

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Parts 125 and 135**

[Docket No. 27459; Notice No. 93-12]

RIN 2120-AF09

Training and Checking in Ground Icing Conditions**AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: This proposal would require parts 125 and 135 certificate holders to check their airplanes for contamination (i.e. frost, ice or snow) before takeoff, when ground icing conditions exist. Part 125 certificate holders, consistent with the testing requirements of that part, would be required to provide pilot testing and, part 135 certificate holders would be required to provide pilot training, in ground deicing/anti-icing procedures. This rule is necessary because accident statistics and experience indicate the importance of effectively determining whether the airplane's wings and control surfaces are free of all frost, ice, or snow prior to attempting a takeoff. The proposal is intended to provide an added level of safety to flight operations in adverse weather conditions under parts 125 and 135.

DATES: Comments must be submitted on or before October 6, 1993.

ADDRESSES: Comments on this notice should be mailed, in triplicate, to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-200), Docket No. 27459, 800 Independence Avenue, SW., Washington, DC 20591. Comments delivered must be marked Docket No. 27459. Comments may be examined in room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: Larry Youngblut, Flight Standards Service, Regulations Branch, AFS-240, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267-8096.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that might result

from adopting the proposals in this notice are also invited. Substantive comments should be accompanied by cost estimates. Comments should identify the regulatory docket or notice number and should be submitted in triplicate to the Rules Docket address specified above. All comments received on or before the closing date for comments specified will be considered by the Administrator before taking action on this proposed rulemaking. The proposal contained in this notice may be changed in light of comments received. All comments received will be available, both before and after the closing date for comment, in the Rules Docket for examination by interested persons. A report summarizing each substantive public contact with Federal Aviation Administration (FAA) personnel concerned with this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a preaddressed, stamped postcard on which the following statement is made: "Comments to Docket No. 27459." The postcard will be date stamped and mailed to the commenter. The FAA is not able to provide a longer comment period for this NPRM because of the need to issue an interim final rule before the 1993-94 winter season. Comments received after the comment period closes will not be considered nor will the FAA consider requests to extend the comment period.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA-430, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-3484. Communications must identify the notice number of this NPRM.

Persons interested in being placed on the mailing list for future NPRMs should request from the above office a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

Background*The "Clean Aircraft" Concept*

In November of 1992, amended regulations for operations conducted under part 121 during icing conditions took effect (57 FR 44924; September 29, 1992). The old part 121 regulation, which was comparable to the current regulations in parts 125 and 135, relied

on the basic "clean aircraft" concept that no person may take off an airplane when frost, ice, or snow is adhering to the wings, control surfaces, or propellers of the airplane (§§ 121.629, 125.221, 135.227). The basis of this concept is that the presence of even minute amounts of frost, ice, or snow (referred to as "contamination") on particular airplane surfaces can cause a potentially dangerous degradation of airplane performance and unexpected changes in airplane flight characteristics. Under all of these regulations, ultimate responsibility for determining whether the airplane is free of contamination in icing conditions and thus complies with the "clean aircraft" concept rests with the pilot-in-command (PIC). Both the FAA and industry have developed guidance and recommended procedures that are designed to assist the PIC in making that determination. These procedures include monitoring weather conditions and temperature changes, visually inspecting the wings, and using deicing/anti-icing fluids.

When conditions conducive to the formation of frost, ice, or snow on airplane surfaces exist at the time of takeoff, airplane surfaces must be checked for contamination. When contaminants are adhering to airplane surfaces, these contaminants must be removed before takeoff except in certain situations involving frost, which are discussed later. Because of the wide variations in airplane design and performance characteristics, methods for removing contamination for part 135 and part 125 airplanes vary greatly. Airplanes may be deiced by applying heated water followed by undiluted glycol-based fluid, by applying a heated water/glycol solution, by mechanically brushing the snow or ice off, or by placing the airplane in a hangar until the frost, ice, or snow melts. Currently, anti-icing, which is the treatment of the airplane with undiluted glycol-based fluid to prevent frost, ice, or snow from adhering to aircraft surfaces, is not commonly used in part 135 operations.

Previous Part 121 Rulemaking

In 1992, due to a number of accidents that had occurred in part 121 operations during ground icing conditions and in response to industry-wide recommendations to improve the safety of operations during these conditions, the FAA amended the part 121 regulations concerning the operation of aircraft during ground icing conditions. The amended regulations retained the "clean aircraft" concept and in addition, required part 121 certificate holders to establish and comply with an FAA-

approved ground deicing anti-icing program. An approved part 121 program includes: (1) Ground training, and qualification and testing requirements for all flight crewmembers and all other personnel the certificate holder uses in implementing its program; (2) procedures for the use of holdover times after application of deicing/anti-icing fluids; and (3) airplane check procedures. The amended part 121 regulations require that pilots be provided with the training, information, procedures, and ground support that they need for ultimately deciding if takeoff can be safely accomplished.

The amended part 121 regulations were implemented as an interim final rule in order to allow public comment on the effectiveness of the amended rule during the 1992-93 winter season. At the time of the part 121 rulemaking, the FAA did not include parts 125 and 135 because of the limited time available and the need for further FAA review to determine the appropriateness of applying a similar rule to other operations. Since that time, the FAA has reviewed the accident history for part 125 and 135 operations, conferred with industry representatives, and studied the recommendations from the National Transportation Safety Board (NTSB) and the General Accounting Office (GAO).

Accident History

According to NTSB records, 14 ground icing related accidents and incidents involving airplanes operating under part 135 occurred during the period 1984-1992. Most of these accidents/incidents involved part 135 non-scheduled cargo operations; three involved either non-scheduled or scheduled passenger carrying operations. Four of the accidents resulted in a total of seven fatalities. While the NTSB identified other probable causes in some of these accidents/incidents, in all 14 cases the NTSB identified the existence of frost, ice, or snow on the wings or other critical surfaces of the airplane as a probable cause.

A common thread throughout these accidents/incidents was the pilots' apparent lack of awareness of the potential hazard from even small amounts of frost, ice, or snow on an airplane's wings and control surfaces. For instance, one pilot lost his life in an accident involving a non-scheduled cargo operation in Morrisonville, NY, on March 19, 1984. Prior to the accident, after identifying the presence of ice accumulation of the leading edges and upper wing surfaces, the pilot declined the use of a hangar to warm the airplane and instead attempted to remove the ice

from the leading edges by hand. In another accident in Vienna, Missouri, on March 3, 1988, a pilot of a night cargo operation and another person lost their lives after taking off in known icing conditions. Before the flight, a line service noticed ice on the aircraft's wings and suggested its removal, but the pilot declined.

NTSB and GAO Recommendations

Before the part 121 ground deicing rulemaking, the NTSB had issued numerous recommendations that addressed issues involving airplane ground icing and deicing. Many of these recommendations were addressed in the 1992 rulemaking. However, in its earlier recommendations and its comments on the proposed part 121 rule and the interim final rule, the NTSB recommended that the FAA apply the new deicing requirements to operators under parts 125 and 135. The NTSB, with the exception of one member of the Board, urged the FAA to amend parts 125 and 135 when amending part 121.

Similarly, in a November 1992 report that commended the FAA for its part 121 rulemaking and the speed of that rulemaking, the GAO stated that, in its view, safety would be improved by making commuter airlines subject to more stringent regulations governing ground operations during icing conditions.

The Proposed Rule

The FAA initially considered requiring part 135 operations to comply with a deicing program identical to that required for part 121 operations. This option seemed reasonable because icing conditions exist regardless of the type of operation conducted. Furthermore, ice contamination detrimentally affects the flight characteristics of all airplanes. At the same time, however, the FAA recognized that significant differences exist between typical part 135 and part 121 operations and that these differences affect the procedures typically used during ground icing conditions.

Part 135 airplanes vary greatly in both size and aerodynamic design. This allows the wings to be more readily viewed from inside the cockpit of the airplane. The pilots in part 135 operations are usually more personally involved than part 121 pilots in the individual details of flight preparation, including computing weight and balance, filing flight plans, and checking weather forecasts, as well as checking for any contamination that might adhere to the airplane. Turnaround time is often faster for part 135 airplanes than for larger 121 airplanes, and part 135

airplanes often experience shorter delays waiting for takeoff because their runway requirements are more flexible than those requirements for larger part 121 airplanes.

In consideration of these differences and the results of accident investigations, which point primarily to a lack of training for pilots on the effects of contamination, the FAA has decided that it is not necessary to propose the same ground deicing/anti-icing program required for part 121, but instead proposes to amend pilot training requirements under part 135 to include instruction about the hazards associated with operating in icing conditions. The proposed training for pilots is intended to help prevent the problems that were identified in those accident investigations where pilots apparently did not understand that even a small amount of contamination on airplane surfaces is dangerous and takeoff should never be attempted if contamination is adhering to the airplane. The knowledge gained through the proposed training requirements would help prevent icing accidents in part 135 airplane operations.

In addition to training, the proposed rule would also require that, whenever frost, ice, or snow may reasonably be expected to adhere to the airplane, either an approved pretakeoff contamination check is completed within five minutes of takeoff or there is compliance with either an approved alternative procedure, such as having ice detectors or sensors installed on the airplane's wings and control surfaces, or there is compliance with the part 121 deicing/anti-icing rule. Compliance with the part 121 deicing/anti-icing rule would be an alternative to always conducting the pretakeoff contamination check prior to takeoff.

Operations conducted under part 125 are also being included in this proposed rule. Part 125 applies to passenger carrying and cargo carrying operations conducted, when common carriage is not involved, in airplanes with a seating configuration of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more. There are presently only 37 active part 125 certificate holders. Although the FAA's review of accident history does not reveal any ground icing accidents or incidents affecting part 125 operations, the types of airplanes flown are similar to those used in parts 121 and 135, the same airports are used, and the same weather conditions are encountered. Thus, operations conducted under part 125 are equally susceptible to the hazards of operating during ground icing conditions. While most part 125

operations use the same type of airplanes that are used in part 121 operations, the size and scope of the part 125 operations are more similar to part 135 operations. For this reason, the FAA is proposing testing requirements for part 125 comparable to the training requirements being proposed for part 135. Unlike part 135, which contains pilot training requirements, part 125 contains only pilot testing requirements. Therefore, under the proposed rule, pilots operating under part 125 would be required to be tested on all of the subject areas relating to ground icing conditions and procedures contained in the proposed part 135 training requirements. Part 125 certificate holders would also be required to comply with the same operating requirements as part 135 operators. Pretakeoff contamination checks for parts 125 and 135 would be conducted for the specific aircraft type involved and approved by the Administrator.

However, for those part 125 and 135 certificate holders who do not anticipate operating during ground icing conditions, they would not have to train or test their pilots, and they would not have to develop pretakeoff contamination check procedures as described in this NPRM. If certificate holders who choose not to train or develop procedures encounter ground icing conditions, they will not be able to operate until weather conditions improve. Thus, the FAA is providing flexibility for certificate holders to determine to what extent these requirements are applicable to their operations.

The present provisions in parts 125 and 135 allowing takeoff with polished frost would be retained. In addition, the proposed amendments to parts 135 and 125 would not change the FAA's policy of permitting takeoff with small amounts of frost on the underwings of certain airplanes when this frost is caused by cold soaked fuel and when the takeoff is within aircraft manufacturer established limits accepted by FAA aircraft certification offices and stated in aircraft maintenance manuals and aircraft flight manuals. Language has been included in the proposed rule to make it clear that takeoffs with frost under the wing in the area of the fuel tanks are permitted if authorized by the Administrator.

Helicopter operations conducted under part 135 have not been included in this proposed rule because, in its review of icing related accidents and incidents, the FAA has not identified any accident history for these types of operations that suggests that additional training or a special inspection

requirement would be necessary and because helicopter operations differ in many ways from airplane operations under part 135. However, the "clean aircraft" concept in § 135.227(a) would continue to apply to helicopters.

The specific requirements for training or testing of pilots and pretakeoff contamination check procedures are further discussed below.

Training or Testing of Pilots

Training under part 135 for operations during icing conditions would have to include initial and recurrent ground training for all pilots, other than those operators who use only one pilot in the certification holder's operations. This exception is due to the fact that part 135 does not require these certificate holders to establish and maintain an approved pilot training program. However, it should be noted that these certificate holders who conduct single pilot operations must comply with all the operational requirements of this proposed rule.

Initial training for part 135 pilots would cover the areas described below and would include airplane-specific training as appropriate. Recurrent training would include a review of areas covered in initial training, any changes in a certificate holder's procedures for operating in icing conditions, and changes that relate to specific airplanes. Comparable knowledge would have to be demonstrated for part 135 operations, as provided in the proposed § 125.267.

Training or testing would cover the following areas:

(1) If deicing fluids are used by the certificate holder, how holdover times relate to these fluids, how holdover times are used, and what variables might adversely affect the holdover times. Holdover time is the estimated time the application of deicing or anti-icing fluid will prevent the formation of frost or ice, and the accumulation of snow on the treated surfaces of an airplane.

(2) Airplane deicing/anti-icing check procedures to ensure that the airplane's wings, control surfaces, propellers, engine inlets, and other critical surfaces, as defined in the aircraft flight manual, are free of contamination, as well as aircraft-type-specific pretakeoff contamination check procedures and responsibilities.

(3) Procedures for communication between pilots and other affected personnel.

(4) Airplane surface contamination and critical area identification and knowledge of how airplane contamination adversely affects airplane performance and flight characteristics.

(5) Types and characteristics of deicing/anti-icing fluids, if used by the certificate holder.

(6) Cold weather preflight inspection procedures.

(7) Techniques for recognizing contamination on the airplane.

Pretakeoff Contamination Check Procedures

In addition to the proposed training or testing requirements, the FAA proposes that part 125 and part 135 certificate holders accomplish an approved pretakeoff contamination check anytime conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane.

A pretakeoff contamination check is a check to make sure the wings and control surfaces are free of frost, ice, or snow. Takeoff must occur within 5 minutes after completing the check. It may be accomplished from within or outside the aircraft and may be visual or tactile or a combination, as long as the check is adequate to ensure the absence of contamination. Pretakeoff contamination check procedures for each specific type of aircraft operated by the certificate holder must be established by the certificate holder and must be approved by the certificate holder's FAA Principal Operations Inspector (POI) and referenced within the certificate holder's operations specifications.

Instead of the pretakeoff contamination check, certificate holders may use an approved alternate procedure, such as having ice detectors or sensors installed on the airplane's wing and control surfaces, or complying with the part 121 deicing/anti-icing rule. Compliance with the part 121 deicing/anti-icing rule would be an alternative to always conducting the pretakeoff contamination check prior to takeoff. Certificate holders who are interested in this alternative should consult the "Proposed Advisory Circular on Ground Deicing and Anti-icing Program," which was published concurrently with the interim final part 121 deicing/anti-icing rule (57 FR 44944; September 29, 1992).

Implementation

The proposed effective date for all part 125 and 135 certificate holders is November 1, 1993. A certificate holder who intends to operate in ground icing conditions on or after November 1, 1993, would have to amend its approved training or testing program, initially train or test its pilots, develop procedures for accomplishing pretakeoff contamination checks for each type airplane and have the FAA approve

these procedures. The FAA is developing advisory material to help certificate holders comply with this proposed rule.

The FAA is aware that requiring all pilots to be fully trained or tested by the effective date could be both financially and logistically impractical for some certificate holders. Therefore, in instances where training or testing cannot be completed as part of a certificate holder's established initial training or testing program by the effective date, the certificate holder may submit training or testing materials for approval by the certificate holder's POI. For purposes of initial training/testing, if pilots complete these approved materials, the FAA will consider initial training/testing provisions of this proposed rule satisfied. If some operators believe it may be impossible to fully train or test pilots by the effective date, the FAA requests comments on how expeditiously operators could accomplish the training or testing.

Long-Term FAA Actions

The problem of airplane ground deicing/anti-icing is broader than just the decision of a pilot in command on whether to attempt a takeoff. Airport and air traffic control procedures, airplane design, and other areas have been addressed in NTSB recommendations and elsewhere. Building on the experience gained from part 121 operations during the winter of 1992-93, the FAA and the aviation industry are continuing their efforts to address these related issues. Efforts in some areas, such as airport and air traffic control procedures, are already underway. Other efforts, such as potential airplane design changes that require long-term research, will be undertaken, either by the FAA, the industry, or, subject to available funding, as joint government/industry projects.

The 1992 rulemaking together with this proposed rulemaking, if implemented, would further the efforts of the FAA, and parts 121, 125, and 135 certificate holders to improve safety for all types of operations during ground icing conditions.

Paperwork Reduction Act

The reporting and recordkeeping requirement associated with this rule is being submitted to the Office of Management and Budget for approval in accordance with 44 U.S.C. chapter 35 under the following:

DOT No:
OMB No.: New.
Administration: FAA.

Title: Training and Checking in Ground Icing Conditions.

Need for Information: If adopted, this NPRM requires each part 125 certificate holder to develop FAA approved testing and each part 135 certificate holder to develop FAA approved training for ground icing conditions. Part 125 and part 135 certificate holders would also be required to develop procedures for conducting a pretakeoff contamination check. Each of these training and testing requirements also has a recordkeeping requirement associated with it.

Proposed Use of This Information: The FAA requires this information to evaluate each certificate holder's proposed procedures and ensure certificate holders are operating at the highest possible level of safety during ground icing conditions.

Frequency: One-time.
Burden Estimate: 11,400 total hours.
Respondents: Parts 125 and 135 certificate holders.

Form(s): None.
Average Burden Hours Per Respondent: 38.

For further information contact: The Information Requirements Division, M-34, Office of the Secretary of Transportation, 400 Seventh Street SW., Washington, DC 20590, (202) 366-4735 or the Office of Management and Budget, Office of Information and Regulatory Affairs, Desk Office for the FAA, New Executive Office Building, room 3228, Washington, DC 20503, (202) 395-7340. It is requested that the comments sent to OMB also be sent to the FAA rulemaking docket for this proposed action.

Regulatory Evaluation Summary

The FAA determined that this rulemaking is not "major" as defined by Executive Order 12291. Therefore, no Regulatory Impact Analysis is required. Nevertheless, in accordance with Department of Transportation policies and procedures, the FAA has evaluated the anticipated costs and benefits. Those costs and benefits are summarized below. (A detailed discussion of costs and benefits is contained in the full evaluation in the docket for this NPRM).

Costs

The FAA estimates that the total compliance cost of this proposed rule would be \$7.7 million over the next 10 years, in 1992 dollars. On a discounted basis (using a 7 percent rate of interest), the total potential cost is \$6.4 million. This estimate is based on costs to comply with three proposed requirements: (1) Initial Training/Testing of Pilots, (2) Recurrent Training/Testing of Pilots, and (3) Modification of

the Training/Testing Program. The cost of each of these components is discussed below.

Initial Training/Testing of Pilots

The FAA assumes that all pilots under part 125 would receive initial testing and pilots under part 135 would receive initial training of one hour during the first year after this proposed rule becomes effective. Training and testing would be for pilots-in-command (PICs) and pilots second-in-command (SICs). Costs for these pilots are based on their hourly wage rates of \$62 and \$33, respectively. The cost of initial training and testing was derived based on the total number of PICs and SICs that are expected to be trained multiplied by their respective hourly wages.

Based on aircraft data obtained from the FAA Flight Standards Service Office, Information Management Section, there are an estimated 10,500 active fixed-wing aircraft operating under parts 125 and 135. However, many of these aircraft operate in climates that do not experience icing conditions; therefore, FAA estimates that about 7,300 (approximately 70 percent) would be affected by this proposed rule. In order to estimate the total number of pilots that would be trained, the number of affected airplanes was multiplied by four pilots (two active and two reserve); this is approximately 29,300 pilots. Multiplying the number of pilots trained by their average hourly wage rate of \$48 results in initial training/testing costs of \$1.4 million (or \$1.3 million, discounted).

Recurrent Training/Testing of Pilots

The recurrent training/testing required annually for each pilot would start in the second year of the ten-year time frame of the proposed rule. The FAA estimates that the training would take approximately 15 minutes and cost \$12 (\$48 per hour .25) per pilot. This cost estimate multiplied by the total number of pilots (29,300) results in estimated annual recurrent training costs of \$350,000. Over the next ten years, this cost would be \$3.2 million (or \$2.2 million, discounted).

Modification of Training/Testing Program

While the FAA cannot precisely estimate to what extent operators would incur costs as the result of modifying their respective training/testing programs, this evaluation assumes that some additional costs would be incurred. To calculate these costs, the FAA estimated that this proposed rule

would affect 97 scheduled part 135 operators, 2,043 unscheduled part 135 operators, and 26 part 125 operators. The one-time cost estimate of \$2,700 (scheduled part 135 operators) and \$1,350 (part 125 and unscheduled part 135 operators) for training/testing program modifications multiplied by the total number of operators amounts to \$3.1 million (or \$2.9 million, discounted). The FAA solicits comments from the aviation community, particularly operators under parts 125 and 135, with regard to the estimated training costs and total compliance costs.

Benefits

This proposed rule would generate potential safety benefits of \$14.8 million (or \$10.4 million, discounted) over the next 10 years, in 1992 dollars. These benefits would be reduction in fatalities, serious injuries, and property loss from accidents involving ice contamination for airplane operations under parts 125 and 135.

To estimate the potential benefits associated with this proposed rule, the FAA examined all of the part 135 icing accidents that have occurred from 1984 to 1992. A similar effort was employed for part 125 operations; however, there were no icing accidents or incidents involving part 125 operators. Between 1984 and 1992, there were 14 accidents with 7 fatalities, 2 serious injuries, and 8 minor injuries. These accidents were examined closely to answer the following questions:

- To what extent would this proposed rule have prevented the accident from occurring?
- What other factors (other than ice on the airframe) contributed to the accident?
- If there were other factors, how much did these factors contribute to the accident?

The analytical approach employed to quantify the potential safety benefits focuses on the increased safety awareness resulting from this proposed additional training and testing and the improved checking procedures. Under this proposed rule, a pilot would most likely perform a visual pretakeoff contamination check prior to departure. Alternatively, certificate holder's may have FAA approved ice detectors or sensors installed on the airplane's critical surfaces, or may comply with the part 121 deicing/anti-icing interim rule.

The FAA recognizes that there are many uncertainties when dealing with winter storms, human error, etc, and that even under this proposed rule, it is possible that an accident may occur.

Some of the 14 known accidents identified in this evaluation may have occurred even in the absence of icing conditions. Consequently, for purposes of this evaluation, the FAA is claiming as benefits generated by this proposed rule, only 60 percent of the casualty losses from those 14 accidents. This estimate is based on the FAA's knowledge of ice contamination, similar issues related to part 121 operations, and review of those part 135 accidents involving icing conditions. The FAA realizes that some members of the public may want to comment on the FAA's decision to claim as benefits only 60 percent of the casualty losses from the 14 known accidents. Therefore, the FAA solicits comments from the aviation community on the likelihood of this proposed rule preventing these types of accidents.

To estimate the potential benefits of this proposed rule, the FAA calculated the average annual number of accidents/incidents over the nine-year period. There were 14 accidents/incidents over the nine-year period averaging 1.6 (1%) per year. Similarly, the average annual number of fatalities and serious injuries were .8 (7%) and .2 (2%), respectively. In order to provide the public and government officials with a benchmark comparison of the expected safety benefits of rulemaking actions with estimated costs in dollars, the FAA currently uses a minimum value of \$2.5 million to statistically represent a human fatality avoided and \$640,000 for each serious injury. These values are applied to the .8 annual fatalities and .2 annual serious injuries over the next ten years. After including the average annual replacement value of the airplanes involved in these accidents/incidents, which is estimated to be approximately \$280,000, the total benefits would be \$23.7 million. Claiming only 60 percent of the benefits, the potential benefits would be \$14.8 million, or \$10.4 million discounted.

Conclusion

This proposed rule is expected to impose total costs estimated at \$6.4 million (discounted) compared to total potential safety benefits estimated at \$10.4 million (discounted). Therefore, the FAA has determined that this proposed rule would be cost-beneficial.

Initial Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by government regulations. The RFA requires government agencies

to determine whether rules that would have "a significant economic impact on a substantial number of small entities" and, in cases where they would, to conduct a Regulatory Flexibility Analysis.

According to FAA Order 2100.14A: Regulatory Flexibility and Guidance, a substantial number of small entities is defined as a number which is not less than eleven and which is more than one-third of the small entities subject to a proposed or existing rule. A significant economic impact on a small entity is an annualized net compliance cost which, when adjusted for inflation, equals or exceeds the significant cost threshold for the entity type under review.

The entities that would be affected by this proposed rule are small operators that own, but not necessarily operate, nine or fewer aircraft. The FAA estimates that there are 26 operators under part 125, with an average of about two aircraft owned per operator. The FAA also estimates that there are 2,140 part 135 operators (97 scheduled and 2,043 unscheduled). On average, the unscheduled operators own fewer than four aircraft each. The scheduled operators own, on average, slightly more than 14 aircraft. Multiplying the \$7.7 million cost of this proposed rule by a capital recovery factor of .14278 (10 years, 7%), results in an annualized cost estimate of \$1.1 million. This estimate of \$1.1 million was subsequently divided by the total number of operators (2,166) and resulted in an estimated annual cost impact of about \$500 per operator. This annualized cost estimate is less than the annualized threshold cost of \$4,600 (1992 dollars). Therefore, this proposed rule would not impose a significant economic impact on a substantial number of small aircraft operators.

International Trade Impact Statement

This proposed rule would have no impact on the competitive posture of either U.S. carriers doing business in foreign countries or foreign carriers doing business in the United States. This assessment is based on the fact that this proposed rule would impact operators engaged in U.S. domestic operations. Because foreign operators do not engage in U.S. domestic operations, this proposed rule would have no effect on them.

Environmental Assessment

The proposed rule is a federal action that is subject to National Environmental Policy Act (NEPA). Under applicable guidelines of the President's Council on Environmental

Quality and agency procedures implementing NEPA, the FAA will prepare an environmental assessment (EA) to determine the need for an environmental impact statement (EIS) or whether a finding of no significant impact (FONSI) would be appropriate. 40 CFR 1501.3, FAA Order 1050.1D, appendix 7, par. 3(a).

The FAA's preliminary review suggests that an EIS would not be required. The FAA believes that the rule will not promote significant additional use of deicing fluids. However, the FAA invites comments on any environmental issues associated with this proposed rule, and specifically requests comments on the following: (1) Whether the proposed rule will increase the use of deicing fluids, (2) the impact, if any, of using these deicing fluids on taxiways "just prior to takeoff," and (3) containment methods currently used that can be adapted to other locations on an airport.

Upon receiving public comments on these issues, the FAA will, after consideration of all relevant issues, determine the potential environmental impacts of the proposed rule.

Federalism Implications

The changes proposed by this NPRM would not have a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that the proposed amendments would not have federalism implications requiring the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Initial Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this proposed regulation is not major under Executive Order 12291. In addition, the FAA certifies that this proposal, if adopted, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This proposal is considered significant under Order DOT 2100.5, Policies and Procedures for Simplification, Analysis, and Review of Regulations. A draft regulatory evaluation of the proposal, including an Initial Regulatory Flexibility Determination and International Trade Impact Analysis, has been placed in the docket. A copy may be obtained by

contacting the person identified under FOR FURTHER INFORMATION CONTACT.

List of Subjects

14 CFR Part 125

Air carriers, Air transportation, Aviation safety, Safety.

14 CFR Part 135

Air carriers, Air taxi, Air transportation, Aviation safety, Safety.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend parts 125 and 135 of the Federal Aviation Regulations (14 CFR parts 125 and 135) as follows:

PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE

1. The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 1354, 1421 through 1430 and 1502; 49 U.S.C. 106(g) (revised, Pub. L. 97-449, January 12, 1983).

2. Section 125.221 is amended by revising paragraph (a), by redesignating paragraphs (b) through (d) as paragraphs (c) through (e), respectively, and by adding a new paragraph (b) to read as follows:

§ 125.221 Icing conditions: Operating limitations.

(a) No pilot may take off an airplane that has frost, snow, or ice adhering to any propeller, windshield, wing, stabilizing or control surface, to a powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the following conditions:

(1) Takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

(b) No certificate holder may authorize an airplane to take off and no pilot may take off an airplane any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane unless the pilot has completed the testing required under § 125.287(a)(9) and unless one of the following requirements is met:

(1) A pretakeoff contamination check, that has been established by the certificate holder and approved by the Administrator for the specific airplane

type, has been completed within five minutes prior to takeoff. A pretakeoff contamination check is a check to make sure the wings and control surfaces are free of frost, ice, or snow.

(2) The certificate holder has an approved alternative procedure and under that procedure the airplane is determined to be free of frost, ice, or snow.

(3) The certificate holder has an approved deicing/anti-icing program that complies with § 121.629(c) of this chapter and the takeoff complies with that program.

* * * * *

3. Section 125.287 is amended by removing "and" at the end of paragraph (a)(7), removing the period at the end of paragraph (a)(8) and adding a semicolon in its place, and adding a new paragraph (a)(9) to read as follows:

§ 125.287 Initial and recurrent pilot testing requirements.

(a) * * *

(9) Knowledge and procedures for operating during ground icing conditions, (i.e., any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane), if the certificate holder expects to authorize takeoffs in ground icing conditions, including:

(i) The use of holdover times when using deicing/anti-icing fluids.

(ii) Airplane deicing/anti-icing procedures, including inspection and check procedures and responsibilities.

(iii) Communications.

(iv) Airplane surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and knowledge of how contamination adversely affects airplane performance and flight characteristics.

(v) Types and characteristics of deicing/anti-icing fluids, if used by the certificate holder.

(vi) Cold weather preflight inspection procedures;

(vii) Techniques for recognizing contamination on the airplane.

* * * * *

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

4. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1355(a), 1421 through 1431, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

5. Section 135.227 is amended by revising paragraph (a), by redesignating paragraphs (b) through (e) as paragraphs (c) through (f), respectively, and by adding a new paragraph (b) to read as follows:

§ 135.227 Icing conditions: Operating limitations.

(a) No pilot may take off an aircraft that has frost, snow, or ice adhering to any rotor blade, propeller, windshield, wing, stabilizing or control surface, to a powerplant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system, except under the following conditions:

(1) Takeoffs may be made with frost adhering to the wings, or stabilizing or control surfaces, if the frost has been polished to make it smooth.

(2) Takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the Administrator.

(b) No certificate holder may authorize an airplane to take off and no pilot may take off an airplane any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane unless the pilot has completed all applicable training as required by § 135.341 and unless one of the following requirements is met:

(1) A pretakeoff contamination check, that has been established by the certificate holder and approved by the Administrator for the specific airplane type, has been completed within five minutes prior to takeoff. A pretakeoff contamination check is a check to make sure the wings and control surfaces are free of frost, ice, or snow.

(2) The certificate holder has an approved alternate procedure and under

that procedure the airplane is determined to be free of frost, ice, or snow.

(3) The certificate holder has an approved deicing/anti-icing program that complies with § 121.629(c) of this chapter and the takeoff complies with that program.

* * * * *

6. Section 135.345 is amended by republishing the introductory text of paragraph (b), revising the introductory text of paragraph (b)(6), removing "and" at the end of paragraph (b)(6)(ii), adding "and" at the end of paragraph (b)(6)(iii), and adding a new paragraph (b)(6)(iv) to read as follows:

§ 135.345 Pilots: Initial, transition, and upgrade ground training.

* * * * *

(b) For each aircraft type—

* * * * *

(6) Knowledge and procedures for—

* * * * *

(iv) Operating airplanes during ground icing conditions (i.e., any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the airplane), if the certificate holder expects to authorize takeoffs in ground icing conditions, including:

(A) The use of holdover times when using deicing/anti-icing fluids;

(B) Airplane deicing/anti-icing procedures, including inspection and check procedures and responsibilities;

(C) Communications;

(D) Airplane surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and knowledge of how contamination adversely affects airplane performance and flight characteristics;

(E) Types and characteristics of deicing/anti-icing fluids, if used by the certificate holder;

(F) Cold weather preflight inspection procedures;

(G) Techniques for recognizing contamination on the airplane;

* * * * *

7. Section 135.351(b)(2) is revised to read as follows:

§ 135.351 Recurrent training.

* * * * *

(b) * * *

(2) Instruction as necessary in the subjects required for initial ground training by this subpart, as appropriate, including low-altitude windshear training and training on operating during ground icing conditions, as prescribed in § 135.341 and described in § 135.345, and emergency training.

* * * * *

Issued in Washington, DC, on September 15, 1993.

William J. White,

Acting Director, Flight Standards Service.

[FR Doc. 93-23150 Filed 9-17-93; 11:55 am]

BILLING CODE 4910-13-M