From: Manager, Airports Financial Assistance Division

To: PGL Distribution List

92-5.1 Airplane Deicing Facilities - Mark Beisse (267-8826).

The proposed regulation on airplane ground deicing procedures was published on July 23 (Attachment 1), and related airport initiatives are in a memorandum dated July 2 (Attachment 2). Part of the FAA's deicing program includes clarification of the eligibility and funding of airport facilities under the AIP to minimize the time between the application of fluid and takeoff.

Airports Association Council International (AACI) reported at the recent deicing conference that, based on a survey of 44 AACI members, airports prefer to have airlines or third parties operate deicing facilities. Many conference participants felt that concerns regarding the adverse effects of Type II fluid on runway friction have been overstated and it could be used with adequate pre-winter runway maintenance. There was also broad support for AIP funding of deicing-related capital costs. Copies of the report on this conference are being distributed to regions. The following paragraphs provide guidance for proposed airport projects related to airplane deicing.

Deicing facility planning and development are eligible at commercial service airports if the improvements are to be owned by the airport sponsor and are available on a nonexclusive use basis. This includes land acquisition for, and construction or reconstruction of sites for airplane deicing, anti-icing, and ice inspection, including aprons, taxiways, service roads, and lighting. Airport drainage, collection systems for recycling of deicing fluids, and environmental mitigation to reduce contamination of storm water discharges by the fluid are also eligible. The facilities may be centralized on the airport, at terminal apron gate positions, near runway ends, or a combination of the above.
Some airports already have deicing facility improvements in various stages of planning, design, or development; sponsors should be encouraged to complete this work, if possible, for use this winter. AIP projects should be coordinated with AAS-100 until the new advisory circular on facilities is available. Any newly proposed or substantially changed facility, including designation of areas for deicing and ice inspection, must be tailored to the individual airport and coordinated as a revised airport layout plan. The Environmental Protection Agency has indicated in a letter to the American Association of Airport Executives that deicing may continue without being subject to more rigorous water quality regulations at this time (Attachment 3). However, agencies with water quality jurisdiction should be consulted early in project planning. The priority of the facilities will be the same as for other special programs.

In the event a sponsor proposes other types of deicing facilities or equipment, including buildings, storage areas, gantries, and vehicles, please forward the proposal to APP-510. The information should include any available cost estimates and other justification the sponsor can provide. The fluid and routine runway maintenance to accommodate the use of Type II fluid is ineligible.

This guidance has been reviewed by AAS-1 and AFS-200, the focal point for the airplane ground deicing program.

92-5.2 Pavement Evaluations - Mark Beisse (267-8826).

We believe it appropriate to offer airport sponsors more flexibility to conduct pavement testing under planning projects.

Under current guidance in paragraph 306b(3)(b) of Order 5100.38A, pavement testing has been allowable only within a development project, although eligibility within master planning could be approved on a case by case basis.

Since pavement evaluation or testing can be very beneficial in making planning and programming decisions, regions are given discretion, without the need to consult with APP-510, to include pavement testing in master plans for individual
commercial service or reliever airports. The testing may include friction surveying and other types of nondestructive or destructive testing. The AIP handbook will be changed accordingly.

Lowell H. Johnson

Attachments
Department of Transportation
Federal Aviation Administration
14 CFR Part 121
Aircraft Ground Deicing and Anti-Icing Program; Proposed Rule
Aircraft Ground Deicing and Anti-Icing Program

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This proposed amendment would establish a requirement for part 121 certificate holders to develop an FAA-approved ground deicing/anti-icing program any time conditions are such that frost, ice, or snow could adhere to the aircraft's wings, control surfaces, propellers, engine inlets, and other critical surfaces.

This rule is necessary because several accidents and the recent International Conference on Airplane Ground Deicing indicate that, under present procedures, the pilot in command may be unable to effectively determine whether the aircraft’s wings, control surfaces, propellers, engine inlets, and other critical 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. This proposed rule and associated airport and air traffic control procedures would provide, to the extent possible, enhanced procedures to allow safe takeoffs during adverse weather conditions.

DATES: Comments must be submitted on or before August 7, 1992. The FAA is not able to provide a longer comment period for this NPRM because the FAA intends to issue a final rule in time to implement the proposed programs before the 1992-93 winter season. Comments received after the comment period closes will not be considered nor will the FAA consider requests to extend the comment period.

ADDRESSES: Comments on this notice should be mailed, in triplicate, to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AG-10), Docket No. 26930, 800 Independence Avenue, SW., Washington, DC 20591. Comments delivered must be marked Docket No. 26930. Comments may be examined in room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal Holidays.


SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data 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. 26930." The postcard will be date stamped and mailed to the commenter.

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) 267-3494. 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

Section 121.629(a) of the Federal Aviation Regulations (14 CFR 121.629(a)) states, in pertinent part, that no person may dispatch or release an aircraft when, in the opinion of the pilot in command or aircraft dispatcher, icing conditions are expected or met that might adversely affect the safety of flight. Section 121.629(b) states, in pertinent part, that no person may take off an aircraft when frost, ice, or snow is adhering to the wings, control surface, or propellers of the aircraft. These requirements, which have been virtually unchanged for over 40 years, are based on what is commonly referred to as the "clean aircraft concept." The basis of this concept is that the presence of even minute amounts of frost, ice, or snow on particular aircraft surfaces (referred to as "contamination") can cause degradation of aircraft performance and changes in aircraft flight characteristics. When conditions are conducive to the formation of frost, ice, or snow on aircraft surfaces exist at the time of takeoff, or it is suspected that these contaminants are adhering to aircraft surfaces, common practice developed by the North American and European aviation community over many years of operational experience is to deice or anti-ice the aircraft before takeoff. Under the Federal Aviation Regulations, in icing conditions, as in all other conditions, ultimate responsibility for determining whether the aircraft is free of contamination—and thus airworthy—rests with the pilots in command.

Aircraft are commonly deiced and anti-iced during icing weather conditions. Deicing is the removal of accumulated frost, ice, or snow from aircraft surfaces by application of heated water followed by undiluted glycol-based fluid or the application of a heated water/glycol solution. Anti-icing is the treatment with undiluted glycol-based fluid to prevent frost, ice, or snow from adhering to aircraft surfaces. Normally, deicing and anti-icing are accomplished by a single application process: however, there may be two separate applications of deicing/anti-icing fluid. Two types of deicing/anti-icing fluids are used. AEA Type I fluids are unthickened fluids that are normally applied as a mixture of glycol and water. These fluids mainly provide protection against refreezing when no delays or only short delays occur between deicing and takeoff. AEA Type II fluids are thickened fluids. They provide protection against refreezing when longer delays occur. Type II fluid is used extensively in Canada and Europe, but is used less often in the United States because it is more expensive than Type I, more difficult to apply, and has a gel consistency that...
may reduce a runway's coefficient of friction, thereby reducing an airplane's braking capability. Type II fluid provides longer holdover times. Holdover time is the estimated time deicing or anti-icing will prevent the formation of frost or ice and the accumulation of snow or slush on the treated surfaces of an aircraft.

According to the National Transportation Safety Board (NTSB), in the last 25 years there have been 15 accidents related to the failure to deice aircraft adequately before takeoff. Seven of the 15 accidents were in part 121 passenger-carrying or all-cargo operations. An eighth accident, for which the NTSB has not yet issued a probable cause finding, involved a USAir flight discussed more fully below. In all of these accidents, contamination on the aircraft surfaces during takeoff was the cause or a contributing cause of the accident. Specifically, the part 121 major accident was at least partially caused by ground deicing including the following:

November 27, 1978, TWA DC-9, Newark, New Jersey.
November 15, 1987, Continental DC-9, Denver, Colorado.
February 17, 1991, Ryan DC-9, Cleveland, Ohio.

The NTSB investigations of the Air Florida and Continental accidents indicate that ice formation after deicing was a major contributing factor. At Washington National Airport on January 13, 1982, Air Florida Flight 90, a Boeing 737, crashed into the 14th Street Bridge over the Potomac River shortly after takeoff. At the time of takeoff, the airport was experiencing moderate to heavy snowfall and low visibility. The aircraft failed to achieve a sufficient rate of climb, struck the 14th Street Bridge about 4,500 feet from the departure end of the runway, and crashed into the Potomac River. Seventy-four of the 79 persons aboard the aircraft were killed either on impact or by drowning, and 4 persons in automobiles on the bridge were killed when the vehicles were struck by the descending aircraft.

The aircraft had been deiced before it taxied from the gate area; however, it was exposed to continuing snowfall for about 50 minutes before takeoff. The conversation between the captain and the first officer, recorded by the cockpit voice recorder, showed that they were aware that some snow and ice had accumulated on the aircraft while waiting for takeoff.

The NTSB determined that the probable causes of the accident were the flight crew's failure to use the engine anti-ice (a system that detects and removes ice from the aircraft's engine nacelle and inlet guide vanes) during both ground operation and takeoff, their decision to take off with snow and ice on the airfoil surfaces of the aircraft, and the failure of the captain to reject the takeoff when anomalous engine instrument readings were noticed. Among other things contributing to the accident was the prolonged ground delay between deicing and takeoff.

On November 15, 1987, at Denver's Stapleton International Airport, Continental Airlines Flight 1713, a DC-9, was cleared for takeoff following a delay of approximately 27 minutes after deicing. The takeoff roll was uneventful, but following a rapid rotation, the airplane crashed. Both pilots, one flight attendant, and 25 passengers died. The NTSB concluded that the airplane was adequately deiced before it departed the deice pad. Nevertheless, since the airplane was exposed to a moderate snowstorm in subfreezing conditions for approximately 27 minutes after deicing, the NTSB concluded that portions of the airframe became contaminated with a thin, rough layer of ice. Several surviving passengers reported seeing some ice on engine inlets or patches on the wing after deicing.

According to McDonnell Douglas, even minute amounts of ice or other contaminants (equivalent to medium grit sandpaper) on the leading edges or upper surfaces of the wings of a DC-9-10 series airplane could result in the degradation of wing lift, causing the airplane to stall at lower than normal angles-of-attack during takeoff. The contamination of the airframe surfaces was a contributing factor in the crash of Flight 1713. This contamination of the airframe surfaces could have been eliminated or its formation delayed if the airplane had been anti-iced following the deicing.

These aircraft accidents probably could have been prevented if the pilot had been given more information to help determine whether the aircraft was free of all frost, ice, and snow prior to takeoff. Until recently, the FAA and the aviation community in general had placed priority on emphasizing the need during icing conditions for the pilot in command to ensure "clean wings" before takeoff. The FAA believed that pilot education appeared key to combating the threat of wing icing. Although the FAA still believes the pilot in command must ultimately make the decision on whether to take off, and that the decision must be based on thorough understanding of factors involved in icing, the FAA has determined that the certificate holder must provide the pilot in command with criteria on which to make a proper decision. This proposed rule would require that the pilot in command be provided with information to assist the pilot in determining if the aircraft is free of contamination before takeoff.

In response to a USAir F-28-100 accident at La Guardia Airport on March 22, 1992, the FAA mounted a sharply focused effort to resolve the ground deicing issue before the winter of 1992/1993. USAir flight 405 crashed on takeoff in a snowstorm during nighttime operations. While the NTSB has not yet issued a probable cause finding for this accident, the FAA has proceeded on the assumption that the accident was caused, at least in part, by icing. The airplane had been deiced approximately 35 minutes before takeoff. On May 28 and 29, 1992, as a major part of the effort to resolve the ground deicing issue, the FAA held the International Conference on Airplane Ground Deicing in Reston, Virginia. The FAA has based this proposed rule, in part, on the results of this conference. Recommendations of the conference are discussed later in the preamble.

In April 1992, the FAA received a petition for rulemaking from Edward F. Ford (Docket No. 26848) on the issue of aircraft deicing and anti-icing. Mr. Ford's petition contains a number of proposals that were also discussed at the Reston conference and that are addressed in this NPRM; therefore, the FAA considers this NPRM to be a response to that petition for rulemaking.

NTSB Recommendations

As a result of accident investigations, the NTSB has issued 30 safety recommendations that address issues involving aircraft ground icing and deicing.

These recommendations cover such subjects as informing operators about the characteristics of deicing/anti-icing fluids; informing flight crews about ice formation after deicing; reviewing information that air carrier operators

* The NTSB has not yet established probable cause for this accident.
provide to flight crews on runway contamination and engine anti-ice during ground operations; requiring flight crew inspections before takeoff if takeoff is delayed after deicing; emphasizing to air carrier maintenance departments the importance of maintaining ground support equipment; and requiring air carrier training programs to cover the effect of wing leading edge contamination on aerodynamic performance.

In addition, the number of NTSB recommendations involving airworthiness directives or air carrier operations bulletins directing specific procedures for specific aircraft that have characteristics that make them more susceptible to icing problems.

Previous FAA Actions

The FAA has taken various actions on its own and in response to the NTSB recommendations involving accidents in which ground icing was the cause or a contributing factor. The FAA has disseminated advisory circulars, bulletins, memoranda, informative articles, and notices related to winter operations. The FAA also published Air Carrier Operations Bulletins, Maintenance Bulletins, and Maintenance Action Notices. These materials were intended to impress upon operators the dangers of aircraft wing and control surface contamination and the need to assist the pilot in determining if the aircraft is free of contamination before takeoff.

On December 17, 1982, in response to several icing-related takeoff accidents involving transport category and general aviation airplanes, the FAA issued Advisory Circular 20–117. The purpose of this advisory circular (AC) was to emphasize the clean aircraft concept. This AC was directed to all segments of the aviation including aircraft manufacturers, airline engineering, maintenance, service, and operations organizations; and flight crewmembers of all aircraft types and categories. Information in the AC was general and dealt with over a dozen variables.

The AC covered the following areas:

- Aircraft deicing and anti-icing
- Preflight inspection
- Pretakeoff inspection

Common or suggested practices necessary to assure the pilot has adequate supporting information for his/her judgments.

Suggested practices for pilots to assure that the aircraft is free of contamination.

AC 20–117 also contained an extensive bibliography of related FAA and private sector publications, training materials, and other deicing or related information. In 1988, in response to the Continental DC–9–14 accident in Denver, the FAA published and distributed AC 20–117 to ensure that airlines, pilots, and other affected persons were fully apprised of its contents.

For several years, the FAA has conducted research and development on aircraft icing characterization, protection concepts, and deicing/anti-icing fluids. These projects have included among others:

- Characterization of worldwide environmental icing conditions (freezing precipitation, mixed conditions, snow, etc.) to provide recommended design criteria for aircraft, ice protection equipment, and deicing facilities.
- Development of standard icing severity terminology (i.e., trace, light, moderate, severe) applicable to aviation industry, manufacturers, certification officials, weather forecasters, air traffic controllers, and flight crews.
- Determination of the feasibility of development of a device or methodology for predicting the effective time of deicing/anti-icing fluids during freezing precipitation in an operational airport environment.
- Field measurements of effective time of advanced anti-icing fluids for various freezing precipitation conditions.
- Investigation of the effects of underlying frost and/or ice on the takeoff performance of large transport category aircraft.
- Development of a condensed and pocket-sized advisory circular for pilots on contamination.
- Assessment of simplified methods for determining holdover times.
- Feasibility assessment of predicting holdover times.
- Development of a training video tape on aircraft icing.

In September 1988, the FAA, organized, coordinated, and co-chaired the joint SAE/FAA Aircraft Ground Deicing Conference in Denver, Colorado. The conference was held to disseminate information to the aviation community and to inspire further knowledge of the principles of aircraft ground deicing and anti-icing.

The Reston Conference

In response to the USAir Flight 405 accident at La Guardia, the FAA held the International Conference on Airplane Ground Deicing on May 28 and 29, 1992, in Reston, Virginia. The conference brought together leading experts from all over the world to share information on ground deicing/anti-icing of transport category airplanes and to recommend short-term actions for preventing accidents caused by icing and long-term actions for continuing improvement of flight safety under adverse weather conditions.

The two-day conference was attended by representatives from air carriers and air carrier associations, crewmember associations, manufacturers and manufacturing associations, airport operators, and air traffic controllers. The FAA personnel, as well as scientific experts on weather, deicing fluids, and deicing equipment. Over 800 people attended the conference. Areas covered by working groups at the conference were aircraft design; ground deicing and anti-icing system; air traffic control and sequencing; deicing personnel, procedures, and training; and ice detection, recognition, and crew training.

Two major recommendations made by the working groups that support this rulemaking are: (1) Critical aircraft surfaces must be kept free of ice, snow, and frost; and (2) Each air carrier should have an approved aircraft deicing program that will ensure full compliance with the clean aircraft concept. The program should include ground deicing, a comprehensive training program for flight crewmembers, holdover timetables to be used as guidelines, and criteria for determining if a pretakeoff inspection after deicing is needed. (There was no consensus on when a pretakeoff inspection must be conducted.)

The working groups also recommended training of ground personnel and flight crews, appropriate use of Type I and Type II fluids, developing holdover guidelines for Type I and Type II fluids, using pretakeoff inspections when exceeding holdover time guidelines, and establishing procedures for communications between ground and cockpit crew members.

Recommendations made at the conference that are beyond the scope of this rulemaking cover long-term actions, including additional research, and actions which pertain to manufacturers, airports, and air traffic controllers.

A complete report on working group recommendations is in the docket established for this NPRM.

The Proposed Rule

- As previously discussed, the clean aircraft concept, which for many years has been the basis for federal safety regulations applicable in icing conditions, relies almost exclusively on the pilot in command's responsibility for determining the airworthiness of the aircraft before takeoff. Recent icing-related accidents, together with the research and activities previously
described, have convinced the FAA that a new approach is needed. The pilot in command needs guidance and certified holder-developed procedures and, under certain conditions, ground personnel support in determining the aircraft's airworthiness in potential icing conditions.

The range of subjects covered by the conference and by FAA research and other actions indicates that the icing problem involves a broad spectrum of factors: Weather conditions and reporting, weather procedures at airports, traffic controllers, air carriers, ground personnel, as well as the technology available to support bad weather operations, such as deicing/anti-icing equipment, deicing/anti-icing fluids, and aircraft design. As the conference illustrates, the problem is being attacked in all of these areas and in varying ways. But all of the knowledge and all of the planning eventually focus on the decision of the pilot in command to take off.

The accident information shows that icing accidents occur at different types of airports and in many different operations. After the USAir accident at La Guardia, the FAA announced its intention to put in place before next winter a rule that would improve safety during icing conditions. This proposed rule, if adopted, would be among the agency's actions to resolve the problem of ground icing. The proposed rule is directed at all part 121 passenger-carrying and cargo-carrying operations. It does not include part 135 operations. Specifically, part 135 accident statistics do not indicate that an urgent ground deicing problem currently exists. The FAA also believes that part 135 flight crews take better to determine if contaminants are adhering to their aircraft because of both size and design. The FAA will continue to study those part 135 operations that could experience ground icing problems to determine if future rulemaking is needed.

Formulated as a rule affecting operations under Part 121 of the Federal Aviation Regulations, the proposal does not directly affect operations of foreign airlines. Safety regulation of international commercial air transport operations is effected by the state of the operator in accordance with comprehensive standards issued by the International Civil Aviation Organization (ICAO). The FAA actively solicits and shares safety information with other countries. As discussed above, international participation in deliberations leading to the formulation of this rule (the "Reston Conference") has been extensive, and the proposal draws heavily on the experience of other countries. The FAA will continue to work aggressively with other nations' civil aviation authorities to learn from their safety regulatory experiences and share those of the U.S. so that we all may develop and adopt the most effective and efficient regulations to improve the safety of all aircraft during icing conditions. Accordingly, the FAA will request that ICAO initiate a review of pre-takeoff deicing and inspection procedures used by all air carriers.

Other factors, such as airport planning, aircraft design, air traffic control, and deicing/anti-icing technology, are being otherwise addressed and are briefly discussed later in this preambled. This proposed rule is what the FAA, in cooperation with part 121 certificate holders, can do before next winter to assure that the highest practicable standards in operations during icing conditions are met.

The proposed rule would require part 121 certificate holders to develop and comply with an FAA-approved ground deicing/anti-icing program that includes procedures that must be followed whenever ground conditions exist that might result in frost, ice, or snow adhering to the aircraft surfaces unless it uses the alternate inspection procedures described below under "Implementation of Program." The program is intended to provide the pilot in command with more complete information, procedures, and ground support which he or she needs for deciding if takeoff can be safely accomplished. Each program would include a detailed description of how the certificate holder determines that ground deicing/anti-icing procedures must be in effect, who is responsible for deciding that such procedures must be in effect, the operational procedures for implementing ground deicing, and the specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while such procedures are in effect.

The FAA is proposing that, to be approved, each ground deicing/anti-icing program must cover at least the following areas:

1. Ground training and qualification testing requirements for all flight crewmembers and all other personnel the certificate holder uses in implementing the approved ground deicing/anti-icing program.
2. Procedures for the use of holdover times.
3. Deicing/anti-icing and accompanying inspection procedures. Each of these areas is discussed more fully below.

Training of Flight Crewmembers and Other Personnel

To be approved, ground deicing/anti-icing programs would have to include initial and recurrent ground training and qualification testing for all flight crewmembers, and all other personnel (e.g., aircraft dispatchers, maintenance crews, or contract personnel) the certificate holder uses in implementing its approved program. Initial training for all affected personnel 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 plus coverage of any changes in a certificate holder's ground deicing/anti-icing program and changes that relate to specific airplanes.

An individual would receive initial and recurrent training in the individual's specific responsibilities and duties as outlined in the certificate holder's program, as well as the certificate holder's overall program and any pertinent airplane-specific requirements. In addition to the above, training would have to address the following areas:

1. Holdover times developed by the certificate holder: how the calculated holdover times are determined and used, and what variables might affect the calculated holdover times. (See the "Use of Holdover Times" section below for further discussion.)
2. Aircraft deicing/anti-icing inspection procedures and responsibilities to ensure that the aircraft's wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of contamination.
3. Procedures for communication between flight crewmembers and other deicing/anti-icing personnel on deicing/anti-icing procedures when those procedures are being used.
4. Aircraft surface contamination and critical area identification and how aircraft contamination adversely affects aircraft performance and flight characteristics.
5. The certificate holder's deicing/anti-icing procedures including types of fluids, fluid characteristics, and concentration percentage of these fluids.
6. Cold weather (not limited to icing conditions) preflight inspection procedures.
7. Techniques for recognizing contamination on the aircraft.
Other areas that should be included as appropriate are
(1) Who is responsible for actual deicing/anti-icing for the certificate holder (the certificate holder or a contractor).
(2) Any other systems installed on the aircraft that may provide the pilot with information concerning contamination on the aircraft.
(3) Procedures to be followed if the deicing/anti-icing is interrupted for any reason.
(4) For personnel other than flight crewmembers, operation and capabilities of deicing/anti-icing equipment as well as any equipment required to inspect the aircraft after deicing/anti-icing.

The Use of Holdover Times
Holdover time is the estimated time the application of deicing or anti-icing fluid will prevent the adherence of frost, ice, or snow on the treated surfaces of an aircraft. Holdover time begins when the aircraft ground deicing/anti-icing commences and expires when the deicing/anti-icing fluid applied to the aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces loses its effectiveness.

The Society of Automotive Engineers (SAE) has taken the lead in developing holdover time guidelines for particular freezing point depressant fluids (e.g., Association of European Airlines Type I and Type II fluids). SAE has taken into consideration a number of variables, such as type of fluid, wing surface temperature, type of precipitation, etc., that individually or in combination with others increase or decrease holdover time.

The certificate holder would develop for its approved program holdover timetables based upon information from the SAE-developed tables, the particular aircraft manufacturer, and the deicing/anti-icing fluid manufacturer. The certificate holder would develop and use approved procedures regarding its flight crewmembers' use of these tables. The certificate holder's procedures would include provisions for its flight crewmembers to determine holdover times following aircraft deicing/anti-icing and would prohibit takeoff following expiration of the holdover time unless approved alternative actions are taken.

For certain airplanes without wing leading edge devices (i.e., airplanes commonly referred to as "hard wing"). Airworthiness Directives issued by the FAA require a pretakeoff inspection whether or not a holdover time has been exceeded. Certificate holders operating these hard wing airplanes must include the procedures required by these ADs in their ground deicing/anti-icing programs. The FAA invites comments on the need for a mandatory pretakeoff inspection requirement for any other airplane types.

Takeoff after the expiration of any holdover time would be permitted only if—(1) a pretakeoff inspection has ensured that the wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, snow; or (2) it is otherwise determined that these surfaces are free of frost, ice, or snow; or (3) the wings, control surfaces, propellers, engine inlets, and other critical surfaces have been redeiced and a new holdover time has been determined. A pretakeoff inspection is an inspection of the wings, control surfaces, propellers, engine inlets, and other critical surfaces conducted within five minutes prior to implementing takeoff. This inspection may be accomplished from either inside or outside the aircraft, depending on the aircraft's design. Critical surfaces may be "otherwise determined" to be free of contamination, if, for example, precipitation has ended, ambient temperature has risen significantly, or approved new techniques have been developed for determining whether any surfaces are contaminated.

The certificate holder will develop procedures to allow flight crewmembers to increase or decrease the determined holdover time if changing conditions warrant. The certificate holder will also develop procedures to allow a pilot in command to require a pretakeoff inspection whenever the pilot in command believes one is warranted.

The requirement that holdover times may not be exceeded unless a pretakeoff inspection is accomplished is consistent with a recommendation from one of the working groups at the conference. There was not, however, conference-wide consensus on this issue. Therefore, the FAA invites comments on whether exceeding holdover times should be prohibited. In particular, the FAA is interested in receiving specific information about the cost, if any, that would be caused by a prohibition on exceeding holdover times and about alternative procedures that could ensure an equivalent level of safety.

Inspection Procedures
In addition to procedures for the flight crewmembers to scan the visible areas of the aircraft, each approved ground deicing/anti-icing program would have to include complete pretakeoff inspection procedures (i.e., visual, tactile, aids, etc.). This inspection must be accomplished from outside the aircraft unless the program specifies otherwise. Pretakeoff inspection procedures would be required to cover a variety of contingencies. For example, if weather conditions significantly improve after a deicing, it is possible that a holdover time could be extended so that no pretakeoff inspection is required. Or, if weather conditions deteriorate, it may be necessary to shorten the originally determined holdover time.

The pretakeoff inspection procedures would include coordination procedures between all personnel involved in the inspection. If a facility is available for a remote pretakeoff inspection, procedures for that inspection would be covered in the program.

Implementation of Program
The effective date for all part 121 certificate holders, as stated in the proposed rule, is November 1, 1992. A certificate holder who intends to operate in icing conditions on or after November 1, 1992, would have to have an approved program and would have to operate in compliance with that program. A certificate holder who does not have an approved program or has not implemented its program, would not be allowed to operate aircraft in icing conditions on or after November 1, 1992. Unless it uses the alternative inspection procedure described below.

The FAA is aware that requiring all flight crewmembers and other affected personnel (e.g., aircraft dispatchers, maintenance crews, contract personnel) to be fully trained and qualified by the effective date could be impractical for some certificate holders both financially and logistically. Therefore, in instances where training cannot be completed as part of a certificate holder's initial and recurrent training programs by the effective date, the certificate holder may submit for approval with its program a training implementation plan. For example, a certificate holder could implement the training requirements by providing initial training to flight crewmembers and other personnel by mailing to them a video cassette, written training and qualification materials, or computer-based instruction that explains and instructs on procedures contained in the certificate holder's deicing/anti-icing program.

The FAA recognizes that, given the short compliance time proposed for this rule, some certificate holders may be unable to submit a program in time for approval prior to the effective date. Other certificate holders who seldom fly in ground deicing conditions may...
determine that it is impractical to
develop a deicing program. Therefore, in
proposed paragraph (d), the rule would
allow continued operations under § 121.629 if the certificate holder
includes in its operations specifications and complies with a requirement that,
any time conditions are such that frost,
and ice, or snow may reasonably be
expected to adhere to the aircraft, no
aircraft will take off unless it has been
inspected to ensure that the wings,
control surfaces, propellers, engine
inlets, and other critical surfaces are
free of frost, ice, or snow. This
inspection must occur within five
minutes before takeoff. The inspection
must be accomplished from outside the
airplane. The FAA invites comments on
this alternative inspection procedure.

Long-Term FAA Actions

As the background portion of this
paragraph states, the problem of airplane
ground deicing/anti-icing is much
broader than just the issue of the last-
minute 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 were addressed
at the Reston Conference. The FAA and
the aviation industry are continuing
their efforts to address these related
issues. Efforts are some areas, such as
airport and air traffic control procedures,
are already underway and
will continue concurrently with this
rulemaking. Other efforts, such as
potential design changes that require
long-term research, will be undertaken,
either by the FAA or as joint
government/industry projects. subject to
available funding.

This rulemaking, when implemented,
will ensure that he FAA and part 121
certificate holders have taken every
practical step possible to improve safety
in icing conditions before the 1992/1993
winter season. In this regard, the FAA is
aware that part 121 certificate holders
have already, under the leadership of
the ATA. taken steps to develop a
standard model industry program that
would meet the goals of this rulemaking.

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: Aircraft Ground Deicing and
Anti-Icing Program.

Need for Information: If adopted this
NPRM requires each part 121 air carrier
certificate holder develop an FAA
approved ground deicing/anti-icing
program.

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

Frequency: One-time.

Burden Estimate: 7616 total hours.
Respondents: Part 121 certificate
holders.

Forms(s): None.

Average Burden Hours per
Respondent: 144.

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

This section summarizes the
regulatory evaluation prepared by the
FAA. The regulatory evaluation
provides more detailed information on
estimates of the potential economic
consequences of this proposal. This
summary and the evaluation quantify, to
the extent practicable, estimated costs
of the rule to the private sector,
consumers, and Federal, State, and local
governments, and also the anticipated
benefits.

Executive Order 12291, dated
February 17, 1981, directs Federal
gencies to promulgate new regulations
or modify existing regulations only if
potential benefits to society for each
regulatory change outweigh potential
costs. The order also requires the
preparation of a Regulatory Impact
Analysis of all "major" rules except
those responding to emergency
situations or other narrowly defined exigencies. A "major" rule is one that is
likely to result in an annual effect on the
economy of $100 million or more, a
major increase in consumer costs, or a
significant adverse effect on
competition.

The FAA has determined that this
proposal is not "major" as defined in the
executive order. Therefore, a full
regulatory impact analysis, which
includes the identification and
evaluation of cost-reducing alternatives
to the proposal has not been prepared.
Instead, the agency has prepared a more
concise document termed "a regulatory
evaluation," which analyzes only this
proposal without identifying
alternatives. In addition to a summary of
the regulatory evaluation, this section
also contains an initial regulatory
flexibility determination required by the
1980 Regulatory Flexibility Act (Pub. L.
96-354) and an international trade
impact assessment. If the reader desires
more detailed economic information that
this summary contains, then he or she
should consult the regulatory evaluation
contained in the docket.

Costs

For those elements of the proposed
rule for which the FAA was able to
estimate costs, the total present value
cost of the proposed rule was estimated
to be $38.6 million. Of this total, the 31
large part 121 air carriers, or those that
own or operate more than nine
airplanes, would incur present value
costs of $37.8 million. The 22 small
depart 121 carriers would incur present
value costs of $710,000. The present value
cost associated with the purchase and
operating of deicing equipment is $18.5
million. Approximately $18.0 million of
this total would be incurred by large
part 121 air carriers and $508,000 would
be incurred by small part 121 air
carriers. About $18.5 million of the total
present value cost representing 48
percent of the estimated total would
occur the first year.

To more accurately determine the
total cost impact of this proposed rule,
the FAA solicits comments on the
following items.

1. Initially the change in procedures
may add to delays already experienced
during ground icing conditions. The FAA
is uncertain as to the magnitude of such
delays and seeks comment on this issue,
including any methodology that could be
used to measure this variable. Examples
of information that would be of value
include, but are not limited to, the
following:

• The difference in delays that air carriers
experience when using Type 1 and Type 2
fluids.

• The added time and associated cost (at
various airports) to return for a second
deicing (including the number of airplanes
that have been delayed due to coming back
for an additional or second deicing).

• The secondary effect of delays on the
flow of air traffic. This includes airplanes
waiting in queue to land or takeoff at the
affected airport as well as on operators at
other connecting hubs.
2. Initial deicing will occur at the gate or at a central deicing station. The FAA seeks comment on the way airlines would perform deicing and additional deicing under the proposed rule.

3. There may be a switch to Type 2 fluids in later years to allow for longer holdover times. The FAA seeks comment on the likelihood that Type 2 fluids will replace Type 1 fluids in the future.

4. Part 121 air carriers will also incur costs at foreign airports where icing conditions may occur. What is the extent of icing at these airports, and how much will it cost to comply with the proposed rule?

Delay Costs

This section on delay costs is divided into two parts. Part I is an explanatory overview on the availability of delay data to the FAA. Part II describes a methodology that could be employed to measure potential incremental delay costs.

Part I—Availability of Delay Data

Air traffic control (ATC) personnel throughout the U.S. gather information daily required by the FAA. That information includes, among others, how many flights were delayed more than 15 minutes and the reasons for those delays. Data is collected for use in reports to Congress, reports to users of the National Airspace System, and for statistical purposes. FAA Order 6040.15B, the National Airspace Performance Reporting System, sets forth requirements and procedures as guidance for reporting interruptions to facilities and services in the National Airspace System. It requires that interruptions be reported in a uniform manner using standard definitions, criteria, procedures, and terminology. In addition, this order establishes requirements and procedures for reporting air traffic delays and air traffic counts. These delays result from the Air Traffic Control System detaining an aircraft at the gate, short of the runway, or at a central deicing station. The FAA seeks comment on the way airlines would perform deicing and additional deicing under the proposed rule.

Part II—Delay Cost Methodology

As stated above, whether there are any delays resulting from the proposed rule cannot be reliably estimated at this time. In order to estimate potential delay costs, several prerequisite variables would have to be examined. The following is a general step-by-step procedure to estimate potential delay costs:

Step 1. Determine the total number of severe winter weather delays that take place, primarily in November and March.

Step 2. Adjust downward the number of delays caused by severe winter weather by subtracting those delays that would not result from ice, snow, or frost. An example of delays to be subtracted from the total would be those delays due to weather where the airport was closed.

Step 3. The result is the number of flights potentially delayed by the proposed rule.

The FAA requests information on the incremental delay cost factor that can be used to formulate the best possible final rule.

Benefits

The FAA expects the proposed rule to generate total potential safety benefits estimated at $230 million (10 years, 1991 dollars). On a discounted basis, total potential benefits would amount to an estimated $136 million. The discounted total estimate of benefits is comprised of $125 million for significantly reducing the likelihood of ice-related accidents for passenger-carrying part 121 airplanes and $11 million for part 121 cargo airplanes. The derivation of these benefits was derived from two categories: (1) Part 121 passenger-carrying air carriers and (2) part 121 cargo-carrying air carriers. Each of these categories is discussed below.

Part 121 Passenger Carrier Benefits

Under the current rule, it is the responsibility of the pilot to decide whether ice, frost, or snow has accumulated on the structure of an airplane. This decision can be very difficult to make, especially when the airplane is sitting at the end of a runway waiting to take off during inclement weather. It is at these times that the likelihood of the pilot making the wrong decision is greatest.

Over the past 15 years, there have been five passenger-carrying air carrier accidents where ice, frost, or snow accumulations on the airplane was the primary factor. These accidents resulted in 135 fatalities and 66 serious injuries. In addition, four of the airplanes were destroyed and the other sustained substantial damage.

Based on estimated historical accident and casualty rates, the FAA expects...
that over the next 10 years, approximately 4 accidents will occur, with 131 fatalities and 64 serious injuries. The present value dollar benefits of preventing these accidents and casualties, is estimated to be $166 million (discounted).

The FAA has attempted to develop a proposed rule that would be 100 percent effective in preventing all accidents by incorporating program development, training, testing, capital equipment, maintenance, etc. There is some uncertainty, however, as to how effective these components would be. It is conceivable that some aircraft could pass through the system due, in part, to human error and adverse weather conditions, thereby, reducing the effectiveness of the proposed rule. While the actual effectiveness rate would be lower than 100 percent, the FAA estimates that a rate of 75 percent rate would reflect the reality of correcting a problem that is influenced by a multitude of factors (weather, human error, etc.). Multiplying the $166 million benefits by the 75 percent effectiveness rate results in adjusted benefits of $125 million ($166 million x .75).

Part 121 Cargo Carrier Benefits

The proposed rule would also potentially reduce accidents among large part 121 cargo aircraft. Over the past eight years, there have been three accidents involving large cargo aircraft. These three accidents resulted in two fatalities and two serious injuries. Two of the aircraft were substantially damaged and one was destroyed.

Based on these rates, over the next 10 years, there would be approximately 4 accidents, 3 fatalities and 3 serious injuries. The estimated value of these potential cargo accidents would be $15 million (discounted). Multiplying the $15 million in cargo benefits by the 75 percent effectiveness rate results in adjusted benefits of $11 million ($15 million x .75).

In conclusion, the proposed rule would enhance air carrier safety under conditions of ground icing. The proposed rule would reduce pilot error related to taking off with ice on the airframe by using holdover times and ground inspection. The proposed rule is expected to generate potential total benefits over the next ten years estimated at $136 million (discounted).

Conclusion

The FAA estimates the discounted present value cost of the proposed rule, excluding the cost of delays, is about $39 million over the next 10 years. This includes the cost of plan development, training, qualification testing, and capital expenditures. This estimate also does not include the cost of overseas operations. The FAA seeks comment on the extent of these costs.

The benefits of this proposed rule are estimated at $136 million (discounted) over the next decade. These benefits are derived from avoided accidents due to reduced risk during ground icing conditions.

The FAA did not estimate the cost of delays and overseas operations for this proposed rule. If the present value cost of delays and overseas operations is less than approximately $97 million, this proposed rule would still be cost beneficial.

International Trade Impact

The proposed rule is not expected to have a significant incremental impact on international trade. This assessment is based on the belief that while U.S. part 121 operators are expected to incur total compliance costs of $34 million (undiscounted), they would not be placed at a competitive trade disadvantage.

The average cost of an international round trip airplane ticket is approximately $650. With a potential average cost increase of 4 cents per round trip ticket representing less than one-hundredth of a percent of the total cost of a ticket (without consideration of potential delay costs), the likelihood of U.S. air carriers being placed at a competitive trade disadvantage becomes extremely remote. For a more detailed analysis, the reader is referred to the full international trade impact assessment contained in the docket.

Initial Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities (small business and small not-for-profit organizations that are independently owned and operated, and small government jurisdictions) are not unnecessarily and disproportionately burdened by Federal regulations. The RFA requires regulatory agencies to review rules that may have "a significant economic impact on a substantial number of small entities." A substantial number threshold of small entities means a number that is not less than eleven and that is more than one-third of the small entities subject to a proposed or existing rule.

The proposed rule potentially impacts operators of an aircraft for hire with nine aircraft owned but not necessarily operated. Of the 53 active U.S. commercial domestic carriers, the FAA has identified 22 of them that own or operate nine or fewer airplanes under part 121. The FAA has determined that this is a substantial number since all 22 of these small entities are expected to be affected by the proposed rule.

To determine whether there is a significant cost impact on small part 121 operators, the annualized cost of the proposed rule must exceed the annualized cost threshold established by FAA Order 2100.14A. The cost threshold established by the Order for scheduled operators of aircraft for hire falls under two categories. The first category is scheduled operators whose entire fleet has a seating capacity of over 60. The cost threshold for these operators is $125,000. The second category is other scheduled operators with seating capacities less than 60. Their cost threshold is $62,900.

The FAA estimated the annualized cost of the proposed rule to an individual small operator to be $7,110. This number was derived by first summing the undiscounted costs for small operators. These costs are:

<table>
<thead>
<tr>
<th>Initial Plan Development</th>
<th>$31,145</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Training</td>
<td>$30,436</td>
</tr>
<tr>
<td>Qualification Testing</td>
<td>$30,090</td>
</tr>
<tr>
<td>Initial Capital</td>
<td>$29,440</td>
</tr>
<tr>
<td>Recurring Maintenance &amp; Operating Costs</td>
<td>$34,990</td>
</tr>
<tr>
<td><strong>Total Undiscounted Costs</strong></td>
<td>$961,101</td>
</tr>
</tbody>
</table>

The $961,101 total cost is then divided by the 22 small operators to get the $43,686 average undiscounted cost for any single small operator. This number is then multiplied by a capital recovery factor of .16275 (10% interest rate for 10 years) to give an annualized cost of $7,110.

The $7,110 annualized cost does not exceed the $62,900 cost threshold prescribed above. Thus, the proposed rule would not impose a significant cost on a substantial number of small Part 121 operators.

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 the current Type I deicing fluid. 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 Type I deicing fluid, (2) whether the proposed rule will encourage the use of Type II deicing fluid, (3) the impact, if any, of using these deicing fluids on taxiways “just prior to takeoff,” and (4) containment methods currently used that can be adopted 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 ground deicing and anti-icing 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 12911. 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 in 14 CFR Part 121

Air safety, Air transportation, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 121 of the Federal Aviation Regulations (14 CFR part 121) as follows:

PART 121—CERTIFICATION AND OPERATIONS; DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

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


2. Section 121.629 is amended by revising paragraph (b) and by adding new paragraphs (c) and (d) to read as follows:

§ 121.629 Operation in icing conditions.

(b) No person may take off an aircraft when frost, ice, or snow is adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces of the aircraft or when the takeoff would not be in compliance with paragraph (c) of this section.

(c) Except as provided in paragraph (d) of this section, on or after November 1, 1992, no person may dispatch, release, or take off an aircraft at any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless the certificate holder has an approved deicing program in its operations specifications and unless the dispatch, release, and takeoff comply with that program. The approved deicing program must include at least the following items:

(i) A detailed description of—

(ii) How the certificate holder determines that conditions at an airport are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground deicing/anti-icing operational procedures must be in effect.

(iii) The specific duties and responsibilities of each operational position or group responsible for implementing ground deicing/anti-icing operational procedures.

(iv) The specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing/anti-icing operational procedures are in effect.

(ii) Who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect.

(iii) The operational procedures for implementing ground deicing/anti-icing operational procedures.

(vi) Cold weather preflight inspection procedures.

(vii) Techniques for recognizing contamination on the aircraft.

(iii) Communications procedures.

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

(v) Types and characteristics of deicing/anti-icing fluids.

(vi) Cold weather preflight inspection procedures.

(vii) Techniques for recognizing contamination on the aircraft.

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 12911. 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 in 14 CFR Part 121

Air safety, Air transportation, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.
critical surfaces are free of frost, ice, or snow.

(iii) The wings, control surfaces, propellers, engine inlets, and other critical surfaces are redeiced and a new holdover time is determined.

(4) Aircraft deicing/anti-icing inspection procedures and responsibilities and pretakeoff inspection procedures and responsibilities for use when a holdover time has been exceeded. A pretakeoff inspection is an inspection of the wings, control surfaces, propellers, engine inlets, and other critical surfaces conducted within five minutes prior to implementing takeoff. This inspection must be accomplished from outside the aircraft unless the program specifies otherwise.

(d) A certificate holder may continue to operate under this section without a program as required in paragraph (c) of this section, if it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will take off unless it has been inspected to ensure that the wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, and snow. The inspection must occur within five minutes prior to implementing takeoff. This inspection must be accomplished from outside the aircraft.

Issued in Washington, DC on July 17, 1992.

Thomas C. Accardi.
Director, Flight Standards Service.

[FR Doc. 92-17354 Filed 7-21-92: 8:45 am]

BILLING CODE 4910-12-6
Mr. Charles M. Barclay  
Executive Vice President  
American Association of Airport Executives  
4212 King Street  
Alexandria, Virginia  22302

Dear Mr. Barclay:

Thank you for your letter of November 1, 1991, in which you express concern about apparent conflicts between safety policies of the Federal Aviation Administration (FAA) and environmental programs administered by the Environmental Protection Agency (EPA). You specifically express concern about the effect the National Pollutant Discharge Elimination System (NPDES) storm water permitting program will have on airport de-icing operations and the impact other environmental regulations will have on aircraft rescue and firefighting practice.

I want to assure you that EPA is strongly committed to ensuring that environmental requirements are implemented in ways that have no adverse impact on air transportation safety. Under the NPDES storm water permitting program, prohibitions on the use of de-icing compounds are not anticipated. To the contrary, the first round of storm water permits will generally require that most regulated airports develop and implement pollution prevention plans to prevent or minimize contamination of storm water discharges by de-icing compounds. This can be accomplished in a variety of ways which do not necessitate discontinuing usage. I have enclosed a booklet describing the requirements for submitting storm water permit applications to provide you more information on this new program.

Indicative of our sensitivity to your concerns, on November 25, 1991, representatives from several EPA offices met with representatives of the airline industry to discuss the implications of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) on the use of airport de-icing compounds, in particular ethylene glycol, the most commonly used de-icing compound, now listed as a hazardous air pollutant under section 112 of the 1990 amended Clean Air Act. In response, on February 4, 1992, Don R. Clay, Assistant Administrator for the Office of Solid Waste and Emergency
Response, issued a directive on the "federally permitted releases" provisions of CERCLA and the continuous release reporting regulation as they relate to releases of ethylene glycol during aircraft de-icing operations. I have enclosed a copy of the directive for your reference.

In regard to aircraft rescue and firefighting practice involving burn pits, I have directed EPA staff to follow up with the FAA on the issues you have raised. I appreciate your having brought these concerns to my attention.

I reassure you that EPA is endeavoring to administer requirements applicable to airports under the NPDES storm water program, CERCLA and other environmental programs that are wholly consistent with the regulations and safety policies of other agencies, including the FAA's.

I hope that this letter addresses your concerns. If you have any questions, please feel free to contact LaJuana S. Wilcher, Assistant Administrator for Water or Cynthia C. Dougherty, Director, Permits Division, at (202) 260-9545.

Sincerely yours,

William K. Reilly

Enclosures
Memorandum

Subject: ACTION: Deicing Program Initiatives

Date: 

From: Assistant Administrator for Airports, ARP-1

To: All Regions

ATTN: Manager, Airports Division

Washington headquarters recently sponsored an International Conference on Airplane Ground Deicing which was held on May 28-29. In response to recommendations made at this conference, FAA has agreed to require by regulation that all Part 121 air carriers develop a deicing plan for their fleet of aircraft.

As a short-term initiative, headquarters also agreed to contact the airports noted below and request them to serve as the focal point in setting up a meeting with their Part 121 air carriers and local FAA air traffic control representatives prior to the upcoming winter season. The purpose of this meeting is to assess the impacts of the air carriers' deicing plans and to develop a strategy for enhancing airport operations during periods when deicing activities are required. The goal is to have the initial meetings undertaken and strategies developed prior to the upcoming winter season.

Our immediate concern is to target high activity airports that are most likely to encounter conditions in which deiced aircraft are susceptible to icing while awaiting departure clearance. The following 28 airports have been identified by the Air Transport Association as having a history of significant operational delays and/or long taxiing distances and fall into this category:

Atlanta  
Baltimore  
Cincinnati  
Dallas-Fort Worth  
Washington-Dulles  
Kennedy Int'l

Nashville  
Cleveland  
Washington-National  
Detroit  
Houston Intercont'l  
LaGuardia  

Boston  
Charlotte  
Denver  
Newark  
Indianapolis  
Kansas City
Your airport has been identified as one in which such a meeting would be highly desirable. For this reason, we are asking your cooperation in undertaking this endeavor. Hopefully, working together, this initial effort will lead to significant improvements in aircraft and airport operations during icing conditions.

We appreciate your consideration of this request. If you have any questions regarding the implementation of this initiative, please contact the Airports Division Manager at the FAA Regional Office.

Sincerely,

Leonard L. Griggs, Jr.
Assistant Administrator for Airports
Mr. David Suomi  
Deputy Commissioner  
Chicago Midway Airport  
5700 S. Cicero Avenue  
Chicago, IL  60638

Mr. Jack Ranittza  
Acting 1st Deputy Commissioner  
Chicago O'Hare International Airport  
P.O. Box 66142  
Chicago, IL  60666

Mr. Robert Braun  
Director of Airports  
Detroit Metro-Wayne County Airport  
Leroy C. Smith Terminal Mezzanine  
Detroit, MI  48242

Mr. Tim Anderson  
Director of Airports  
Minneapolis-St. Paul Int'l Airport  
Room 325, Lindbergh Terminal  
St. Paul, MN  55111

Ms. Cynthia Rich  
Director, Dept. of Port Control  
Cleveland-Hopkins Int'l Airport  
5300 Riverside Drive  
Cleveland, OH  44135-3193

Mr. Max Walker  
Acting Commissioner of Aviation  
Department of Aviation, City of Atlanta  
Hartsfield-Atlanta Int'l Airport  
Atlanta, Georgia  30320

Mr. Thomas J. Orr  
Director of Aviation  
Charlotte/Douglas Int'l Airport  
P.O. Box 19066  
Charlotte, North Carolina  28219

Mr. Robert F. Holscher  
Director of Aviation  
Cincinnati/Northern Kentucky Int'l Airport  
P.O. Box 75000  
Cincinnati, Ohio  45275

Mr. Larry D. Cox  
President, Memphis Int'l Airport  
P.O. Box 30168  
Memphis, Tennessee  38130
Gen. William G. Moore, Jr.
USAF (Retired)
President, Nashville Int'l Airport
1 Terminal Drive, Suite 501
Nashville, Tennessee 37214

Mr. John Brantley
Director, Raleigh-Durham Airport Authority
Raleigh-Durham Int'l Airport
P.O. Box 80001
Raleigh-Durham Airport, NC 27623

Mr. Keith Meurlin
Manager, Dulles Int'l Airport
P.O. Box 17045
Washington, DC 20041

Mr. Solomon Harp, III
Manager, Baltimore-Washington Int'l
Box 8766
Baltimore, Maryland 21240-0766

Mr. Richard Rowe
Manager, JFK Int'l Airport
Building #141
Jamaica, New York 11430

Mr. Augustus Melton
Manager, Washington National Airport
M.A. - 100
Washington, DC 20001

Mr. George Peirce
Manager, LaGuardia Airport
Hangar #7
Flushing, New York 11371

Mr. Vincent Bonaventura
Manager, Newark Int'l Airport
Tower Road
Newark, N.J. 07114

Mr. William McQuade
Manager, Greater Pittsburg Int'l Airport
Room M134, Terminal Bldg.
Pittsburg, PA 15231

Mr. James Delong
Manager, Philadelphia Int'l Airport
3751 Island Avenue
Philadelphia, PA 19153
Gen. William G. Moore, Jr.
USAF (Retired)
President, Nashville Int'l Airport
1 Terminal Drive, Suite 501
Nashville, Tennessee 37214

Mr. John Brantley
Director, Raleigh-Durham Airport Authority
Raleigh-Durham Int'l Airport
P.O. Box 80001
Raleigh-Durham Airport, NC 27623

Mr. Keith Meurlin
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Washington, DC 20041

Mr. Solomon Harp, III
Manager, Baltimore-Washington Int'l
Box 8766
Baltimore, Maryland 21240-0766

Mr. Richard Rowe
Manager, JFK Int'l Airport
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Jamaica, New York 11430

Mr. Augustus Melton
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M.A. -100
Washington, DC 20001

Mr. George Peirce
Manager, LaGuardia Airport
Hangar #7
Flushing, New York 11371

Mr. Vincent Bonaventura
Manager, Newark Int'l Airport
Tower Road
Newark, N.J. 07114

Mr. William McQuade
Manager, Greater Pittsburg Int'l Airport
Room M134, Terminal Bldg.
Pittsburg, PA 15231

Mr. James Delong
Manager, Philadelphia Int'l Airport
3751 Island Avenue
Philadelphia, PA 19153
Dear:

Recently, a number of questions have been raised about aircraft deicing practices and winter operating procedures. To address these concerns, the Federal Aviation Administration (FAA) sponsored an International Conference on Airplane Ground Deicing which was held during the week of May 25, 1992. This conference generated considerable information and recommendations directed toward improving airline winter operations.

In accordance with new requirements to be issued by FAA, each air carrier, operating under FAR Part 121, will be required to develop an aircraft deicing plan for its operation. Some of these plans may have activities that could impact airport operations. This is particularly true at high activity airports with a history of significant operational delays and/or long taxiing distances.

At these airports, we are asking the airport operator to serve as a focal point in arranging a meeting with the air carriers and air traffic control tower personnel. The purpose of the meeting is to assess the impacts of the air carriers' deicing activities on airport operations and identify actions that can be taken by the air carriers, the control tower, and the airport operator to maximize the effectiveness and efficiency of operations during these periods. At this meeting, you may wish to address such issues as: aircraft deicing sites closer to the runways; the feasibility of having a secondary application of deicing fluid offered near departure runway ends; the implementation of air traffic operational strategies designed to reduce taxiing and holding delays for departing deiced aircraft; and the effects of changes in deicing procedures on local water quality.
The attached letter has been sent to the operators of the above airports explaining this initiative and requesting their cooperation. You are requested to review this list with your regional Air Traffic Division Manager to determine whether other airports in your region should be added to this list based on the criteria set forth above. If you have recommendations, please submit them to AAS-1 for headquarters consideration ASAP in order that necessary followup actions can be taken.

If you have any questions, please contact Chip Mudd, AAS-1.

Leonard L. Coggins, Jr.

Attachment