have contributed to additional accidents or incidents. The FAA acknowledges the fact that there have not been any aviation accidents directly attributed to a maintenance worker misusing or abusing drugs or alcohol. However, as Tables A-12 and A-13 show, maintenance employees have among the highest positive rates on alcohol and drug tests among aviation-related employees, so the connection between illegal drug use and alcohol misuse and maintenance related accidents certainly could exist. It is important to note that not only are maintenance workers rarely tested after an accident (as Table 2 shows, only 0.05% and 0.09% of maintenance workers are administered post-accident alcohol and drug tests, respectively), but it would be difficult to directly tie poor maintenance work, due to illegal drug use or alcohol misuse, to an

[88] NTSB report number 20001207X04682.

[89] These seven are as follows:

- 3 non-scheduled cargo flights – alcohol was the cause of the accident;
- 2 non-scheduled passenger flights – alcohol was the cause of the accident;
- 1 non-scheduled passenger flight – alcohol was a factor in contributing to the accident; and
- 1 scheduled passenger – alcohol was the cause of the accident.

accident that may occur weeks or months later, particularly to all the contract workers at all the different tiers.

To this end, the FAA searched the National Aviation Safety Data Analysis Center (NASDAC) databases for accidents that list maintenance as either a cause or factor in the accident report. The final list of 1,149 accidents is listed in the docket for this rulemaking. Over the 10 years, this list revealed 580 fatalities, 312 serious injuries, 481 minor injuries, 260 destroyed aircraft, 879 substantially damaged aircraft, and 2 aircraft with minor damages. In addition, in these accidents, there were 3,767 people who sustained no injuries and 8 aircraft that suffered no damages.

Most of these accidents involved general aviation, flying under part 91. Specifically, over this 10 year look back period, there were 1,056 accidents, resulting in 310 fatalities, 264 serious injuries, and 360 minor injuries, with 241 destroyed airplanes, 811 substantially damaged aircraft, and one aircraft with minor damages. Of these 1,056 accidents, 180 resulted in at least one fatality, 72 resulted in at least two fatalities, 195 resulted in at least one serious injury, 25 resulted in at least one fatality and one serious injury, and 3 resulted in at least one fatality, one serious injury, and one minor injury. In virtually every case, the airplane was either destroyed or substantially damaged.

Among part 121 airplanes, there were 32 accidents, resulting in 224 fatalities, 16 serious injuries, 79 minor injuries, with 4 destroyed airplanes and 22 substantially damaged aircraft. Of these 32 accidents, five resulted in at least two fatalities, seven resulted in at least one serious injury, and one resulted in at least one fatality and one serious injury. In over 80% of the cases, the airplane was either destroyed or substantially damaged.

Among part 135 airplanes, there were 61 accidents, resulting in 46 fatalities, 32 serious injuries, 42 minor injuries, with 15 destroyed airplanes and 46 substantially damaged aircraft. Of these 61 accidents, 15 resulted in at least one fatality, 8 resulted in at least two fatalities, 9 resulted in at least one serious injury, and 6 resulted in at least one fatality and one serious injury. In every case, the airplane was either destroyed or substantially damaged.

Included in these accidents are the Alaska Airlines accident on January 31, 2000 (88 fatalities), the ValuJet accident on May 11, 1996 (110 fatalities), and the Atlantic Southeast Airlines (operating on behalf of Delta Airlines) accident on August 21, 1995 (8 fatalities, 13 serious injuries and 8 minor injuries). All of these accidents listed a maintenance error as a cause, and in the case of the ValuJet accident, a subcontractor was involved. It is also important to note that all of the above accidents are cited throughout the Office of Inspector General's (IG's) audit

report on Air Carriers' Use of Aircraft Repair Stations issued on July 8, 2003. In addition, an Air Midwest accident, on January 8, 2003, operating on behalf of US Airways, resulted in 21 fatalities; the NTSB's final report, which showed the accident was caused by a maintenance related error, was published after the IG's audit report.

The FAA currently uses a value of $3.0 million to statistically represent a human fatality that is avoided. This value provides the public and government officials with a benchmark comparison of the expected safety benefits of rulemaking actions over an extended period of time with estimated costs in dollars. A serious injury is valued at $580,700 and a minor injury is valued at $42,900. These estimates were revised in 2002.[90]

Over the last 10 years, there were 61 part 135 accidents attributable to maintenance as either a cause or a factor in the NTSB accident report, or an average of six a year. Of these 61, eight were part 135 accidents that resulted in at least two fatalities over the last 10 years, or an average of almost one part 135 accident every year. The actual number of fatalities from these accidents summed to 39, or an average of about five fatalities per accident.

This analysis contains benefits resulting from not having to repair or replace damaged or destroyed aircraft. Accidents in which maintenance errors were either a cause or a factor involved all types of aircraft from gliders to Boeing 767's. The most frequently cited aircraft in all part 135 accidents was the Piper; the average retail value for a Piper PA-31-350 is $205,500.[91] The restoration cost for a fixed-wing air carrier aircraft is 13.5%. Therefore, the restoration cost for this Piper would be about $27,700 (calculation: $205,500 x 0.135).[92] There were about three times as many substantially damaged part 135 aircraft as destroyed aircraft, so that the average aircraft cost of an accident is approximately $72,200.[93]

As discussed above, while there have been no documented aviation accidents directly attributed to the misuse or abuse of drugs or alcohol, the FAA believes it is possible that such misuse or abuse may have contributed to aviation-related accidents. Accordingly, the FAA believes it is prudent to base benefits on

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[90] U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans Bulletin dated February 2002 (APO-02-1)

[91] Aircraft Bluebook Price Digest, Winter 2004/2005. This aircraft was produced from 1973 to 1984, and the average retail value for this aircraft produced in these years is $171,000 and $240,000, respectively. The FAA used the average of these two prices in this analysis.

[92] Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs, displayed in Table 5-5 on page 5-7.

[93] This is calculated by multiplying $202,500 by one quarter (for the destroyed aircraft) and $27,743 by three-quarters (for the substantially damaged aircraft).

avoiding one such part 135 accident over the next 10 years, thus avoiding a total of 5 fatalities and a destroyed or damaged airplane. Using the aforementioned benchmark values to measure the benefits of avoiding each accident yields $15 million in fatalities avoided. This number of accidents, fatalities, and destroyed airplanes is less than 1% of all maintenance-related accidents that have occurred; the FAA considers these benefits to be reasonable.

The total benefits of this rulemaking were calculated by assuming an equally likely chance of avoiding these accidents in each of the next 10 years. Total benefits sum to $15.07 million ($10.59 million, discounted) as displayed in Table A-14 in Appendix A.[94]

Cost to Employers

There are a number of reasons why it is beneficial for employers to have substance abuse prevention programs:

1. Employees who abuse drugs are more likely to be:[95]
   - late or absent from work
   - involved in a workplace accident
   - file a workers' compensation claim
2. "A study by the U.S. Postal Service found that substance abusers, when compared to their non-substance abusing co-workers, are:
   - involved in 55 percent more accidents, and
   - sustain 85 percent more on-the-job injuries."[96]
3. According to the National Safety Council, 80 percent of those injured in "serious" drug-related accidents at work are non-using co-workers and others, and not the drug abusing employees.[97]
4. "The U.S. Navy estimates each drug user costs his or her employer an average of $6,600 annually more than non-substance abusing co-workers."[98] Their random drug testing costs approximately $20 million a year, and claim that the reduction in the number of sailors who use drugs and abuse alcohol

[94] The 5 fatalities avoided are costed out at $15.0 million, and the replacement cost of the aircraft is $72,182. The benefits in each year are one tenth of these dollar amounts, or $1.51 million.
[95] Source: Laboratory Corporation of America® Holdings at http://www.labcorp.com/ots/why_drug_test.html
[96] Laboratory Corporation of America® Holdings quoting Current, WF. In favor of a drug-free workplace: Why Drug Testing? Coral Springs, FL, 1999. Source: http://www.labcorp.com/ots/why_drug_test.html
[97] Ibid.
[98] Ibid.

translates into annual savings of $210 million, or "a savings of approximately $10 for every dollar it spends on drug testing."[99]

As shown in the Costs section, the FAA assumes that the average NCMS that the regulated entities use will average between 17 and 18 employees between 2006 and 2015, qualifying them as small businesses.[100] "When it comes to workplace substance abuse, small businesses have big disadvantages. They are less likely to have programs in place to combat the problem, yet they are more likely to be the 'employer-of-choice' for illicit drug users. Individuals who can't adhere to a drug-free workplace policy seek employment at firms that don't have one, and the cost of just one error caused by an impaired employee can devastate a small company."[101] In part, because of this relative lack of scrutiny, 44 percent of full-time employed illicit drug users and 36 percent of the population of full-time employed heavy drinkers work for small businesses.[102] Thus, there are good economic reasons for small businesses to have substance abuse programs and good economic reasons for the certificated carriers to want the NCMS's that they do business with to have such programs.

In addition, there will be some productivity gains. The FAA recognizes that the productivity of the maintenance workers subject to this rulemaking will increase. Based on previous analyses, the FAA assumed that those employees who use illegal drugs and/or misuse alcohol reduce their productivity by 5 percent. Some of these employees will cease illegal drug use and/or alcohol misuse rather than face the consequences of being detected by testing. The FAA hypothesizes that the presence of random testing programs will have the effect of deterring some of these employees, and assumes that 10 percent of the commercial aviation population affected by the rule that uses illegal drugs and misuses alcohol will stop using illegal drugs and misusing alcohol and increase their productivity in the face of this testing, given the consequences of being caught.

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[99] Ibid.

[100] As corroboration, as was discussed in the Comments section, the Repair Station Survey conducted by ARSA showed that nearly 70 percent of the respondents had annual revenues below $6 million, qualifying them as small businesses. In their comments, ARSA maintains that most companies in the aviation maintenance industry are small businesses.

[101] The Department of Labor (DOL) at http://www.dol.gov/asp/programs/drugs/workingpartners/stats/wi.asp

[102] DOL quoting US Department of Health and Human Services Substance Abuse and Mental Health Services Administration. (1999). Worker Drug Use and Workplace Policies and Programs: Results from the 1994 and 1997 NHSDA. Rockville, MD: US Department of Health and Human Services. Source: http://www.dol.gov/asp/programs/drugs/workingpartners/stats/wi.asp. Small businesses are assumed to have 24 or fewer employees

These individuals are expected to continue in their jobs without using illegal drugs or misusing alcohol. The FAA assumes that these individuals are 95% effective on their jobs compared to employees who don't use illegal drugs and/or misuse alcohol on the job. Thus, each individual who is deterred from using illegal drugs or misusing alcohol is expected to achieve a 5% increase in productivity. Given the number of employees subject to this testing each year, the FAA estimates an additional 5 or 6 employees per year will see a 5% increase in their productivity.

Many regulated employers already have some form of drug and alcohol misuse prevention program in place. These programs include alcohol awareness programs, Employee Assistance Programs (EAP), and Human Intervention and Motivation Study (HIMS) programs. Accordingly, some reduction in alcohol and drug misuse can be attributed to these programs.

VI. Comparison of Costs and Benefits

This action will primarily impact the NCMS, which perform maintenance work for the regulated employers; these regulated employers must ensure any individual performing a safety-sensitive function by contract is subject to drug and alcohol testing programs under the FAA regulations. For this rule, these individuals are primarily the maintenance employees who perform safety-sensitive functions directly or by contract (including by subcontract at any tier) for a regulated employer. Due to previously issued conflicting guidance, some companies may have to modify their current antidrug and alcohol misuse prevention programs. The FAA is basing costs on an additional 2.5% of maintenance workers as well as about 300 additional companies being subject to the antidrug and alcohol misuse prevention programs. The FAA believes that the actual number of employees and companies will be less than this, but is using these numbers so as to be conservative and not underestimate costs. Ten-year costs, which include additional costs in four areas: testing, training and education, program development and maintenance, and annual documentation sum to $3.08 million ($2.31 million, discounted). Factoring in the cost savings that companies that adopt antidrug and alcohol misuse prevention programs will realize, of $790,300 ($550,500, discounted) over 10 years, the net cost of this rule, over 10 years, sums to approximately $2.29 million ($1.76 million, discounted).

The FAA acknowledges the fact that there has not been an aviation accident or incident attributed to an individual’s use of illegal of drugs or misuse of alcohol. However, the FAA believes it is possible that the use of illegal drugs or misuse of alcohol by members of the aviation community may have contributed to some accidents, and so the FAA analyzed over 1,000 accidents that list maintenance as either a cause or a factor, from January 1995 through December 2004. This

analysis showed 580 fatalities, 312 serious injuries, 481 minor injuries, 260 destroyed aircraft, 879 substantially damaged aircraft, and 2 aircraft with minor damages.

The FAA believes it is prudent to base benefits on avoiding one part 135 accident over the next 10 years, thus avoiding a total of five fatalities and a damaged or destroyed airplane. These accidents, fatalities, and destroyed airplanes are less than one percent of all maintenance-related accident results that occurred over the last 10 years. Considering that the FAA assumed an increase of 2.5% in the number of maintenance workers to be tested annually and of 50% in the number of contractor companies to be included in the testing programs spread across the regulated employer population (part 121 or 135 certificate holders, and operators under §135.1(c)), the FAA considers these benefits to be both conservative and reasonable.

Numerous studies have shown that it is beneficial for small businesses to have substance abuse programs; most of the contractors that will be affected by this rulemaking are small businesses. In addition, the FAA recognizes that the productivity of the maintenance workers subject to this rulemaking will increase; some of these employees will cease misuse rather than face the consequences of being detected by testing. The total benefits of this rulemaking, over the next 10 years, will be $15.07 million ($10.59 million, discounted). As benefits exceed the costs, the FAA finds this final rule to be cost-beneficial.

VII. Final Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) 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 RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The RFA 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 agency determines that it will, the agency must prepare a regulatory flexibility analysis 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,

section 605(b) of the 1980 RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

For this rule, the small entity group is considered to be small part 121 and 135 certificate holders and operators under §135.1(c) (North American Industry Classification System [NAICS] 481111). The FAA examined the annual revenues of all the certificated air carriers under part 121, 121/135, 135, as well as operators under §135.1(c).

For the certificated air carriers under part 121, 121/135, and 135, annual revenue data is not available by 14 CFR part number, so the FAA used Forms 41 and 298C, available from the Bureau of Transportation Statistics (BTS), for this data. In these forms, BTS breaks down the different airplane operators that file Form 41, by revenue, as shown in Table 6. Large certificated carriers (which includes Majors through Medium Regionals), which file Form 41, must fly aircraft with 60 seats or more or have a payload of at least 18,000 lbs.

Table 6 – Aircraft Operators Impacted by Rule – Form 41 Data

Category	Annual Revenues by Category
Majors	More than $1.0b
Nationals	$100.0m - $1.0b
Large Regionals	$ 20.0m - $99.9m
Medium Regionals	$ 0.0m - $19.9m

Carriers reporting on Form 298C are classified as either "Small Certificated" (also known as Small Regionals) or "Commuter" air carriers.[103] While neither of these types of carriers are defined by annual revenues, some small certificated carriers have more than $100 million in annual revenues.

Carriers that file Form 41 that have annual revenue over $20 million (Majors, Nationals, and Large Regionals) report revenue data quarterly, while carriers that File 41 that have annual revenue less than $20 million (Medium Regionals) report

[103] The DOT definitions are:
- Small Certificated Carrier - a carrier that holds a certificate issued under Title 49 U.S.C. section 41101. These carriers provide air service within and between only the 50 States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands with small aircraft. Small aircraft are aircraft with a capacity of 60 seats or less or 18,000 payload or less.
- Commuter Carrier - an air taxi operator that carries passengers on at least five round trips per week on at least one route between two or more points according to its published flight schedules that specify the times, days of the week, and places between which those flights are performed.

revenue data twice a year. All carriers that file Form 298C, report revenue data quarterly. Unfortunately, the data is not consistent as it is not available for some carriers for every reporting period. The FAA examined data from the last 3 years to identify the most recent consecutive four quarters or two half-year periods, whichever was applicable, for each carrier to be used as the relevant operating revenue for that carrier. Using this air carrier operator information, the FAA separated the carriers into part 121, part 121/135, and part 135 certificated carriers. Table 7 shows certificated category, the number of carriers, and the average annual revenue for each of these three categories:[104]

Table 7 – Average Annual Revenue by Certificate Part – based on BTS Forms 41 and 298C

Certificated Part	Number of Carriers	Average Annual Revenue (millions of dollars)
121	78	$1,686.604
121/135	7	$58.739
135	26	$59.102

The FAA used a different method to calculate the annual revenue for the operators under §135.1(c), as this information is not collected by BTS. As shown in a 2002 analysis, the FAA collected information on both part 135 and part 91 aircraft engaged in air tours.[105] Tables A.5 and A.6 in this analysis show several categories of air tour operators within parts 135 and 91, respectively. The FAA determined that the group that was most similar to the operators under §135.1(c) was the core part 91 operators,[106] as shown in Table A.6. These 983 operators generated annual revenue of $61.55 million,[107] for the annual revenue per operator of $62,600.

[104] There were a number of carriers that the FAA identifies as part 121, 121/135, and135 that were not listed in the BTS forms, and there were a number of carriers in the BTS forms that were not listed as part 121, 121/135, and 135. In addition, there were a number of carriers, listed in the BTS forms, which did not have enough data for the FAA to calculate the 12-month operating revenue. Hence, the difference in the number of carriers in this table and those listed in the Costs section as the number of regulated employers affected by this rulemaking.

[105] Draft Regulatory Evaluation, Initial Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Determination, Supplemental Notice of Proposed Rulemaking, National Air Tour Safety Standards, (14 CFR Parts 61, 91, 119, 121, 135 and 136), FAA, August 2002.

[106] As shown in the text, this group consists of entities conducting sightseeing flights under 14 CFR part 91 rules exclusively.

[107] The cost data was adjusted from 2001 dollars to 2004 dollars by using the Gross Domestic Product deflator.

This rule will cost $2.29 million over 10 years ($1.76 million, discounted), resulting in an annualized cost of about $800 for each of the approximately 300 contractors that will need to put together antidrug and alcohol misuse prevention programs and then implement them.[108] These contractors will absorb some of these costs, while the rest will be passed on to both the companies at the other tiers that they are contracting for or with as well as to the regulated employers. Given such low annualized costs, the FAA does not believe that most of the costs will be passed on to companies at other tiers. However, in order to estimate the maximum impact of this regulation on regulated employers, the FAA assumes that all of the additional NCMS cost is passed along to the regulated employers.

For this analysis, the FAA considers each part 135 certificate holder and operator under §135.1(c) to be a small entity, and some of the part 121 and 121/135 certificate holders to also be small entities. The FAA examined the costs of this rule two different ways:
A) The costs are shared equally by all regulated employers; and
B) In order to determine the maximum impact of this rule, the entire cost is borne by one regulated employer.

A) Given 2,562 air carrier certificate holders and 250 operators under §135.1(c), the cost borne by each regulated employer would equal about $800 ($600, discounted) over ten years. Using the same capital recovery rate yields an annualized cost of about $100. As shown in Table 8, the costs to each air carrier certificate holder would be less than 0.0002% of their annual revenues, while the costs to each operator under §135.1(c) would be less than 0.15% of their annual revenues. Given that the majority of §135.1(c) operators usually has one or two aircraft, and operates in and out of one airport, it is unlikely that they would interact with multiple subcontractors in the regular course of business operations. Therefore, it is unlikely that their annualized costs as a percentage of annual revenues would be much higher than 0.15%.

Table 8 – Scenario A - Annualized Costs as a Percentage of Average Annual Revenues for all Regulated Employers

Certificated Part/Operator	Average Annual Revenue (millions of dollars)	Percentage
121	$1,686.604	0.00001%
121/135	$58.739	0.00015%
135	$59.102	0.00015%
135.1(c)	$0.063	0.14269%

[108] Table 1 shows the number of companies growing by two a year, from 291 in 2006 to 309 in 2015. The mid-point, occurring between 2010 and 2011 would be 300 companies.

B) Under this scenario, with the entire cost being borne by one regulated employer, the costs sum to $2.29 million over 10 years ($1.76 million, discounted). It is highly unlikely that one or a small number of regulated employers would bear the costs of this rule exclusively because the regulated employers vary in size, number of aircraft, and geographic location. The smaller the operator, the fewer aircraft that operator would use, hence the smaller the number of subcontractors that operator would use for safety-sensitive maintenance. Therefore, this scenario would not be applicable to many small entities, including many part 135 operators or any operator under § 135.1(c).

Using the same capital recovery rate yields an annualized cost of about $251,200. Table 9 shows the effects of these annualized costs on regulated employers that would require safety-sensitive maintenance functions performed by multiple contractors.

Table 9 – Scenario B – Annualized Costs as a Percentage of Average Annual Revenues for One Regulated Employer

Certificated Part	Average Annual Revenue (millions of dollars)	Percentage
121	$1,686.604	0.015%
121/135	$58.739	0.428%
135	$59.102	0.425%

Even if one regulated employer absorbed all the costs, these costs would be less than 1% of annual median revenue. Clearly, no regulated employer is going to absorb all, or even most, of the costs to the exclusion of the other regulated employers, so the impact on their revenues will be much less than shown in Table 9. In addition, it is highly unlikely that all of the additional costs to the NCMS will be passed along to these regulated employers.

Under both scenarios, the economic impact is minimal. Therefore, we certify that this action will not have a significant economic impact on a substantial number of small entities.

VIII. International Trade Impact Statement

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 effect of this final rule and has determined that it would have only a domestic impact and therefore no affect on any trade-sensitive activity.

IX. Unfunded Mandates Determination

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action."

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

APPENDIX A

Table A-1 – Alcohol-Related Testing Results								
NUMBER OF TESTS	1996	1997	1998	1999	2000	2001	2002	2003
Flight Crew	19,281	20,036	7,546	10,987	10,634	11,490	11,011	10,814
Flight Attendants	26,064	27,083	12,072	12,870	13,312	14,053	12,516	12,124
Flight Instructors	543	377	164	283	319	530	388	339
Aircraft Dispatchers	2,837	3,524	957	1,453	1,401	2,058	1,357	1,315
Maintenance Personnel	33,743	37,739	16,240	23,892	24,696	24,683	22,447	20,560
Aviation Screeners	3,164	2,345	2,111	2,874	3,208	3,657	3,495	350
Ground Security Coordinators	3,091	3,295	1,413	1,847	1,668	2,205	2,894	2,989
Air Traffic Controllers	174	140	27	132	641	164	173	139
TOTAL	88,897	94,539	40,530	54,338	55,879	58,840	54,281	48,630
NUMBER OF POSITIVE RESULTS OF VIOLATIONS								
Flight Crew	11	3	6	10	10	7	19	12
Flight Attendants	35	55	35	27	63	56	49	47
Flight Instructors	2	3	1	0	2	0	0	1
Aircraft Dispatchers	1	5	4	3	3	5	3	2
Maintenance Personnel	82	75	61	48	53	71	49	45
Aviation Screeners	2	4	7	7	5	1	7	10
Ground Security Coordinators	5	4	3	2	4	7	11	0
Air Traffic Controllers	0	0	0	1	1	0	0	0
TOTAL	138	149	117	98	141	147	138	117
PERCENT OF TESTS INVOLVING VIOLATIONS								
Flight Crew	0.06%	0.01%	0.08%	0.09%	0.09%	0.06%	0.17%	0.11%
Flight Attendants	0.13%	0.20%	0.29%	0.21%	0.47%	0.40%	0.39%	0.39%
Flight Instructors	0.37%	0.80%	0.61%	0.00%	0.63%	0.00%	0.00%	0.29%
Aircraft Dispatchers	0.04%	0.14%	0.42%	0.21%	0.21%	0.23%	0.22%	0.15%
Maintenance Personnel	0.24%	0.20%	0.38%	0.20%	0.21%	0.29%	0.22%	0.22%
Aviation Screeners	0.06%	0.17%	0.33%	0.24%	0.16%	0.03%	0.24%	0.33%
Ground Security Coordinators	0.16%	0.12%	0.21%	0.11%	0.24%	0.32%	0.38%	0.00%
Air Traffic Controllers	0.00%	0.00%	0.00%	0.76%	0.16%	0.00%	0.00%	0.00%
TOTAL	0.16%	0.16%	0.29%	0.18%	0.25%	0.25%	0.25%	0.24%

Table A-2 – Drug-Related Testing Results								
					With Maintenance Employees		Without Maintenance Employees	
NUMBER OF TESTS	2001	2002	2003		3-Year Average	Percent Positive	3-Year Average	Percent Positive
Flight Crew	39,600	34,083	33,450		35,711	0.07%	35,711	0.07%
Flight Attendants	48,474	41,721	38,173		42,789	0.51%	42,789	0.51%
Flight Instructors	1,486	1,191	947		1,208	0.14%	1,208	0.14%
Aircraft Dispatchers	5,492	6,558	4,969		5,673	0.79%	5,673	0.79%
Maintenance Personnel	85,993	67,694	68,589		74,092	1.28%		
Aviation Screeners	58,906	45,191	3,077		35,725	1.43%	19,401	1.43%
Ground Security Coordinators	18,660	16,753	12,803		16,072	2.18%	14,438	2.18%
Air Traffic Controllers	749	805	754		769	0.39%	769	0.39%
TOTAL	259,360	213,996	162,762		212,039	1.05%	137,947	0.84%
NUMBER OF POSITIVE RESULTS								
Flight Crew	21	28	30					
Flight Attendants	251	217	191					
Flight Instructors	4	0	1					
Aircraft Dispatchers	41	53	40					
Maintenance Personnel	1,148	824	871					
Aviation Screeners	1,290	882	64					
Ground Security Coordinators	104	140	104					
Air Traffic Controllers	6	3	3					
TOTAL	2,865	2147	1304					
PERCENT OF TESTS THAT WERE POSITIVE								
Flight Crew	0.05%	0.08%	0.09%					
Flight Attendants	0.52%	0.52%	0.50%					
Flight Instructors	0.27%	0.00%	0.11%					
Aircraft Dispatchers	0.75%	0.81%	0.80%					
Maintenance Personnel	1.33%	1.22%	1.27%					
Aviation Screeners	2.19%	1.95%	2.08%					
Ground Security Coordinators	0.56%	0.84%	0.81%					
Air Traffic Controllers	0.80%	0.37%	0.40%					
TOTAL	1.10%	1.00%	0.80%					

Table A-3 – Additional Testing Costs											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Maintenance Workers - Total	199,203	202,191	205,224	208,302	211,427	214,598	217,817	221,084	224,400	227,766	
Maintenance Workers - Affected by this rulemaking	4,980	5,055	5,131	5,208	5,286	5,365	5,445	5,527	5,610	5,694	
Alcohol Misuse Testing											
Pre-employment	18	19	19	19	19	20	20	20	21	21	196
Random	498	506	513	521	529	537	545	553	561	569	5,332
Post-Accident	2	3	3	3	3	3	3	3	3	3	29
Reasonable Cause	2	3	3	3	3	3	3	3	3	3	29
Return to Duty	2	2	2	2	2	2	2	2	2	2	20
Follow-Up - Current Year	12	12	12	12	12	13	13	13	13	13	125
Follow-Up - Next Year	0	12	12	12	12	12	13	13	13	13	112
Total Alcohol Tests	**534**	**557**	**564**	**572**	**580**	**590**	**599**	**607**	**616**	**624**	**5,843**
Drug Testing											
Pre-employment	4,980	933	947	961	975	990	1,004	1,020	1,035	1,050	13,895
Random	1,245	1,264	1,283	1,302	1,322	1,341	1,361	1,382	1,403	1,424	13,327
Post-Accident	5	5	5	5	5	5	5	5	5	5	50
Reasonable Cause	8	8	8	8	8	8	8	9	9	9	83
Return to Duty	8	8	9	9	9	9	9	9	9	10	89
Follow-Up - Current Year	41	42	42	43	44	44	45	46	46	47	440
Follow-Up - Next Year	0	33	33	34	34	35	35	36	37	37	314
Total Drug Tests	**6,287**	**2,293**	**2,327**	**2,362**	**2,397**	**2,432**	**2,467**	**2,507**	**2,544**	**2,582**	**28,198**
Cost of Alcohol Testing											
Total Tests	534	557	564	572	580	590	599	607	616	624	5,843
Cost of Test	$18,156	$18,938	$19,176	$19,448	$19,720	$20,060	$20,366	$20,638	$20,944	$21,216	$198,662
Cost of Employee's Time	$13,553	$14,137	$14,310	$14,509	$14,712	$14,961	$15,189	$15,387	$15,611	$15,814	$148,183
Total Cost	**$31,709**	**$33,075**	**$33,486**	**$33,957**	**$34,432**	**$35,021**	**$35,555**	**$36,025**	**$36,555**	**$37,030**	**$346,845**
Cost of Drug Testing											
Total Tests	6,287	2,293	2,327	2,362	2,397	2,432	2,467	2,507	2,544	2,582	28,198
Cost of Test	$282,915	$103,185	$104,715	$106,290	$107,865	$109,440	$111,015	$112,815	$114,480	$116,190	$1,268,910
Cost of Employee's Time	$159,564	$58,196	$59,042	$59,912	$60,800	$61,669	$62,557	$63,552	$64,471	$65,434	$715,197
Total Cost	**$442,479**	**$161,381**	**$163,757**	**$166,202**	**$168,665**	**$171,109**	**$173,572**	**$176,367**	**$178,951**	**$181,624**	**$1,984,107**
Total Cost - New Testing	**$474,188**	**$194,456**	**$197,243**	**$200,159**	**$203,097**	**$206,130**	**$209,127**	**$212,392**	**$215,506**	**$218,654**	**$2,330,952**
Discount Factor	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	0.6227	0.5820	0.5439	0.5083	
Discounted Cost	**$443,166**	**$169,845**	**$161,009**	**$152,700**	**$144,805**	**$137,353**	**$130,234**	**$123,614**	**$117,221**	**$111,153**	**$1,691,100**

Table A-4 – Costs for Supervisor Training														
Year	Total Supervisors	New Supervisors for training	Turnover	Total for initial training	Cost for supervisor training	Total number of instructors	Cost for instructors	Total for recurrent training	Cost for supervisor training	Total number of instructors	Cost for instructors	Total Cost	Discount Factor	Discounted Cost
2006	582	582	58	640	$38,093	32	$1,746					$39,839	0.9346	$37,232
2007	586	4	59	63	$3,750	4	$218	523	$20,753	27	$982	$25,703	0.8734	$22,450
2008	590	4	59	63	$3,750	4	$218	527	$20,911	27	$982	$25,861	0.8163	$21,111
2009	594	4	59	63	$3,750	4	$218	531	$21,070	27	$982	$26,020	0.7629	$19,851
2010	598	4	60	64	$3,809	4	$218	534	$21,189	27	$982	$26,199	0.7130	$18,679
2011	602	4	60	64	$3,809	4	$218	538	$21,348	27	$982	$26,357	0.6663	$17,563
2012	606	4	61	65	$3,869	4	$218	541	$21,467	28	$1,018	$26,572	0.6227	$16,548
2013	610	4	61	65	$3,869	4	$218	545	$21,626	28	$1,018	$26,731	0.5820	$15,558
2014	614	4	61	65	$3,869	4	$218	549	$21,784	28	$1,018	$26,890	0.5439	$14,626
2015	618	4	62	66	$3,928	4	$218	552	$21,903	28	$1,018	$27,068	0.5083	$13,760
Total					$72,495		$3,710		$192,051		$8,983	$277,240		$197,377

Table A-5 – Employee Training Cost Variables								
Year	Companies	New Companies	Number of Employees	New Employees	New Employees using Videos	New Employees using instructor	Video Monitors	Instructors
2006	291	291	4,980	4,980	3,984	996	200	50
2007	293	2	5,055	75	60	15	3	2
2008	295	2	5,131	76	61	15	4	2
2009	297	2	5,208	77	62	15	4	2
2010	299	2	5,286	78	62	16	4	2
2011	301	2	5,365	79	63	16	4	2
2012	303	2	5,445	80	64	16	4	2
2013	305	2	5,527	82	66	16	4	2
2014	307	2	5,610	83	66	17	4	2
2015	309	2	5,694	84	67	17	4	2

Table A-6 – Employee Training Costs									
Year	Alcohol Program Copying Costs	Alcohol Program Costs for Employees	Antidrug Program Costs for Employees	Antidrug Program Costs for Videos	Antidrug Program Costs for Video Overseers	Antidrug Program Costs for Instructors	Total Costs	Discount Factor	Discounted Costs
2006	$5,976	$84,262	$168,523	$11,640	$5,000	$1,819	$277,219	0.9346	$259,083
2007	$90	$1,269	$2,538	$80	$75	$73	$4,125	0.8734	$3,603
2008	$91	$1,286	$2,571	$80	$100	$73	$4,201	0.8163	$3,429
2009	$92	$1,302	$2,604	$80	$100	$73	$4,251	0.7629	$3,243
2010	$94	$1,319	$2,638	$80	$100	$73	$4,303	0.7130	$3,068
2011	$95	$1,335	$2,671	$80	$100	$73	$4,354	0.6663	$2,901
2012	$96	$1,352	$2,705	$80	$100	$73	$4,406	0.6227	$2,744
2013	$98	$1,386	$2,772	$80	$100	$73	$4,509	0.5820	$2,624
2014	$100	$1,402	$2,805	$80	$100	$73	$4,559	0.5439	$2,480
2015	$101	$1,419	$2,838	$80	$100	$73	$4,611	0.5083	$2,344
	$6,833	$96,332	$192,665	$12,360	$5,875	$2,473	$316,538		$285,520

Table A-7 – Training and Education Costs						
Year	Supervisor Training	Employee Training	Establish Education Programs	Total Costs	Discount Factor	Discounted Costs
2006	$39,839	$277,219	$24,444	$341,502	0.9346	$319,161
2007	$25,703	$4,125	$168	$29,995	0.8734	$26,199
2008	$25,861	$4,201	$168	$30,230	0.8163	$24,677
2009	$26,020	$4,251	$168	$30,439	0.7629	$23,222
2010	$26,199	$4,303	$168	$30,670	0.7130	$21,867
2011	$26,357	$4,354	$168	$30,879	0.6663	$20,576
2012	$26,572	$4,406	$168	$31,146	0.6227	$19,396
2013	$26,731	$4,509	$168	$31,408	0.5820	$18,279
2014	$26,890	$4,559	$168	$31,617	0.5439	$17,197
2015	$27,068	$4,611	$168	$31,847	0.5083	$16,190
Totals	$277,240	$316,538	$25,956	$619,734		$506,765

Table A-8 - Program Development and Maintenance Costs						
		New Registration Information				
Year	Develop Plan	Company	FAA	Total Costs	Discount Factor	Discounted Costs
2006	$97,776	$2,037	$1,196	$101,009	0.9346	$94,401
2007	$672	$287	$169	$1,128	0.8734	$985
2008	$672	$287	$169	$1,128	0.8163	$921
2009	$672	$287	$169	$1,128	0.7629	$861
2010	$672	$287	$169	$1,128	0.7130	$804
2011	$672	$287	$169	$1,128	0.6663	$752
2012	$672	$287	$169	$1,128	0.6227	$702
2013	$672	$287	$169	$1,128	0.5820	$657
2014	$672	$287	$169	$1,128	0.5439	$614
2015	$672	$287	$169	$1,128	0.5083	$573
Totals	$103,824	$4,620	$2,717	$111,161		$101,269

Table A-9 – Annual Documentation Category Costs												
Report Category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	2006
Supervisor Training Documentation-Drugs	$823	$753	$759	$764	$769	$774	$779	$784	$789	$795	$7,789	$823
Supervisor Training Documentation-Alcohol	$823	$81	$81	$81	$82	$82	$84	$84	$84	$85	$1,566	$823
Employee Training Documentation-Drugs	$6,403	$96	$98	$99	$100	$102	$103	$105	$107	$108	$7,321	$6,403
Reasonable Suspicion Doc.	$91	$91	$93	$93	$93	$94	$94	$95	$95	$96	$935	$91
Post-Accident Determination Doc.	$98	$99	$99	$100	$100	$102	$102	$103	$103	$104	$1,009	$98
Post-Accident 2-Hour Alcohol Limit No-Test Documentation	$94	$95	$95	$96	$96	$98	$98	$99	$99	$100	$971	$94
Post-Accident 8-Hour Alcohol Limit No-Test Documentation	$94	$95	$95	$96	$96	$98	$98	$99	$99	$100	$971	$94
Refusal to Take Drug Test Report	$5	$5	$5	$5	$5	$5	$5	$5	$11	$11	$62	$5
Part 67 Positive Drug Test Report	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5	$50	$5
Refusal to Take Alcohol Test Report	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5	$50	$5
Part 67 Positive Alcohol Test Report	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5	$50	$5
Total Costs	**$8,348**	**$1,233**	**$1,240**	**$1,249**	**$1,257**	**$1,267**	**$1,275**	**$1,287**	**$1,299**	**$1,311**	**$19,765**	
Discount Factor	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	0.6227	0.5820	0.5439	0.5083		
Discounted Costs	**$7,802**	**$1,077**	**$1,012**	**$953**	**$896**	**$844**	**$794**	**$749**	**$707**	**$666**	**$15,500**	

Table A-10 – Worker's Compensation Insurance Premium Savings											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Maintenance Workers - Total	199,203	202,191	205,224	208,302	211,427	214,598	217,817	221,084	224,400	227,766	
Maintenance Workers - Affected by this rulemaking	4,980	5,055	5,131	5,208	5,286	5,365	5,445	5,527	5,610	5,694	
Number of companies	291	293	295	297	299	301	303	305	307	309	
Number of supervisors	582	586	590	594	598	602	606	610	614	618	
Number of non-supervisor employees	4,398	4,469	4,541	4,614	4,688	4,763	4,839	4,917	4,996	5,076	
Premium savings for supervisors	$10,127	$10,196	$10,266	$10,336	$10,405	$10,475	$10,544	$10,614	$10,684	$10,753	$104,400
Premium savings for non-supervisor employees	$63,771	$64,801	$65,845	$66,903	$67,976	$69,064	$70,166	$71,297	$72,442	$73,602	$685,865
Total savings	**$73,898**	**$74,997**	**$76,111**	**$77,239**	**$78,381**	**$79,538**	**$80,710**	**$81,911**	**$83,126**	**$84,355**	**$790,265**
Discount Factor	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	0.6227	0.5820	0.5439	0.5083	
Discounted savings	**$69,063**	**$65,505**	**$62,129**	**$58,925**	**$55,885**	**$53,000**	**$50,262**	**$47,673**	**$45,215**	**$42,882**	**$550,538**

Table A-11 – Total Ten Year Costs									
Year	Testing	Training and Education	Program Development and Maintenance	Annual Reports	Total Costs	Insurance - Cost Savings	Net Costs	Discount Factor	Discounted Costs
2006	$474,188	$341,502	$101,009	$8,348	$925,047	$73,898	$851,149	0.9346	$795,467
2007	$194,456	$29,995	$1,128	$1,233	$226,812	$74,997	$151,815	0.8734	$132,601
2008	$197,243	$30,230	$1,128	$1,240	$229,841	$76,111	$153,731	0.8163	$125,490
2009	$200,159	$30,439	$1,128	$1,249	$232,976	$77,239	$155,737	0.7629	$118,811
2010	$203,097	$30,670	$1,128	$1,257	$236,152	$78,381	$157,771	0.7130	$112,488
2011	$206,130	$30,879	$1,128	$1,267	$239,405	$79,538	$159,866	0.6663	$106,526
2012	$209,127	$31,146	$1,128	$1,275	$242,676	$80,710	$161,966	0.6227	$100,864
2013	$212,392	$31,408	$1,128	$1,287	$246,214	$81,911	$164,304	0.5820	$95,626
2014	$215,506	$31,617	$1,128	$1,299	$249,550	$83,126	$166,424	0.5439	$90,524
2015	$218,654	$31,847	$1,128	$1,311	$252,940	$84,355	$168,585	0.5083	$85,700
Total	$2,330,952	$619,734	$111,161	$19,765	$3,081,612	$790,265	$2,291,347		$1,764,097
Discounted Costs	$1,691,101	$506,765	$101,269	$15,500	$2,314,635	$550,538			

Table A-12 Percentage of Alcohol Violation Test Results – 2001 - 2003	
Flight Crew	0.11%
Flight Attendants	0.39%
Flight Instructors	0.08%
Aircraft Dispatchers	0.21%
Maintenance Personnel	0.24%
Aviation Screeners	0.24%
Ground Security Coordinators	0.22%
Air Traffic Controllers	0.00%
TOTAL	0.25%

Table A-13 Percentage of Positive Drug Tests – Results – 2001 - 2003	
Flight Crew	0.07%
Flight Attendants	0.51%
Flight Instructors	0.14%
Aircraft Dispatchers	0.79%
Maintenance Personnel	1.28%
Aviation Screeners	2.09%
Ground Security Coordinators	0.72%
Air Traffic Controllers	0.52%
TOTAL	0.99%

Table A-14 - Benefits of Avoiding Accidents That May Have Been Caused by the Use or Misuse of Drugs or Alcohol							
Year	Avoiding Fatalities	Avoiding Serious Injuries	Avoiding Minor Injuries	Avoiding Replacing an Aircraft	Total Benefits	Discount Factor	Discounted Benefits
2006	$1,500,000	$0	$0	$7,218	$1,507,218	0.9346	$1,408,615
2007	$1,500,000	$0	$0	$7,218	$1,507,218	0.8734	$1,316,463
2008	$1,500,000	$0	$0	$7,218	$1,507,218	0.8163	$1,230,339
2009	$1,500,000	$0	$0	$7,218	$1,507,218	0.7629	$1,149,850
2010	$1,500,000	$0	$0	$7,218	$1,507,218	0.7130	$1,074,626
2011	$1,500,000	$0	$0	$7,218	$1,507,218	0.6663	$1,004,323
2012	$1,500,000	$0	$0	$7,218	$1,507,218	0.6227	$938,620
2013	$1,500,000	$0	$0	$7,218	$1,507,218	0.5820	$877,215
2014	$1,500,000	$0	$0	$7,218	$1,507,218	0.5439	$819,827
2015	$1,500,000	$0	$0	$7,218	$1,507,218	0.5083	$766,193
Total	$15,000,000	$0	$0	$72,182	$15,072,182		$10,586,070

APPENDIX B

In the Regulatory Evaluation to the SNPRM, the FAA estimated there were 1,188 contractors holding approved antidrug plans and alcohol certification statements. This number, provided by the FAA's Drug Abatement Division (AAM-800), consisted of all companies identifying themselves as "contractors" who were conducting drug and alcohol testing under the FAA's regulations.

On January 12, 2004, FAA published a final rule (69 FR 1840) that included changes to the submission procedures and tracking processes for antidrug and alcohol misuse prevention programs. The FAA eliminated "antidrug program plan and alcohol misuse prevention program certification statement" requirements and replaced them with "registrations" for non-certificated entities and "Operations Specifications" (OpSpecs) for certificate holders. This rule change resulted in the FAA terminating all approved antidrug program plans and alcohol certification statements. Instead, the FAA required companies conducting drug and alcohol testing to obtain a registration or OpSpec. The FAA's Drug Abatement Division developed a new database to track non-certificated contractor registrations and launched the permanent version in October 2004. We used the existing Operations Specifications Subsystem (OPSS) to track certificated contractors.

When the FAA ended its plan approval process, we required all companies conducting drug and alcohol testing under the FAA's regulations to submit the new information required for the registration database or OPSS. As of April 20, 2005, there were approximately 580 contractors opting to conduct drug and alcohol testing in accordance with the FAA's regulations. This number has been increasing monthly.

The FAA has discovered several reasons for the difference between the 1,188 contractors referenced in the SNPRM Regulatory Evaluation and the approximately 580 non-certificated contractors that have registered. The number of contractors used in the SNPRM (1,188) was the best data available at that time using the existing database. In comparing the number of contractor companies we used in the SNPRM to the current number of registered non-certificated contractors, the FAA notes the following:

- Under the plan approval process, more than 200 repair stations had identified themselves to us as "contractors" (without identifying themselves more specifically as "certificated repair stations"). Under the new OpSpec requirement, they have now identified themselves as certificated repair stations and are not counted among the non-certificated contractor entities.
- Some of the companies in the 1,188 merged together and subsequently registered as a single non-certificated contractor entity under the new regulations.

- Some of the 1,188 companies have now told AAM-800 they chose not to obtain a registration because they had ceased to perform safety-sensitive work.
- Some of the 1,188 that were conducting drug and alcohol testing did not realize their plan approvals were no longer valid and are now obtaining their registrations.

Although the regulations now provide a clear differentiation between certificated and non-certificated entities for tracking purposes, the regulations continue to consider certificated and non-certificated entities performing safety-sensitive functions for a regulated employer to be "contractors." Thus, for drug and alcohol testing purposes both certificated repair stations and non-certificated entities are viewed similarly but are tracked separately.

In light of the recent data changes, the FAA is adjusting the percentage of non-certificated entities that would be indirectly affected by this rulemaking. We acknowledge the number of non-certificated entities acting as contractors to regulated employers has decreased recently because we have been using different tracking systems subsequent to the 2004 final rule. The FAA also acknowledges the concern of ARSA and other entities that have questioned the percentage of non-certificated entities we used in the SNPRM Regulatory Evaluation. For all of these reasons, the FAA is revisiting our estimate that 25% more companies would be added as a result of this rulemaking, and changing that estimate to 50% more companies to be added as a result of this rulemaking.

It is important to note, none of the commenters questioned the assumption in the SNPRM Regulatory Evaluation that the number of maintenance employees subject to drug and alcohol testing was 212,200, and that there would be an increase of 2.5% of the total number of maintenance employees as a result of this rulemaking. Consequently, as we updated the number of maintenance employees currently subject to drug and alcohol testing to 191,500, we continued to assume an increase of 2.5% in the number of these employees added as a result of this rulemaking.