For the reasons set forth in the preamble, 7 CFR part 948 is proposed to be amended as follows:

PART 948—IRISH POTATOES GROWN IN COLORADO

1. The authority citation for 7 CFR part 948 continues to read as follows:

Authority: 7 U.S.C. 601–674.

2. Amend § 948.386 by revising paragraph (a)(2) to read as follows:

§ 948.386 Handling regulation.

* * * * *

(a) * * *

(2) *All other varieties.* U.S. No. 2, or better grade, 2 inches minimum diameter or 4 ounces minimum weight.

* * * * *

Dated: November 17, 2009.

Rayne Pegg,

Administrator, Agricultural Marketing Service.

[FR Doc. E9–28131 Filed 11–19–09; 4:15 pm]

BILLING CODE P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 121

[Docket No. FAA–2009–0675; Notice No. 09–07]

RIN 2120–AJ43

Part 121 Activation of Ice Protection

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This action would amend the regulations applicable to operators of certain airplanes used in Title 14 Code of Federal Regulations part 121 operations and certificated for flight in icing conditions. The proposed standards would require either the installation of ice detection equipment or changes to the Airplane Flight Manual to ensure timely activation of the airframe ice protection system. This proposed regulation is the result of information gathered from a review of icing accidents and incidents, and it is intended to improve the level of safety when airplanes are operated in icing conditions.

DATES: Send your comments on or before February 22, 2010.

ADDRESSES: You may send comments identified by Docket Number FAA–2009–0675 using any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Bring comments to Docket Operations Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax comments to Docket Operations at 202–493–2251.

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

Privacy: The FAA will post all comments received, without change, to *http://www.regulations.gov,* including any personal information you provide. Using the search function of our docket Web site, anyone can find and read the electronic form of all comments received into any of our dockets, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, *etc.*). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit *http://DocketsInfo.dot.gov*.

Docket: To read background documents or comments received, go to *http://www.regulations.gov* at any time and follow the online instructions for accessing the docket. Or, go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contacts for Further Information: For operational questions about the proposed rule contact Jerry Ostronic, FAA, Air Carrier Operations Branch, AFS–220, Flight Standards Service, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 267–8166; facsimile (202) 267–5229, e-mail *Jerry.C.Ostronic@faa.gov*.

For aircraft certification questions about the proposed rule contact Robert Jones, FAA, Propulsion/Mechanical Systems Branch, ANM–112, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, WA 98057–3356; telephone (425) 227–1234; facsimile (425) 227–1149, e-mail *Robert.C.Jones@faa.gov*.

For legal questions about the proposed rule contact Douglas Anderson, FAA, Office of Regional Counsel, Federal Aviation Administration, 1601 Lind Avenue, SW., Renton, Washington 98057–3356; telephone (425) 227–2166; fax: (425) 227–1007, e-mail *Douglas.Anderson@faa.gov.*

SUPPLEMENTARY INFORMATION: Later in this preamble, under the Additional Information section, the FAA discusses how you can comment on this proposal and how the agency will handle your comments. Included in this discussion is related information about the docket, privacy, and the handling of proprietary or confidential business information. The FAA also discusses how you can get a copy of this proposal and related rulemaking documents. Instructions for accessing the docket appear under the **ADDRESSES** heading of this notice of proposed rulemaking (NPRM). Appendix 1 of this preamble defines terms used in the preamble of this NPRM.

Authority for This Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in subtitle VII, part A, subpart III, section 44701, ''General requirements.'' Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing minimum standards required in the interest of safety for the design and performance of aircraft; regulations and minimum standards of safety for inspecting, servicing, and overhauling aircraft; and regulations for other practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it prescribes new safety standards for the operation of certain airplanes used in air carrier service.

I. Background

On October 31, 1994, an accident involving an Avions de Transport Regional ATR 72 series airplane occurred in icing conditions. This prompted the FAA to initiate a review of aircraft safety in icing conditions and determine what changes could be made to increase the level of safety. In May 1996, the FAA sponsored the International Conference on Aircraft

Inflight Icing, where icing specialists recommended improvements to increase the level of safety of aircraft operating in icing conditions. The FAA reviewed the conference recommendations and developed a comprehensive, multi-year icing plan. The FAA Inflight Aircraft Icing Plan, dated April 1997,[1] described various activities the FAA was considering to improve aircraft safety when operating in icing conditions. In accordance with the FAA Inflight Aircraft Icing Plan, the FAA tasked the Aviation Rulemaking Advisory Committee (ARAC)[2] to consider the need for ice detectors or other means to warn flightcrews early about ice accreting on critical surfaces requiring crew action. The work would be carried out by ARAC's Ice Protection Harmonization Working Group (IPHWG). This proposed rule is based on ARAC's recommendations to the FAA, which may be found in the docket for this rulemaking, docket FAA–2009–0675.

A. Existing Regulations for Flight in Icing Conditions

Currently, the certification regulations applicable to airplanes for flight in icing conditions require that the airplane must be able to operate safely in the continuous maximum and intermittent maximum icing conditions of appendix C.[3] Amendment 25–121 to 14 CFR part 25, which applies to transport category airplanes, added specific requirements for airplane performance and handling qualities for flight in icing conditions.[4] Recently, the FAA adopted Amendment 25–129[5] to add requirements in § 25.1419 to provide means to ensure timely activation of ice protection systems. These requirements will apply to airplanes type certificated in the future. The regulations for airplanes certificated under part 23 (non-transport) require that ''a means be identified or provided for determining the formation of ice on critical parts of the airplane * * *''

Parts 91, 121, and 135 contain regulations that apply to airplane operations in icing conditions. Operating regulations under parts 91 and 135 address limitations in icing conditions for airplanes operated under those regulations.[6] Part 121 addresses operations in icing conditions that might adversely affect safety and regulates installation of certain types of ice protection and wing illumination equipment.[7]

Neither the current operating regulations nor the certification regulations in effect before the recent adoption of Amendment 25–129 require a means to ensure timely activation of ice protection systems. This proposed rule would provide a standard to ensure that ice protection systems on in-service part 121 airplanes are activated in a timely way to ensure safe flight in icing conditions.

B. National Transportation Safety Board Safety Recommendations

This proposal addresses Safety Recommendation No. A–07–14[8] issued by the National Transportation Safety Board (NTSB) on the subject of airframe icing. That NTSB safety recommendation is a result of a Cessna Citation 560 series airplane accident near Pueblo, Colorado on February 16, 2005, in which the airplane crashed and eight people died. The accident airplane had been operating in icing conditions, and the flightcrew had not activated the airframe ice protection system during approach, as was required for those operating conditions by the Airplane Flight Manual (AFM). The NTSB recommended that manufacturers and operators of pneumatic-deicing-boot-equipped airplanes be required to revise their AFM, operating manuals, and training programs to emphasize that leading-edge deicing boots should be activated as soon as the airplane enters icing conditions.

C. Authorities

1. Federal Aviation Administration

Title 14 CFR part 25 contains the U.S. airworthiness standards for type certification of transport category airplanes. These standards apply to airplanes manufactured within the U.S. and to airplanes manufactured in other countries and imported to the U.S. under a bilateral airworthiness agreement.

2. Joint Aviation Authorities

The Joint Airworthiness Requirements (JAR)-25 contain the airworthiness standards of the Joint Aviation Authorities (JAA) of Europe for type certification of transport category airplanes. Thirty-seven European countries accept airplanes type certificated to JAR–25 standards. These countries also accept airplanes manufactured in the U.S. that are type certificated to JAR–25 standards for export to Europe.

3. European Aviation Safety Agency

The European Aviation Safety Agency (EASA) was established by the European community to develop standards to ensure safety and environmental protection, oversee uniform application of those standards, and promote them internationally. EASA formally became responsible for certification of aircraft, engines, parts, and appliances on September 28, 2003. EASA has assumed most of the functions and activities of the JAA, including its efforts to harmonize the European airworthiness certification regulations with those of the U.S.

The JAR–25 standards have been incorporated into EASA's ''Certification Specifications for Large Aeroplanes'' (CS–25) in similar if not identical language. EASA's CS–25 became effective October 17, 2003.

D. Harmonization of U.S. Standards With Those of Other Countries

The airworthiness standards proposed in this NPRM were developed before EASA began operations. They were developed in coordination with the JAA, United Kingdom Civil Aviation Authority, and Transport Canada. None of these civil aviation authorities have initiated rulemaking to adopt the proposed standards.

E. Related Rulemaking Activity

A final rule titled ''Activation of Ice Protection'' was published on August 3, 2009.[9] It amends § 25.1419 by requiring a method to ensure timely activation of the airframe ice protection systems (IPS). It also adds requirements to reduce flightcrew workload associated with operation of an airframe IPS that operates cyclically, and to ensure that procedures for operation of an airframe IPS are included in the AFM. Those changes affect new airplane certification for flight in icing conditions. In contrast, this proposed rule is concerned with timely airframe IPS activation for in-service airplanes.

F. Advisory Material

In addition to this NPRM, the FAA has developed Advisory Circular (AC) 121.321, ''Compliance with the Requirements of § 121.321.'' That proposed AC would provide guidance

[1] FAA Inflight Aircraft Icing Plan, dated April 1997, is available in the Docket.

[2] Published in the **Federal Register**, December 8, 1997 (62 FR 64621).

[3] Section 25.1419, Ice Protection.

[4] 72 FR 44656 (August 8, 2007).

[5] 74 FR 38328 (August 3, 2009).

[6] 14 CFR 91.527, Operating in icing conditions; and § 135.227, Icing conditions: Operating limitations.

[7] 14 CFR 121.629(a), Operation in icing conditions and § 121.341, Equipment for operations in icing conditions.

[8] NTSB recommendation A–07–14 is available in the Docket and on the Internet at: *http://www.ntsb.gov/Recs/letters/2007/A07_12_17.pdf*.

[9] 74 FR 38328.

for one acceptable means, but not the only means, of demonstrating compliance with this proposed rule. The draft AC has been released concurrently with this NPRM. It is posted on the ''Aircraft Certification Draft Documents Open for Comment'' Web site, *http://www.faa.gov/aircraft/draft_docs.* The Web site will indicate the date comments are due.

II. Discussion of the Proposal

A. Safety Concern

The ARAC IPHWG, as a result of the FAA's tasking, reviewed icing events. The IPHWG found accidents and incidents where the flightcrew were either completely unaware of ice accretion on the airframe, or were aware of ice accretion but judged it not significant enough to warrant operation of the airframe IPS. The FAA agreed with the ARAC recommendation for rulemaking that would require that flightcrews have a clear means to know when to activate the airframe IPS.

B. Means To Address the Safety Concern

1. Airworthiness Directives

The FAA has issued airworthiness directives (AD) to address when to activate the airframe IPS on several types of airplanes. These ADs require activation of pneumatic deicing boots at the first signs of ice accretion on the airplane. This requirement relieves the pilot of the responsibility for determining whether the amount of ice accumulated on the wing warrants airframe IPS activation. But activation of the pneumatic deicing boots is still subject to the flightcrew's observation of ice accretions, and such observations can be difficult during times of high workload, during operations at night, or when clear ice has accumulated. The difficulties associated with observing ice accretions are applicable to *any* airframe IPS that relies on the flightcrew's observations for activating the system, not just pneumatic deicing boots, so those ADs are not adequate to address the safety concern that is the focus of this proposed rulemaking. The FAA has determined, however, that because the cruise phase of flight entails a lower workload than other phases of flight, activation of the deicing boots based on flightcrew observation of ice accretions during this phase of flight is acceptable.

2. A Primary Ice Detection System

The IPHWG concluded that installing a device to alert the flightcrew to activate the airframe IPS would be a better way to address the safety concern than solely relying on the flightcrew's observation of ice accretion to determine when to activate the IPS. The FAA has determined that a primary ice detection system would be one acceptable means to meet the objectives of this proposed rule. Such a system typically consists of two independent detectors (an advisory ice detection system typically has only one detector). A primary ice detection system has sufficient performance and reliability levels that the flightcrew does not need to monitor icing conditions. A primary ice detection system could either automatically activate the airframe IPS or indicate to the flightcrew when to activate the system. There are several types of airplanes currently in operation that have primary ice detection systems installed, and the FAA agrees with the IPHWG determination that these airplanes already meet the desired level of safety.

3. An Advisory Ice Detection System and Visual Cues

An advisory ice detection system typically consists of one detector. Such a system does not have sufficient reliability to be the primary means of determining when the airframe IPS must be activated. With an advisory ice detection installed, it is still the flightcrew's responsibility to make the determination to activate the IPS. However, the advisory ice detection system would provide a much higher level of safety than visual cues alone and would mitigate the effects of human sensory limitations and inadequate attention resulting from workload.

An advisory ice detection system, in conjunction with visual cues that pilots can use to identify icing accumulation, would also be an acceptable means of alerting the flightcrew to activate the airframe IPS and meet the objectives of this proposed rule. If this method is used, however, its acceptability would be contingent upon the following:

- The advisory ice detection system would indicate to the crew when icing conditions exist.
- The flightcrew would activate the airframe IPS based on either their observation of the first sign of ice accretion or an alert from the advisory ice detection system indicating the presence of ice, whichever occurs first. This activation would not depend on determining the thickness of the accretion.

4. Operating the Ice Protection System Continuously

The FAA agrees with the IPHWG conclusion that an acceptable means of meeting the objectives of this proposed rule would be to require operating the airframe IPS continuously whenever the airplane is operating in conditions conducive to airframe icing, except in the cruise phase of flight (discussed below). To accomplish this, the flightcrew would activate the airframe IPS in response to a specific air temperature threshold and the presence of visible moisture. Because ambient temperature is indicated by flight deck instruments and the flightcrew can readily observe visible moisture, deciding when to initiate the system would require little increased effort on the part of the flightcrew.

C. The Proposed Rule

The proposed rule would be applicable to airplanes with a certificated maximum takeoff weight (MTOW) less than 60,000 pounds. Proposed § 121.321 would require that, 24 months after the effective date of the final rule, no person may operate an airplane with a certificated MTOW less than 60,000 pounds in conditions conducive to airframe icing unless the airframe IPS is operated in accordance with the proposed section. To address flight in icing conditions, proposed § 121.321(a) would require one of the following:

(1) A primary ice detection system and automatic or manual activation of the airframe IPS upon notice from the primary ice detection system that activation is necessary, as well as initiation of any other operational procedures for operating in icing conditions specified in the AFM; or

(2) Both visual cues and an advisory ice detection system, either of which enable the flightcrew to determine when the airframe IPS must be activated, activation of the primary airframe IPS when either of those means indicate it is necessary, and initiation of any other operational procedures for operating in icing conditions specified in the AFM; or

(3) If the airplane is not equipped to comply with either of the above two options, activation of the airframe IPS and initiation of approved procedures for operating in airframe icing conditions during climb, holding, maneuvering for approach and landing, and any other operation at approach or holding airspeeds, when in conditions conducive to airframe icing. However, if this option is specifically prohibited in the AFM, then proposed § 121.321(b) would require either (1) or (2) above.

Proposed § 121.321(a) would also require that if option (a)(3) is selected, the airframe IPS must be activated and operated at the first sign of ice formation anywhere on the airplane during any

other phase of flight besides climb, holding, and maneuvering for approach and landing, except where the AFM specifies that the airframe IPS should not be used.

Proposed § 121.321(c) would require that procedures for operating the airframe IPS be included in the AFM for airplanes that comply with proposed § 121.321(a)(1) or (a)(2). For airplanes that comply with proposed § 121.321(a)(3), the procedures must be in the AFM or in the air carrier's operations manual required by § 121.133.

Proposed § 121.321(d) would require the AFM or the manual required by § 121.133 to address initial activation, operation after initial activation, and deactivation of the airframe IPS. This proposed provision would allow continuous operation, automatic cycling, or manual cycling of the airframe IPS, depending on the design of the airplane's airframe IPS. For airplanes equipped with ice detection systems, this proposed paragraph would require cycling, either manual or automatic, each time ice is detected.

Certain IPSs use fluids that lower the freezing point of water. Unlike other IPSs, fluid systems have a limited duration of ice protection that is related to the capacity of fluid that the airplane can carry. These systems need additional evaluation. Therefore, for airplanes equipped with fluid ice protection systems to comply with proposed § 121.321, two issues must be addressed:

- *System design.* The system design must have adequate fluid capacity to ensure that the airplane/flightcrew can comply with this proposed rule.
- *AFM Dispatch Instructions.* The AFM must contain information to ensure that the system is serviced with the appropriate amount of fluid for each flight to ensure that the airplane/flightcrew can comply with this proposed rule.

For airplanes without ice detection systems, this proposed rule also allows manual cycling based on time intervals. Recently adopted 14 CFR 25.1419(g) requires transport category airplanes to be equipped with an ice detection system that alerts the pilot when to activate the airframe IPS if the ice protection is not either operated continuously in icing conditions or automatically activated. However, it does not allow manual cycling of the IPS based on time intervals. Therefore, manual cycling based on time intervals would be allowed only for airplanes without § 25.1419(g) in their certification basis. This would allow the existing airplane fleet to comply with this proposed rule without modifying the airframe IPS.

The modifications to airplanes to install ice detection systems to comply with this proposed rule would likely be complex. They would require thorough testing and analysis to ensure that the ice detection systems perform their intended function when installed on the airplane. Therefore, the FAA proposes in § 121.321(e) that these modifications would require approval through an amended or supplemental type certificate in accordance with 14 CFR part 21. In the normal course of equipment approval, any revised procedures and/or limitations associated with such modifications would also need to be addressed in the AFM under §§ 23.1581 or 25.1581.

D. Affected Airplanes

The ARAC's recommendation was limited to airplanes with a certificated MTOW of less than 60,000 lbs. A limited analysis of past icing events revealed that airplanes with certificated MTOWs greater than 60,000 lbs. have not experienced accidents due to in-flight icing, while airplanes with lower certificated MTOWs have an event history. Since certificated MTOW is simple to discern, well-understood, and will address airplanes that have had an event history, the IPHWG recommended it be adopted as the discriminating parameter and the FAA agrees.

The FAA requests comment on whether this proposed rule, if adopted, should be applied to airplanes larger than 60,000 pounds MTOW. For example, initial indications were that icing may have been implicated in a recent accident near Buffalo, New York, involving an airplane with a MTOW slightly greater than 60,000 pounds. While subsequent investigation indicates that icing was not implicated in this accident, if this rule applied to airplanes with a MTOW of 66,000 pounds, the accident airplane would have been subject to its requirements.[10]

E. Phase of Flight Considerations

1. Approach, Landing, Go-Around and Holding Phases of Flight

The IPHWG accident and incident review revealed that the phases of flight that presented the greatest risk from airframe icing were those associated with low speed and relatively high angle-of-attack operation (that is, approach, landing, go-around, and holding). With respect to these phases of flight, for airplanes not equipped with primary or advisory ice detection systems, the IPHWG determined that the following factors substantiated the need for requiring activation of the airframe IPS while in conditions conducive to icing:

- An overall majority of events which originated in these phases of flight;
- A sufficient number of events in which the flightcrew was confirmed to be unaware of ice accretion, supplemented by a substantial number of events in which flightcrew awareness of ice accretion was unknown;
- High cockpit workload resulting in low residual flightcrew attention;
- Frequent maneuvering, resulting in little opportunity for the flightcrew to detect aerodynamic degradations due to icing; and
- Maneuvering at relatively high angles of attack.

The FAA concurred with this analysis.

2. Cruise Phase

In contrast with the phases of flight discussed previously, for the cruise phase of flight in airplanes not equipped with primary or advisory ice detection systems, the IPHWG determined that it would not be appropriate to require activation of the airframe IPS while in conditions conducive to icing. Rather, the IPHWG recommended that the airframe IPS be activated at the first sign of ice accretion, and operated thereafter, using an automatic system or manually based on time, until after the airplane departs the conditions conducive to icing.

The IPHWG reviewed accidents and incidents that originated during the cruise phase of flight.[11] For the events with sufficient data available for analysis, the IPHWG found that flightcrews were aware of the ice accretion, but did not activate the IPS. Waiting for a specific thickness of ice to accrete before activating the IPS was consistent with the common activation procedure at that time.

Flightcrew workload is lighter during the cruise phase of flight. This may account for the flightcrews of the cruise phase accident and incident airplanes being aware of the ice accretion, as compared to events which have occurred in other phases of flight, when workload was high and flightcrews were not aware of ice accretions.

The IPHWG also considered the human factors aspect of requiring

[10] The accident airplane was equipped with an ice detection system that would enable an operator to comply with this proposed rule. Preliminary reports indicate that the ice protection system was operating at the time of the accident.

[11] Cruise is the phase in which an altitude or flight level is maintained during en route level flight.

flightcrews to activate the IPS during the cruise phase of flight. Activation of the IPS based on conditions conducive to ice accretion, even if ice is not actually accreting, is a conservative way to ensure that the IPS is operated in a timely manner. For the cruise phase of flight, however, the IPHWG considered that flightcrews would more reliably activate the airframe IPS at the first sign of icing than they would if required to activate the system and keep operating it for long periods without any indication of ice accretion.

The IPHWG determined the following factors substantiated the acceptability of requiring activation of the airframe IPS based on flightcrew observation of airframe ice accretions during the cruise phase of flight:

- No accidents or incidents during cruise where the flightcrew were unaware of ice accretions on the airframe;
- Low cockpit workload, resulting in sufficient residual flightcrew attention to detect ice accretions;
- Infrequent maneuvering, resulting in opportunity for the flightcrew to detect aerodynamic degradations due to icing; and
- Human factors concerns about requiring flightcrews to operate the IPS for extended periods of time when there may not be any ice on the airframe.

The FAA agrees with this analysis. Therefore, for the cruise phase of flight, this proposed rule is written to require IPS activation and use at the first sign of ice on the airplane and thereafter, according to the procedures in the AFM or in the manual required by § 121.133. This may be accomplished with an automatic system, or the IPS may be cycled manually based on time.

3. Takeoff Phase of Flight

The IPHWG excluded the takeoff phase of flight from its recommendation for rulemaking because the accidents related to that phase of flight were caused by improper ground deicing/anti-icing procedures. Ground deicing and anti-icing procedures have been addressed by Amendment 121–253 to 14 CFR (121.629(b) and (c), ''Operating in icing conditions''). Again, the FAA agreed with this recommendation.

F. Temperature

In some cases, airframe manufacturers have specified definitions of icing conditions for some airplane types. In the absence of type-specific information, the IPHWG concluded that conditions conducive to airframe icing would exist in flight at an outside air temperature at or below 2 °C in clouds or precipitation.

Engine IPSs are commonly operated at or below a static air temperature of 5 °C or a total air temperature of 10 °C. This temperature is different from the 2 °C recommended by ARAC for this proposal. The FAA believes that using a common temperature for activation of both the engine and the airframe IPSs would reduce crew workload and decrease the probability of the flightcrew not noticing when the temperature has dropped to 2 °C. The FAA therefore proposes to identify conditions conducive to airframe icing in this proposed rule as visible moisture at or below a static air temperature of 5 °C or a total air temperature of 10 °C.

The FAA agrees with the IPHWG that flightcrews must be given a clear means to know when to activate the airframe IPS. In the past, many airplanes have had procedures requiring activation only after a substantial accumulation of ice. This proposed rule would require that ice detection systems be installed, or that ice protection systems be manually activated in conditions conducive to icing in most phases of flight. In the cruise phase, the airframe IPS would be activated at the first sign of ice accumulation anywhere on the airplane. To ensure timely activation of the airframe IPS, the FAA proposes to amend the current part 121 regulations as recommended by the IPHWG, except for the change to the temperature considered conducive to airframe icing, as discussed above.

G. Technology Available To Comply With Proposed Rule

The FAA and IPHWG reviewed the current state of ice detector technology and found viable means of compliance with the proposed rule. There are several methods available to reliably alert the flightcrew to activate the airframe IPS. This technology has been approved for use on airplanes to alert or advise the pilot of ice accretion, or as the primary means of determining when the airframe IPS should be activated.

H. Differences From the ARAC Recommendation

Besides the change in the air temperatures proposed for defining conditions conducive to icing, which is discussed earlier in this document, the FAA made several other changes to the rule recommended by ARAC through the IPHWG. One change was a rewording of the ARAC-recommended rule to clarify its applicability to the airframe IPS. The rule language recommended by ARAC did not specify applicability only to airframe IPSs.

The FAA made another change because, although the ARAC recommendation provided three ways to ensure that the flightcrew would know when to activate the airframe IPS, for at least one of them it did not specify when the flightcrew must activate the airframe IPS. The agency has revised the ARAC wording to clarify when the flightcrew must activate the airframe IPS. The FAA also revised the ARAC-recommended rule to specify items that must be included in the AFM or the manual required by § 121.133. These revisions are considered minor changes to the ARAC's recommendation.

I. Airworthiness Directives

The requirements proposed in this NPRM to some extent overlap and duplicate existing requirements in certain airworthiness directives (ADs). As discussed above, these ADs require revisions to the AFM for certain airplanes to provide information and instructions to pilots for operating in icing conditions. This proposed rule would also require AFM revisions to provide information for operating in icing conditions for those same airplanes, among others. However, the operating information required by this proposal would be more detailed and specific to the individual airplane models than the information required by the ADs and, in some cases, the proposed instructions to the pilots would be more stringent than those required by the ADs.

If this proposed rule is adopted, the FAA will revise those ADs to incorporate the new requirements. It is necessary to retain those ADs because this proposed rule would apply only to part 121 operations. The ADs, on the other hand, apply to all operations of the subject airplanes. Rescinding the ADs would allow reintroduction of the unsafe condition (that is, delayed activation of IPSs) into operations conducted under other parts.

The list of those ADs appears in Appendix 2 of the preamble of this NPRM.

J. Level of Approval

For an amended or supplemental type certificate used to comply with this proposed rule, among the pertinent rules that apply to any modification are §§ 23.1301 or 25.1301 (''Equipment—Function and installation''). Paragraph (a) of these rules requires that the equipment ''be of a kind and design appropriate to its intended function.'' This proposed rule would not by itself impose new airworthiness standards. However, to meet this ''intended function'' requirement, an applicant seeking approval of design changes to enable operators to comply with this

proposed rule would have to show that the airplane, as modified, would, in fact, comply with this proposed rule. This requirement is consistent with the FAA's practice of compliance findings for the digital flight data recorder requirements of § 121.343 (Amendment No. 121–238, ''Extension of Compliance Data for Installation of Digital Flight Data Recorders on Stage 2 Airplanes'').[12]

This proposed rule is not intended to disapprove an existing part 23 or part 25 approval for flight in icing conditions. It would not require re-certification of an airplane for flight in conditions conducive to airframe icing.

K. Compliance Time

This notice proposes a two-year compliance time after the effective date of the final rule. That compliance time is based on the time required to approve new designs and install new equipment. For some airplanes, it may be possible to comply through AFM revisions alone, which could be accomplished quickly. However, some airplanes may need to go through a more involved certification process, so the longer compliance time of two years was chosen.

L. Reasons for Not Proposing Part 91 and Part 135 Operating Rules

Part 121 covers all scheduled air carrier operations of airplanes with ten or more passenger seats and scheduled air carrier operations of all turbojets regardless of size. The ''hub and spoke'' route network of many air carriers can concentrate large numbers of part 121 operations within a single weather system. With occasional exceptions under § 121.590, part 121 operators are constrained to using only airports certificated under 14 CFR part 139. A given part 121 operator is generally further constrained to use of only those part 139 airports listed in its Operations Specifications.

Flightcrews of part 121 operators generally do not carry approach charts for airports not listed in their Operations Specifications. During busy traffic periods, lengthy vectoring or holding for landing sequencing is common at these airports. When this vectoring results in exposure to undesirable conditions such as icing, the flightcrews' options (except in case of emergency) are generally limited to tolerating the exposure or diverting to a pre-planned part 139 alternate airport listed in their Operations Specifications.

The FAA considered 14 CFR part 91 and part 135 operations. Most aircraft operated under parts 91 and 135 have been subjected to the ADs discussed above regarding activation of their de-icing boots at first signs of ice accretion. Those ADs apply to all aircraft with pneumatic de-icing boots that are certificated for flight in known icing conditions. The ADs addressing boot activation resulted from an FAA review of operating procedures and certification bases on the affected aircraft. As a result of this aircraft review and issuance of ADs, a level of safety for initial ice accretions has been established.

Part 91 and part 135 aircraft are typically smaller-scale aircraft than those operated under part 121. This smaller scale provides easier monitoring of ice accretions. Part 91 and part 135 operators are also not limited to part 139 airports only, and in fact, often avoid them because of the factors discussed above. Even when such operations include part 139 airports, operators may divert to any of a number of suitable airports near the scheduled part 139 airport. Consequently, part 91 and part 135 operators often operate in a lower air traffic density that results in fewer holding delays and significantly more routing options in icing conditions.

The level of safety provided by the combination of the ADs, the review of the operating procedures, the ability to more readily evaluate ice accretions, and tactical flexibility provide a level of safety comparable to other part 91 and part 135 operational requirements. The proposed part 121 rule change will enhance the level of safety for the segment of the traveling public that has the greatest exposure and subsequent risk associated with flight in icing conditions. Therefore, the IPHWG concluded that rules for parts 91 and 135 are not required at this time, and the FAA agrees.

M. Applicability to Part 23 and Part 25 Airplanes

The icing accident and incident database developed by the IPHWG showed that all the relevant accidents and incidents occurred on airplanes with a certificated MTOW of less than 60,000 pounds. Based on this finding, the FAA is proposing a part 121 rule that is applicable to those airplanes. Since the proposed rule addresses the safety concerns of flight in icing conditions for smaller airplanes (those with a certificated MTOW less than 60,000 pounds), the rule would be applicable to both part 23 and part 25 airplanes that are operated under part 121.

N. Discussion of Working Group Non-Consensus Issues

The IPHWG did not reach consensus on several issues related to this rulemaking proposal. A summary of these issues can be found in the docket. The complete working group discussion of the dissenting opinions is also available in the docket for this rulemaking.

O. Related ARAC Recommendations

The ARAC has submitted the following additional rulemaking recommendations to the FAA to improve the safety of operations in icing conditions. The FAA has not yet completed deliberations on these recommendations, but they may lead to future rulemaking.

- A part 121 recommendation to require certain airplanes to exit icing conditions.
- Parts 25 and 33 recommendations to address ice protection activation and operations in supercooled large droplet, mixed phase, and glaciated icing conditions.

Rulemaking Notices and Analyses

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. The FAA has determined that there are no new information collection requirements associated with this proposed rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic

[12] Docket No. 27532, published in the **Federal Register** on May 24, 1994 (59 FR 26896).

impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or Tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule. The FAA suggests readers seeking greater detail read the full regulatory evaluation, a copy of which the agency has placed in the docket for this rulemaking.

In conducting these analyses, the FAA has determined that this proposed rule: (1) Has benefits that justify its costs, (2) is not an economically ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, (3) has been designated as a ''significant regulatory action'' by the Office of Management and Budget, because it harmonizes U.S. and international standards, and is therefore ''significant'' under DOT's Regulatory Policies and Procedures; (4) would not have a significant economic impact on a substantial number of small entities; (5) would not create unnecessary obstacles to the foreign commerce of the United States; and (6) would not impose an unfunded mandate on State, local, or Tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

Total Benefits and Costs of This Rule

The estimated cost of this proposed rule is about $5.5 million ($2.9 million in seven percent present value terms). The estimated potential benefits of averting one accident and four fatalities are about $17.3 million ($12.6 million in seven percent present value terms).

Who Is Potentially Affected by This Rule?

Operators of transport category airplanes with a maximum take-off weight under 60,000 pounds operating under 14 CFR part 121.

Assumptions

(1) The base year is 2008.

(2) The proposal will become final in December 2010.

(3) The compliance date of the rule is 24 months from the effective date of the final rule.

(4) The analysis period is 20 years.

(5) The value of an averted fatality is $5.8 million.[13]

(6) The FAA used $79.93 hourly rate for a mechanic/technician working for an airplane manufacturer or modifier and the $76.01 hourly rate for an engineer working for an airplane manufacturer or modifier. These hourly rates include overhead costs.

(7) The FAA assumed whenever various compliance options are available to the operators, the minimal cost option will always be chosen.

Benefits of This Rule

The benefits of this proposed rule consist of the value of fatalities, loss of airplanes, and investigation cost averted from avoiding accidents involving transport category airplanes with a maximum take-off weight under 60,000 pounds operating under 14 CFR part 121. The FAA estimates that one accident and four fatalities could potentially be avoided, over the analysis period, by adopting the proposed rule. The value of an averted fatality is assumed to be $5.8 million. A series of airworthiness directives (AD) were issued for airplanes with pneumatic de-icing boots to activate the systems at the first sign of ice accretion. Due to the similarity of requirements between the ADs and this proposal, the FAA accounted for the effects of recent ADs by reducing the estimated benefits. Over the analysis period, the potential benefits of the proposed rule would be $17.3 million ($12.6 million in seven percent present value terms).

Estimated Costs of This Proposal

Using Ice Protection Harmonization Working Group (IPHWG) airplane compliance costs, the FAA estimates the total undiscounted cost of the proposed rule, over the analysis period, to be about $5.5 million. The seven percent present value cost of this proposed rule over the analysis period is about $2.9 million. The agency estimates the initial costs for a new certification program to operate the deicing boots based on visible moisture and temperature are about $385,000. The FAA estimates the operating and training costs are about $5.1 million.

[13] ''Treatment of the Economic Value of a Statistical Life in Departmental Analysis'', February 5, 2008, U.S. Department of Transportation Memorandum.

Alternatives Considered

Alternative One

The alternative of maintaining the status quo would not address the NTSB recommendations and the FAA's In-flight Icing Plan. The FAA rejected this alternative because the proposed rule would enhance passenger safety and prevent icing-related accidents for airplanes with a certificated MTOW less than 60,000 pounds. As it stands, the proposed rule is the reasoned result of the FAA Administrator carrying out the FAA's In-flight Aircraft Icing Plan.

Alternative Two

Alternative Two would be to issue more ADs requiring a means to know when to activate the airframe IPS. The FAA has already issued ADs to address the activation of airframe IPSs.

An evaluation of accidents and incidents led to the conclusion that the ADs do not provide adequate assurance that the flightcrew will be made aware of when to activate the airframe IPS. Because this problem is not unique to particular airplane designs, but exists for all airplanes that are susceptible to the icing hazards described previously, it is appropriate to address this problem through an operational rule, rather than by ADs.

Alternative Three

Alternative Three is the proposed rule. The FAA's judgment is that this is the most viable option, since the proposed rule will increase the safety of the flying public by reducing icing-related accidents in the future in the least costly way.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.'' 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 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 RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 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.

The FAA believes that this proposed rule would not have a significant impact on a substantial number of small entities for the following reasons.

On October 31, 1994, at 1559 Central Standard Time, an Avions de Transport Regional Model ATR 72, operated by Simmons Airlines, Incorporated, and doing business as American Eagle flight 4184, crashed during a rapid descent after an uncommanded roll excursion. The FAA, Aerospatiale, the French Direction Générale de l'Aviation Civile, Bureau Enquete Accident, National Aeronautics and Space Administration (NASA), National Transportation Safety Board, and others have conducted an extensive investigation of this accident.

This accident and the investigation prompted the FAA to initiate a review of aircraft in-flight icing safety and determine changes that could be made to increase the level of safety. The proposed rule addresses NTSB recommendation A–07–14. The proposed rule is also one of the items listed in the FAA's In-flight Aircraft Icing Plan, April 1997. The Icing Plan details the FAA's plans for improving the safety of airplanes when they are operated in icing conditions.

This NPRM specifically applies to 14 CFR part 121 operators of airplanes that have a certificated MTOW of less than 60,000 pounds. The FAA determined which small entities could be affected by associating airplanes with a certificated MTOW of less than 60,000 pounds with part 121 operators. For this section of the analysis, the agency considered only those operators meeting the above criteria that have 1,500 or fewer employees.

To estimate the number of affected airplanes, the FAA analyzed the current active fleet of airplanes, a forecast of airplanes affected by the proposed rule entering the fleet, and a forecast of the retired affected airplanes exiting the fleet during the analysis period.

The FAA also generated a list of all U.S. operated civilian airplanes operating under 14 CFR part 121. Each airplane group was matched with its current (as of September 2008) MTOW and average age through the use of the BACK FleetPCTM database. All airplanes with an MTOW greater than 60,000 pounds were eliminated.

Using industry sources, the FAA determined which airplanes currently had primary or advisory icing detection systems. Airplanes equipped with either a primary or advisory ice detection systems are in compliance, and this proposal would impose no costs to operators of these airplanes. All turbojets affected by this proposal are in compliance, as these airplanes are equipped with either an approved primary ice detection system or advisory ice detection systems.

For the base case, the FAA used the FAA Aerospace Forecast, 2008–2025 (Table 26) for the part 121 regional turboprop retirement forecast and determined the number of turboprop airplanes that would retire over the analysis interval. The report does not forecast turboprop airplanes by equipment type. In estimating the costs, the FAA retires the older active airplanes affected by the proposal first.

Using information provided by the World Aviation Directory, SEC filings, and the Internet, scheduled and non-scheduled commercial operators that are subsidiary businesses of larger businesses were eliminated from the database. An example of a subsidiary business is Continental Express, Inc., which is a subsidiary of Continental Airlines. Using information provided by the U.S. Department of Transportation Form 41 filings, the World Aviation Directory, Winter 2000, and Dunn and Bradstreet's company databases, all businesses with more than 1,500 employees were eliminated. For the remaining businesses, the FAA obtained company revenue from these sources when the operator's revenue was public. Following this approach, six small entities operate airplanes that would be affected by this proposal.

The FAA estimated the cost of compliance per airplane and multiplied this cost by the total fleet of affected airplanes per operator, over the analysis period, to obtain the total compliance cost by small entity. The non-recurring costs, for updating the AFM for each major airplane group, were distributed equally among the airplanes in each major airplane group. These non-recurring costs occurred in year four of the analysis period. Note the more airplanes in a major airplane group, the less expensive, per airplane, the non-recurring costs are to the operators of those airplanes. In addition to the AFM cost, the additional incremental recurring costs include boot maintenance, replacement, and installation labor. These recurring costs started in year five and continued either until the airplane retired or through the end of the analysis period.

The degree to which small air operator entities can ''afford'' the cost of compliance is determined by the availability of financial resources. The initial implementation costs of the proposed rule may be financed, paid for using existing company assets, or borrowed. As a proxy for the firm's ability to afford the cost of compliance, the FAA calculated the ratio of the total annualized cost of the proposed rule as a percentage of annual revenue. This ratio is a conservative measure as the annualized value of the 20-year total compliance cost is divided by one year of annual revenue (no growth in revenues is assumed). No small business operator potentially affected by this proposed rule incurred costs greater that one percent of their annual revenue. The following table shows the base case economic impact on the small entity air operators affected by this proposed rule.

TABLE 1—ECONOMIC IMPACT ON SMALL ENTITY OPERATORS—BASE CASE

Year	Small operator A	Small operator B	Small operator C	Small operator D	Small operator E	Small operator F
1	$0	$0	$0	$0	$0	$0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	59,717	302,084	302,084	37,540	15,591	92,992
5	58,617	87,925	87,925	7,327	0	29,308
6	58,617	73,271	80,598	7,327	0	29,308
7	58,617	65,944	65,944	0	0	21,981
8	58,617	51,290	51,290	0	0	14,654

TABLE 1—ECONOMIC IMPACT ON SMALL ENTITY OPERATORS—BASE CASE—Continued

Year	Small operator A	Small operator B	Small operator C	Small operator D	Small operator E	Small operator F
9	58,617	36,636	36,636	0	0	7,327
10	58,617	29,308	29,308	0	0	0
11	58,617	21,981	21,981	0	0	0
12	58,617	14,654	14,654	0	0	0
13	58,617	7,327	14,654	0	0	0
14	58,617	7,327	7,327	0	0	0
15	58,617	0	7,327	0	0	0
16	58,617	0	7,327	0	0	0
17	58,617	0	0	0	0	0
18	51,290	0	0	0	0	0
19	43,963	0	0	0	0	0
20	36,636	0	0	0	0	0
Total	953,623	697,748	727,056	52,194	15,591	195,571
Annualized Costs	90,012	65,860	68,627	4,927	1,472	18,460
Annual Revenue	30,000,000	76,348,000	100,000,000	78,148,212	141,000,000	18,200,000
Percentage	0.30%	0.09%	0.07%	0.01%	0.00%	0.10%

The FAA conducted a sensitivity analysis [14] where the agency relaxed the retirement assumption from the base case. For this sensitivity analysis, the FAA used the FleetPCTM database and determined turboprops are retired from U.S. certificated service at an average age (mean) of 26.4. In the base case, the FAA assumes the active affected airplanes start retiring in year one and continue to retire at the annual turboprop retirement rate estimated by the FAA forecasting group.[15] In the sensitivity analysis, the agency assumes each of the small operator's airplanes are retired when the average age for the fleet of this airplane type reaches the average retirement age of 26.4 years. For all but one operator, the sensitivity analysis results in slightly higher costs. The following table shows the results of the sensitivity analysis the FAA performed for the economic impact on the small entity air operators affected by this proposed rule.

TABLE 2—SENSITIVITY ANALYSIS ECONOMIC IMPACT ON SMALL ENTITY OPERATORS WHEN AIRPLANES ARE RETIRED AT 26.4 YEARS

Year	Small operator A	Small operator B	Small operator C	Small operator D	Small operator E	Small operator F
1	$0	$0	$0	$0	$0	$0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	59,494	338,163	338,163	62,623	37,573	112,716
5	58,617	197,832	197,832	36,636	21,981	65,944
6	58,617	197,832	197,832	36,636	21,981	65,944
7	58,617	197,832	197,832	36,636	0	65,944
8	58,617	197,832	197,832	36,636	0	65,944
9	58,617	197,832	197,832	36,636	0	65,944
10	58,617	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
Total	411,195	1,327,321	1,327,321	245,800	81,536	442,435
Annualized Costs	38,813	125,286	125,286	23,201	7,696	41,761
Annual Revenue	30,000,000	76,348,000	100,000,000	78,148,212	141,000,000	18,200,000
Percentage	0.13%	0.16%	0.13%	0.03%	0.01%	0.23%

[14] A sensitivity analysis is the study of how the variation (uncertainty) in the output of a mathematical model can be apportioned, qualitatively or quantitatively, to different sources of variation in the input of a model.

[15] FAA Statistical and Forecast Branch, APO–110—FAA Aerospace Forecast, 2008–2025, Table 26.

For both the base case and sensitivity analysis retirement model scenarios, the FAA calculated no small business operator potentially affected by this proposed rule would incur costs greater than one percent of their annual revenue. Therefore the FAA certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

International Trade Impact Analysis

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA notes the purpose is to ensure the safety of the American public, and has assessed the effects of this proposed rule to ensure it does not exclude imports that meet this objective. As a result, this proposed rule is not considered as creating an unnecessary obstacle to foreign commerce. It has been determined that this proposed rule would respond to a domestic safety objective and is not considered an unnecessary obstacle to trade.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) 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 (in 1995 dollars) in any one year by State, local, and Tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a ''significant regulatory action.'' The FAA currently uses an inflation-adjusted value of $136.1 million in lieu of $100 million. This proposed rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The agency determined that this action would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore would not have federalism implications.

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in Title 14 of the CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions. Because this proposed rule would apply to airplanes operating in Alaska, it could, if adopted, affect intrastate aviation in Alaska. The FAA, therefore, specifically requests comments on whether there is justification for applying the proposed rule differently in intrastate operations in Alaska.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined that this proposed rulemaking action qualifies for the categorical exclusion identified in paragraph 4(j) and involves no extraordinary circumstances.

Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this NPRM under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a ''significant energy action'' under the executive order because, while it is defined as ''significant'' under DOT's Regulatory Policies and Procedures Executive Order 12866 because it harmonizes U.S. aviation standards with those of other civil aviation authorities, it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

Plain English

Executive Order 12866 (58 FR 51735, Oct. 4, 1993) requires each agency to write regulations that are simple and easy to understand. The FAA invites your comments on how to make these proposed regulations easier to understand, including answers to questions such as the following:

- Are the requirements in the proposed regulations clearly stated?
- Do the proposed regulations contain unnecessary technical language or jargon that interferes with their clarity?
- Would the proposed regulations be easier to understand if they were divided into more (but shorter) sections?
- Is the description in the preamble helpful in understanding the proposed regulations?

Please send your comments to the address specified in the **ADDRESSES** section of this preamble.

Additional Information

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The agency also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, please send only one copy of written comments, or if you are filing comments electronically, please submit your comments only one time.

The FAA will file in the docket all comments received, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the agency will consider all comments received on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The agency may change this proposal in light of the comments received.

Proprietary or Confidential Business Information

Do not file in the docket information that you consider to be proprietary or confidential business information. Send or deliver this information directly to the person identified in the **FOR FURTHER INFORMATION CONTACT** section of this document. You must mark the

information that you consider proprietary or confidential. If you send the information on a disk or CD ROM, mark the outside of the disk or CD ROM and also identify electronically within the disk or CD ROM the specific information that is proprietary or confidential.

Under 14 CFR 11.35(b), when the FAA is aware of proprietary information filed with a comment, the agency does not place it in the docket. The FAA holds it in a separate file to which the public does not have access, and the agency places a note in the docket that the FAA has received it. If the agency receives a request to examine or copy this information, the FAA treats it as any other request under the Freedom of Information Act (5 U.S.C. 552). The agency processes such a request under the DOT procedures found in 49 CFR part 7.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visiting the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies/;* or

3. Accessing the Government Printing Office's Web page at *http://www.gpoaccess.gov/fr/index.html.*

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

You may access all documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, from the Internet through the Federal eRulemaking Portal referenced in paragraph (1).

Appendix 1 of the Preamble

Definition of Terms Used in the Preamble of This NPRM

For purposes of the preamble of this NPRM, the following definitions are applicable.

a. *Advisory ice detection system*—A system that advises the flightcrew of the presence of ice accretion or icing conditions. Both primary ice detection systems and advisory ice detection systems can either direct the pilot to manually activate the IPS or provide a signal that automatically activates the IPS. However, because it has lower reliability than a primary system, an advisory ice detection system can only be used in conjunction with other means (most commonly, visual observation by the flightcrew) to determine the need for, or timing of, activating the anti-icing or deicing system. With an advisory ice detection system, the flightcrew is responsible for monitoring icing conditions or ice accretion as defined in the Airplane Flight Manual (AFM), typically using total air temperature and visible moisture criteria or visible ice accretion. With an advisory ice detection system, the flightcrew is responsible for activating the anti-icing or deicing system(s).

b. *Airframe icing*—Ice accretion on the airplane, except for on the propulsion system.

c. *Anti-icing*—Prevention of ice accretions on a protected surface, either by:

- Evaporating the impinging water, or
- Allowing the impinging water to run back and off the protected surface or freeze on non-critical areas.

d. *Automatic cycling mode*—A mode of operation of the airframe de-icing system that provides repetitive cycles of the system without the need for the pilot to select each cycle. This is generally done with a timer, and there may be more than one timing mode.

e. *Conditions conducive to airframe icing*—Visible moisture at or below a static air temperature of 5 °C or total air temperature of 10 °C, unless the approved Airplane Flight Manual provides another definition.

f. *Deicing*—The removal or the process of removal of an ice accretion after it has formed on a surface.

g. *Ice protection system (IPS)*—A system that protects certain critical aircraft parts from ice accretion. To be an approved system, it must satisfy the requirements of § 23.1419 or § 25.1419 and other applicable requirements.

h. *Primary ice detection system*—A detection system used to determine when the IPS must be activated. This system announces the presence of ice accretion or icing conditions, and it may also provide information to other aircraft systems. A primary *automatic* system automatically activates the anti-icing or deicing IPS. A primary *manual* system requires the flightcrew to activate the anti-icing or deicing IPS upon indication from the primary ice detection system.

i. *Reference surface*—The observed surface used as a reference for the presence of ice on the monitored surface. The reference surface may be observed directly or indirectly. Ice must occur on the reference surface before—or at the same time as—it appears on the monitored surface. Examples of reference surfaces include windshield wiper blades or bolts, windshield posts, ice evidence probes, the propeller spinner, and the surface of ice detectors. The reference surface may also be the monitored surface.

j. *Static air temperature*—The air temperature that would be measured by a temperature sensor that is not in motion in relation to that air. This temperature is also referred to in other documents as ''outside air temperature,'' ''true outside temperature,'' or ''ambient temperature.''

k. *Total air temperature*—The static air temperature plus the rise in temperature due to the air being brought to rest relative to the airplane.

l. *Visual cues*—Ice accretion on a reference surface that the flightcrew observes. The visual cue is used to detect the first sign of airframe ice accretion.

Appendix 2 of the Preamble

AIRWORTHINESS DIRECTIVES (AD) ADDRESSING OPERATIONS IN ICING CONDITIONS

Airplane model	Docket No.	Final Rule No.
Industrie Aeronautiche e Meccaniche, Model Piaggio P–180 Airplanes	99–CE–34–AD	2000–03–19 REM.
Pilatus Britten-Norman Ltd., BN–2T Series Airplanes	99–CE–35–AD	Withdrawn.
Pilatus Aircraft Ltd., Models PC–12 and PC–12/45 Airplanes	99–CE–36–AD	2000–11–14.
Partenavia Costruzioni Aeronauticas, S.p.A., Models AP68TP 300 ''Spartacus'' and AP68TP 600 ''Viator'' Airplanes.	99–CE–37–AD	2000–03–18.
Mitsubishi Heavy Industries, Ltd., MU–2B Series Airplanes	99–CE–38–AD	2000–02–25.
LET, a.s., Model L–420 Airplanes	99–CE–39–AD	Withdrawn.
British Aerospace, Jetstream Models 3101 and 3201 Airplanes	99–CE–40–AD	Withdrawn.
Harbin Aircraft Manufacturing Corp., Model Y12 IV airplanes	99–CE–41–AD	2000–02–26.
Empresa Brasileira de Aeronautica S.A. Airplanes (Embraer) Models EMB–110P1 and EMB–110P2 Airplanes.	99–CE–42–AD	2000–02–27.
Dornier Luftfahrt GmbH, 228 Series Airplanes	99–CE–43–AD	2000–06–02.
Bombardier Inc., DHC–6 Series Airplanes	99–CE–44–AD	2000–06–3.
The Cessna Aircraft Company, 208 Series	99–CE–45–AD	Withdrawn.
Raytheon Aircraft Company 90, 99, 100, 200, 300, 1900, and 2000 Series Airplanes	99–CE–46–AD	Withdrawn.
AeroSpace Technologies of Australia Pty Ltd., Models N22B and N24A	99–CE–47–AD	2000–02–28.
Short Brothers & Harland Ltd., Models SC–7 Series 2 and SC–7 Series 3 Airplanes	99–CE–48–AD	Withdrawn.
The New Piper Aircraft, Inc., PA–31 Series Airplanes	99–CE–49–AD	2000–06–06.

AIRWORTHINESS DIRECTIVES (AD) ADDRESSING OPERATIONS IN ICING CONDITIONS—Continued

Airplane model	Docket No.	Final Rule No.
The New Piper Aircraft, Inc. PA–42 Series Airplanes	2000–CE–20–AD	2000–14–08.
SOCATA—Groupe AEROSPATIALE, Model TBM 700 Airplanes	99–CE–50–AD	2000–02–29.
Twin Commander Aircraft Corporation, 600 Series Airplanes	99–CE–51–AD	2000–02–30.
Fairchild Aircraft Corporation, SA226 and SA227 Series Airplanes	99–CE–52–AD	2000–06–04.
The Cessna Aircraft Company, Models 425 and 441 Airplanes	99–CE–53–AD	Withdrawn.
Cessna Aircraft Company, Models 500, 550, and 560 Airplanes	99–NM–136–AD	Withdrawn.
Sabreliner Corporation, Models 40, 60, 70, and 80 Series Airplanes	99–NM–137–AD	99–19–03.
Gulfstream Aerospace, Model G–159 Series Airplanes	99–NM–138–AD	2000–10–11.
McDonnell Douglas Models DC–3 and DC–4 Series Airplanes	99–NM–139–AD	2000–04–03.
Mitsubishi Heavy Industries, Model YS–11 and YS–11A Series Airplanes	99–NM–140–AD	99–19–06.
Frakes Aviation, Model, G–73 (Mallard) and G–73T Series Airplanes	99–NM–141–AD	99–19–07.
Lockheed, Models L–14 and L–18 Series Airplanes	99–NM–142–AD	99–19–08.
Fairchild Models F27 and FH227 Series Airplanes	99–NM–143–AD	99–19–09.
Aerospatiale Models ATR–42/ATR–72 Series Airplanes	99–NM–144–AD	99–19–10.
Jetstream Model BAe ATP Airplanes	99–NM–145–AD	99–19–11.
Jetstream Model 4101 Airplanes	99–NM–146–AD	Withdrawn.
British Aerospace Model HS 748 Series Airplanes	99–NM–147–AD	99–19–13.
Saab Model SF340A/SAAB 340B/SAAB 2000 Series Airplanes	99–NM–148–AD	99–19–14.
CASA Model C–212/CN–235 Series Airplanes	99–NM–149–AD	99–19–15.
Dornier Model 328–100 Series Airplanes	99–NM–150–AD	99–19–16.
Lockheed Model 1329–23 and 1329–25 (Lockheed Jetstar) Series Airplanes	99–NM–151–AD	99–19–17.
de Havilland Model DHC–7/DHC–8 Series Airplanes	99–NM–152–AD	99–19–18.
Fokker Model F27 Mark 100/200/300/400/500/600/700/050 Series Airplanes	99–NM–153–AD	99–19–19.
Short Brothers Model SD3–30/SD3–60/SD3–SHERPA Series Airplanes	99–NM–154–AD	99–19–20.
Empresa Brasileira de Aeronautica, S.A., (EMBRAER) Model EMB–120 Series Airplanes.	97–NM–46–AD	97–26–06.

Notes
1. CE in the docket number indicates Part 23 airplanes. NM indicates Part 25 airplanes.
2. Some final rules were withdrawn based on data submitted by the manufacturers. The rationale for withdrawal can be found in the dockets.

List of Subjects in 14 CFR Part 121

Air carriers, Aircraft, Aviation safety, Safety, Transportation.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 121 of Title 14, Code of Federal Regulations, as follows:

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

1. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 44901, 44903–44904, 44912, 46105.

2. Add § 121.321 to read as follows:

§ 121.321 Operations in icing.

After [a date 24 months after the effective date of the final rule], no person may operate an airplane with a certificated maximum takeoff weight less than 60,000 pounds in conditions conducive to airframe icing unless it complies with this section. As used in this section, the phrase ''conditions conducive to airframe icing'' means visible moisture at or below a static air temperature of 5 °C or a total air temperature of 10 °C, unless the approved Airplane Flight Manual provides another definition.

(a) When operating in conditions conducive to airframe icing, compliance must be shown with paragraph (a)(1), or (a)(2), or (a)(3) of this section.

(1) The airplane must be equipped with a certificated primary airframe ice detection system.

(i) The airframe ice protection system must be activated automatically, or manually by the flightcrew, when the primary ice detection system indicates activation is necessary.

(ii) When the airframe ice protection system is activated, any other procedures in the Airplane Flight Manual for operating in icing conditions must be initiated.

(2) Visual cues of the first sign of ice formation anywhere on the airplane and a certificated advisory airframe ice detection system must be provided.

(i) The airframe ice protection system must be activated when any of the visual cues are observed or when the advisory airframe ice detection system indicates activation is necessary; whichever occurs first.

(ii) When the airframe ice protection system is activated, any other procedures in the Airplane Flight Manual for operating in icing conditions must be initiated.

(3) If the airplane is not equipped to comply with the provisions of paragraph (a)(1) or (a)(2) of this section, then the following apply:

(i) When operating in conditions conducive to airframe icing, the airframe ice protection system must be activated prior to, and operated during, the following phases of flight:

(A) Takeoff climb after second segment,

(B) En route climb,

(C) Go-around climb,

(D) Holding,

(E) Maneuvering for approach and landing, and

(F) Any other operation at approach or holding airspeeds.

(ii) During any other phase of flight, the airframe ice protection system must be activated and operated at the first sign of ice formation anywhere on the airplane, unless the Airplane Flight Manual specifies that the airframe ice protection system should not be used or provides other operational instructions.

(iii) Any additional procedures for operation in conditions conducive to icing specified in the Airplane Flight Manual or in the manual required by § 121.133 must be initiated.

(b) If the procedures specified in paragraph (a)(3)(i) of this section are specifically prohibited in the Airplane Flight Manual, compliance must be shown with the requirements of paragraph (a)(1) or (a)(2) of this section.

(c) Procedures necessary for safe operation of the airframe ice protection system must be established and documented in:

(1) The Airplane Flight Manual for airplanes that comply with paragraph (a)(1) or (a)(2) of this section, or

(2) The Airplane Flight Manual or in the manual required by § 121.133 for airplanes that comply with paragraph (a)(3) of this section.

(d) Procedures for operation of the airframe ice protection system must include initial activation, operation after initial activation, and deactivation. Procedures for operation after initial activation of the ice protection system must address—

(1) Continuous operation,

(2) Automatic cycling,

(3) Manual cycling if the airplane is equipped with an ice detection system that alerts the flightcrew each time the ice protection system must be cycled, or

(4) Manual cycling based on a time interval if the airplane type is not equipped with features necessary to implement paragraphs (d)(1) through (3) of this section.

(e) System installations used to comply with paragraphs (a)(1) or (a)(2) of this section must be approved through an amended or supplemental type certificate in accordance with part 21 of this chapter.

Issued in Washington, DC, on November 16, 2009.

John W. McGraw,

Acting Director, Flight Standards Service.

[FR Doc. E9–28036 Filed 11–20–09; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 121 and 135

[Docket No. 28081]

RIN 2120–AI93 (Formerly 2120–AF63)

Flight Crewmember Duty Period Limitations, Flight Time Limitations and Rest Requirements; Withdrawal

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM); withdrawal.

SUMMARY: The FAA is withdrawing a previously published NPRM that proposed to establish one set of duty period limitations, flight time limitations, and rest requirements for flight crewmembers engaged in air transportation. The NPRM also proposed to establish consistent and clear duty period limitations, flight time limitations, and rest requirements for domestic, flag, supplemental, commuter and on-demand operations. We are withdrawing the NPRM because it is outdated and because of the many significant issues commenters raised. The FAA intends to issue a new NPRM to address flight, duty, and rest.

DATES: The proposed rule published on December 20, 1995 (60 FR 65951), is withdrawn as of November 23, 2009.

FOR FURTHER INFORMATION CONTACT: Dale E. Roberts, Air Transportation Division (AFS–200), Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–5749; *e-mail: dale.e.roberts@faa.gov.*

SUPPLEMENTARY INFORMATION:

Background

In June 1992 the FAA announced the tasking of the Aviation Rulemaking Advisory Committee (ARAC) Flight Crewmember Flight/Duty Rest Requirements working group.[1] The tasking followed the FAA's receipt of hundreds of letters about the interpretation of existing rest requirements and several petitions to amend existing regulations. The working group was tasked to determine if regulations on air carrier flight, duty, and rest requirements were being consistently interpreted; to evaluate industry compliance and practice on scheduling of reserve duty and rest periods; and to evaluate reports of excessive pilot fatigue related to such scheduling. While the working group could not reach consensus, they submitted a final report in June 1994 with proposals from several working group members.

Following receipt of the ARAC's report, the FAA published the 1995 NPRM.[2] The proposed rule was based on proposals from the ARAC working group, the petitions for rulemaking from the industry and others, National Transportation Safety Board (NTSB) recommendations, and existing knowledge of fatigue, including research by the National Aeronautics and Space Administration (NASA). Subsequently, and in response to requests from the industry, the FAA extended the comment period closing date and answered clarifying questions to the NPRM in a 1996 notice published in the **Federal Register.**[3]

The NPRM included proposals for a 14-hour duty day for two-pilot operations; a 10-hour flight time limit; two options for reserve and standby duty; a 32-hour in 7 days limit on flight time; and a 10-hour rest period. It also included provisions for tail end ferry flights (conducted under part 91) under the proposed duty period and flight time limits.

Discussion of Comments

The FAA received over 2,000 comments to the NPRM. Although some commenters, including the NTSB, NASA, Air Line Pilots Association, and Allied Pilots Association, said the proposal would enhance safety, the same commenters had specific objections. For example, the pilot unions objected to the proposed increase in allowed flight time. These commenters also said the proposal should have included special duty and flight time limits for disruptions in circadian rhythm and for operations with multiple takeoffs and landings.

Many industry associations opposed the NPRM, stating the FAA lacked safety data to justify the rulemaking, and industry compliance would impose significant costs. The reserve duty time provisions generated the most controversy. Overwhelmingly, air carrier associations and operators strongly criticized these provisions, asserting that they had no safety basis and were extremely costly.

Subsequent Fatigue Mitigation Efforts

Given the significant issues the NPRM raised, particularly about reserve time, the FAA tasked[4] ARAC in 1998 to make recommendations on reserve time for all types of air carrier operations. ARAC held a series of public meetings across the country to seek a broad cross-section of views. While the exchange helped in identifying issues that needed to be resolved before issuing a final rule, in the end, ARAC was unable to reach consensus. The FAA had stated in the NPRM that if the proposal on reserve time was not adopted, the agency would undertake rigorous enforcement of existing flight, duty, and rest rules. Consequently, in a June 1999 notice of enforcement policy,[5] the FAA informed the industry that the agency would conduct inspections to ensure compliance with current rules. Those inspections began in December 1999. After publication of this notice, the FAA received several requests for interpretation of various provisions of the rules. We responded to these requests in a second notice of

[1] 57 FR 26685; June 15, 1992.

[2] Flight Crewmember Duty Period Limitations, Flight Time Limitations and Rest Requirements notice of proposed rulemaking (60 FR 65951; December 20, 1995).

[3] 61 FR 11492; March 20, 1996.

[4] 63 FR 37167; July 9, 1998.

[5] Flight Crewmember Flight Time Limitations and Rest Requirements notice of enforcement policy (64 FR 32176; June 15, 1999).