a. Harmonization of damage stability provisions in the IMO instruments,

b. Revision of technical regulations of the 1966 International Load LineConvention,

c. Revisions to the Fishing Vessel Safety Code and Voluntary Guidelines,

d. Large Passenger Vessel Safety,

e. Matters relating to Bulk Carrier Safety, and

f. High Speed Craft Code amendments and model tests.

Members of the public may attend this meeting up to the seating capacity of the room. Interested persons may seek information by writing: Mr. Paul Cojeen, U.S. Coast Guard Headquarters, Commandant (G–MSE–2), Room 1308, 2100 Second Street, SW., Washington, DC 20593–0001 or by calling (202) 267–2988.

Dated: July 24, 2001.

Stephen Miller,

Executive Secretary, Shipping Coordinating Committee, U.S. Department of State.

[FR Doc. 01–19193 Filed 7–31–01; 8:45 am]

BILLING CODE 4710–07–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Proposed Advisory Circular (AC) 34–1A, Fuel Venting and Exhaust Emissions Requirements for Turbine Engine Powered Airplanes

AGENCY: Federal Aviation Administration.

ACTION: Notice.

SUMMARY: This notice invites public comment on a proposed advisory circular (AC) that provides updated guidance for implementing the fuel venting and exhaust emission requirements for turbine engine powered airplanes.

DATES: Comments must be received on or before October 1, 2001.

ADDRESSES: Send all comments on the proposed AC to: Curtis Holsclaw, Manager of Emissions Division, AEE–300, Office of Environment and Energy, 800 Independence Avenue, SW., Washington, DC 20591. Comments may be examined at the above address between 7:30 a.m. and 4 p.m. weekdays, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Edward McQueen, Emissions Division, AEE–300, Office of Environment and Energy, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–3560; E-mail: *edward.mcqueen@faa.gov.*

SUPPLEMENTARY INFORMATION:

Comments Invited

A copy of the subject AC may be obtained by contacting the person named above under **FOR FURTHER INFORMATION CONTACT.** Interested persons are invited to comment on the proposed AC by submitting such written data, views, or arguments, as they may desire. Commenters must identify the title of the AC and submit comments in duplicate to the address specified above. All comments received on or before the closing date for comments will be considered before issuing the final AC.

Discussion

Advisory Circular (AC) 34–1A, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, has been written to provide section-by-section guidance on 14 CFR part 34 (part 34). The AC is intended to provide a better understanding of the provisions of the part 34, and to facilitate standardized implementation of the part 34 throughout the aviation industry. The AC contains updated information concerning the standards and requirements for aircraft fuel venting and engine emission certification, and presents explanatory information and guidance, as necessary, to identify acceptable means of compliance. The information contained in the AC sets forth acceptable means, but not the sole means, by which compliance may be shown with the requirements of part 34.

Pursuant to the Clean Air Act, sections 231 and 232, part 34 must conform to 40 CFR part 87 (part 87) as issued by the United States Environmental Protection Agency. Potential users of this proposed AC, as well as part 34, should be alert to any changes to part 87 that have not yet been included in either part 34 or this AC. In such instances the requirements of part 87 are considered controlling.

In addition to the section-by-section explanations, the AC includes three chapters that explain specific appendices from the International Civil Aviation Organization (ICAO), Annex 16, Volume II, Aircraft Engine Emissions. Since Annex 16 is specifically referenced in part 34, these chapters are included to make the AC a more complete reference source.

The ICAO appendices deal with detailed technical issues regarding instrumentation and measurement techniques and, as such, are relatively complex. Thus, they have been kept distinct from the rest of the AC as separate chapters. Typically, only those readers who are interested in specific equations and/or details regarding measurement techniques will need to read these sections.

Issued in Washington, DC, on July 26, 2001.

Carl E. Burleson,

Director of Environment and Energy.

[FR Doc. 01–19155 Filed 7–31–01; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[Policy Statement Number ACE–01–23.1093(b)]

Proposed Issuance of Policy Memorandum, Compliance With Induction System Icing Protection (14 CFR part 23, § 23.1093(b)) for Part 23 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of policy statement; request for comments.

SUMMARY: This document proposes to adopt new policy for compliance with induction system icing protection for certification of normal, utility, acrobatic, and commuter category turbine powered airplanes with propeller beta mode pitch settings.

DATES: Comments sent must be received by August 31, 2001.

ADDRESSES: Send all comments on this proposed policy statement to the individual identified under **FOR FURTHER INFORMATION CONTACT.**

FOR FURTHER INFORMATION CONTACT: Randy Griffith, Federal Aviation Administration, Small Airplane Directorate, Regulations and Policy Branch, ACE–111, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone (816) 329–4126; fax (816) 329–4090; email: <randy.griffith@faa.gov>.

SUPPLEMENTARY INFORMATION:

Comments Invited

How Do I Comment on the Proposed Policy?

We invite your comments on this proposed policy statement, ACE–01–23.1093(b). You may send whatever written data, views, or arguments you choose. Mark your comments, ''Comments to policy statement ACE–01–23.1093(b)'' and send two copies to the above address. We will consider all comments received on or before the closing date. We may change the proposals contained in this notice because of the comments received.

You may also send comments using the following Internet address:

<randy.griffith@faa.gov>. Comments sent by fax or the Internet must contain ''Comments to policy statement ACE–01–23.1093(b)'' in the subject line. You do not need to send two copies. Format in Microsoft Word 97 for Windows or ASCII text any comments you send via the Internet as attached electronic files.

Send comments using the following format:

Organize comments issue-by-issue. For example, discuss a comment concerning design evaluation and a comment about maintenance as two separate issues.

For each issue, state what specific change you are seeking to the proposed policy memorandum.

Include justification (for example, reasons or data) for each request.

The Proposed Policy

Purpose

What is the Purpose of this Policy Statement?

The purpose of this policy statement is to provide compliance guidance for the engine induction system ice protection requirements contained in 14 CFR, part 23, § 23.1093(b), which is applicable to part 23 turbine powered airplanes. Except for the information contained in Advisory Circulars (AC) 20–73 and 23.1419–2A, this guidance cancels and supersedes previous guidance on § 23.1093(b) compliance for part 23 normal, utility, acrobatic, and commuter category airplanes.

The guidance contained in AC 20–73 and 23.1419–2A, relevant to § 23.1093(b) compliance, is still applicable.

Applicants and FAA Aircraft Certification Offices (ACO) involved with certification of small airplanes should generally follow this policy. Applicants should expect that the ACO would consider this information when making findings of compliance. However, in determining compliance with certification standards, each ACO has the discretion to deviate from these guidelines when the applicant demonstrates a suitable need. To ensure standardization, the ACO should coordinate deviation from this policy with the Small Airplane Directorate.

References

FAA Aeronautical Information Manual (AIM).

Advisory Circular 23.1419–2A, Certification of Part 23 Airplanes for Flight in Icing Conditions.

Advisory Circular 20–73, Aircraft Ice Protection.

Advisory Circular 29–2C, Certification of Transport Category Rotorcraft.

Flight into Icing Approval

It is important to know that compliance with § 23.1093(b) for induction system icing protection, the initial requirement being incorporated by Amendment 23–7, is independent of approval for flight into icing (§ 23.1419 compliance). Propulsion system items that were intended to be certificated to the level of flight into icing approval are addressed under § 23.929, initially adopted by Amendment 23–14. Service experience has shown that airplanes encounter icing conditions even if the airplane is not approved for flight into icing. This is particularly true with turbine powered airplanes, which typically have an expanded operating flight envelope as compared to reciprocating engine powered airplanes. To provide a minimum level of ice protection for all for part 23 normal, utility, acrobatic, and commuter category airplanes, compliance with all the requirements contained in § 23.1093 must be demonstrated even if flight into icing approval is not obtained. Therefore, compliance with § 23.1093(b) is required even if flight into icing certification is not pursued.

Use of Similarity and Service Experience

The use of similarity and service experience is appropriate to lessen the design risk associated with an installation. Once an applicant has developed data on an installation, then the applicant may use this data, when suitable, for substantiation on later projects with similar installations. It is common and proper for an applicant to base analytical methods and test point definitions on experience and testing of previous, similar certification programs performed by the applicant. However, since certification data helps define the type design of an airplane, for one applicant to use data from another applicant's certification program as substantiation, access to the specific design and test considerations used by the second applicant would be required. Therefore, the proper use of similarity data by an applicant to support analytical methods and testing requirements would be difficult if the data was not based on the applicant's past projects or if the project is not being performed in cooperation with another applicant.

Even if previous experience and data are used, each inlet/engine installation and the associated operating characteristics can be different and should be considered individually. Therefore, it is not appropriate to use similarity or service experience by itself for the purpose of demonstrating compliance to the § 23.1093(b) requirement. Rather, such means as similarity or service experience should be supplemented with either analysis, even if only basic design analysis to substantiate similarity, or testing, or a combination of both.

Use of Tunnel Test Data

An area where there has been much discussion has been the use of tunnel test data instead of full-scale, airplane flight test data for showing compliance with § 23.1093(b). The use of tunnel test data is a common, appropriate, and often efficient means to reduce the amount of testing required by the applicant for showing compliance. However, the extent that this data can be used for compliance is dependent upon how representative the test article and test conditions are to the installation and airplane operating conditions.

It is not uncommon for tunnel testing to be performed on a prototype or test inlet that often has design differences from the production inlet used by an installer. When using tunnel test data, or any test data for that matter, as a basis for testing or certification, the applicant must address the differences and the impact of the differences. Three areas of difference usually addressed are:

(1) Heated versus non-heated inlets;

(2) Inlets with movable or variable internal devices (for example, movable vanes used to select bypass modes on a number of turbopropeller inlets) versus fixed inlets; and

(3) Differences in geometry even if the inlet type (fixed versus variable) is the same.

As an example, if tunnel testing is performed with a heated inlet and an applicant incorporates a non-heated inlet, ice runback/refreeze may be reduced, but items such as ice accretion characteristics will be different.

Also, it must be ensured that the tunnel tests were performed at the critical points. Advisory Circular 20–73, Aircraft Ice Protection, provides guidance on critical points determination.

14 CFR Part 33 Engine Certification

The airplane applicant should coordinate the installation of an engine with the engine manufacturer. Engine certification will identify critical points, conditions, and operational requirements that may need to be addressed when showing compliance with the installation requirements. However, it is inappropriate to assume that part 33 engine certification would fully address the part 23 engine installation requirements.

It should be emphasized that it is the responsibility of the airplane applicant and not the engine manufacturer to show compliance with the part 23 induction system ice protection requirements. Items such as use of an inlet system recommended by the engine manufacturer would still require installation substantiation to show compliance with part 23 requirements.

It is appropriate to use engine certification data as the basis for reducing design risk, analysis, testing, and so forth; however, when showing compliance with § 23.1093(b) it is still the responsibility of the installer to evaluate this data and demonstrate how the data is applicable to the particular application. Therefore, close coordination of the engine and airplane applicant can ease certification burdens and enhance the safety of a particular engine installation.

Falling and Blowing Snow Requirement

The requirement contained in § 23.1093(b)(1)(ii), incorporated initially by Amendment 23–15, is to evaluate the installed powerplant system to ensure no hazardous effects are encountered when operating in falling and blowing snow. A hazardous effect could be in the form of unacceptable engine operating characteristics (for example, adverse power loss, surges, and so forth) due to inlet blockage or engine damage resulting from conditions such as snow, which may accumulate, melt, refreeze, shed, and then be ingested by the engine. The requirement was incorporated separately from icing and water ingestion requirements due to the unique characteristics of snow. Therefore, it is inappropriate to assume that compliance with engine induction system icing requirements means that compliance with snow requirements have been met.

Service experience has demonstrated that engine damage can occur as a result of prolonged ground operations in falling and blowing snow. Also, in-flight service experience has shown that snow, which has melted and refrozen, can shed from engine, inlet, or airplane accumulation sites, resulting in adverse engine operability or engine damage. Therefore, the effect of ingesting snow during ground operations and critical in-flight operations should be evaluated. The snow environment that has been seen to be critical is a ''wet, sticky snow,'' which accumulates on unheated exterior and interior surfaces subject to impingement.

When showing compliance with § 23.1093(b)(1)(ii), review of the installation should be performed to identify potential inlet, engine, and airframe sites where snow accumulation and shedding is possible. Also, review of the airplane operation should be performed to determine critical conditions that should be addressed.

Although all turbine engine installations should be evaluated, turbopropeller installations generally have different areas of concern than turbofan/jet installations. Typical turbopropeller installations have inlets that incorporate complex geometry with features such as particle separators, plenum chambers, screens, oil coolers, and so forth, where hazardous snow accumulations may occur. Typical turbofan/jet installations, using simple pitot (straight duct) inlets, have minimal, if any, areas for snow accumulation. For these inlets, in-flight icing tests have been generally been found to be more critical than snow tests. Therefore, a turbofan/jet installation may be found acceptable by inlet design and airplane operation analysis, while turbopropeller installations will normally require testing in operationally representative conditions.

However, it needs to be reemphasized that the installation should be evaluated to decide on the required level of substantiation. For example, aft mounted turbofan/jet installations may have concerns with snow shed from wing surfaces. Also, there are turbofan installations with S-type inlet ducts that would have many of the same concerns as turbopropeller installations. Additionally, part 33 engine certification does not address snow ingestion and some turbofan/jet engines, in addition to turbopropeller engines, may have internal accumulation sites that may allow snow to melt, refreeze, and shed causing internal engine damage. Therefore, all turbine engines should be evaluated with close coordination with the engine manufacturers.

When evaluating the conditions for showing compliance, the following airplane operations should be considered:

1. Static operation with the engine at idle for 30 minutes, with the ability to attain take-off power. This condition is considered critical due to the operational consideration of idling an engine on the ground with minimal ability for de-ice/anti-ice. The primary concern is the loss of power at take-off roll.

If found acceptable, the engine may be able to be run up at higher power settings during the 30 minute period for the purposes of ice/snow shed. If run-ups are performed during compliance demonstration, these procedures should be incorporated as limitations in the Flight Manual.

Before run-ups are accepted, the practicality of the procedures should be evaluated. For example, if an engine must be run at a high power setting that may allow the airplane to slide or create hazards to other airplanes, then the procedures may not be acceptable.

2. Higher power settings, which could result in increased snow ingestion, associated with taxi/hold ground operations.

3. For airplanes with identified sites of possible hazardous snow accumulation and all inlets with bypass ducts (for example, typical turbopropeller inlets), a take-off run to take-off speed. This condition is considered critical since

(a) accumulated snow may liberate at this dynamic condition; and

(b) the static, idle point will not provide the ram effects that create bypass flow for bypass ducts.

4. For airplanes with identified sites of possible hazardous snow accumulation, take-off climb. This condition is considered critical since accumulated snow may liberate at this dynamic condition.

5. Extended in-flight operations such as hold patterns.

6. Operation when engine rotor speeds are low, such as during descent from high altitudes. An engine is highly susceptible to snow/ice accretion during this condition.

It should be noted that the preceding conditions are operational considerations and not meant to require flight test at all the conditions. As mentioned earlier, each installation may have different critical operational considerations and only the critical conditions may need further substantiation than just analysis.

Also, when appropriately substantiated by the applicant, some of the conditions can be, and have been, simulated and accepted by the FAA. For example, for a turbopropeller engine that incorporates an inlet screen that precludes the ingestion of hazardous quantities of materials, the critical concern to be addressed may only be the effect of snow accumulation and release from the inlet and screen. In this case, the inlet, bypass duct, inlet screen, and so forth, could be blocked to simulate snow accumulation on an identified area of concern. Since accumulation during dynamic operation would be simulated, the effects of snow ingestion could be determined through ground tests (for example, effects of operability on items such as reverse flow). Such methodologies need to be substantiated by means such as design analysis, operational review, tunnel tests, icing tests, and so forth, and coordinated early with the FAA.

When testing in ''falling and blowing snow'' the actual snow amount is often difficult to quantify. The FAA Aeronautical Information Manual (AIM), an official FAA guide to basic flight information and air traffic control procedures, may be used as guidance for what constitutes falling and blowing snow. Per the AIM, paragraph 7–1–18, heavy snow, which is representative of what may be expected in operation, is defined as visibility of ¼ mile or less as limited by snow (not snow and fog). These conditions are usually indicative of the wet snow environment desired for test. When using the ¼ mile or less visibility for test, including flight tests, this value can be determined using ground conditions. Advisory Circular 29–2C (Certification of Transport Category Rotorcraft), section AC 29–1093, paragraph c(4)(iv) also provides information on snow quantification including desired snow concentration, which is acceptable for use on part 23 airplanes.

As discussed earlier, the primary consideration is to demonstrate operability in a snow environment that is critical as far as snow accumulation on exterior and interior areas of impingement (for example, wet, sticky snow). Therefore, in addition to a snow environment indicative of a representative concentration expected for the airplane, temperature is also an important consideration. The applicant is responsible for defining the critical ambient temperatures for snow tests.

Typically, in natural conditions a temperature range between 25 and 34 degrees Fahrenheit has been found conducive to the heavy snow environment. However, colder temperatures may be critical to some configurations. For example, in some installations, colder exterior surfaces may be bypassed, with snow crystals sticking to partially heated interior inlet surfaces, leading to melting and refreeze. In all cases, the applicant must identify and evaluate the critical temperature for the configuration proposed. Company developmental tests or experience with similar induction systems may be used to determine critical conditions.

It should be emphasized that the purpose of the requirement is to evaluate the engine's induction system ice protection capability in snow environments that can be expected during the operational life of the airplane. Addressing the snow environment, detailed in resource materials such as the AIM, at critical operational conditions for a particular airplane, provides a good gauge to evaluate the system's capability. Most configurations will not require flight test in all operational conditions.

Snow concentration corresponding to the visibility prescribed is often extremely difficult to locate naturally. Furthermore, it is often difficult to maintain the desired concentrations for the duration of testing. Because of these testing realities, it is very likely that exact target test conditions will not be achieved for all possible test conditions. Therefore, those involved in certification must exercise reasonable engineering judgement in accepting critical test conditions and alternate approaches, with early coordination between the applicant and the FAA addressing these realities.

Artificially produced snow is an excellent developmental tool and has been used successfully to show potential problem areas and critical test points. When the desired snow concentration is not found, artificial means may be used to supplement the snow amount. However, when snow testing is required, the use of simulated snow is normally not used as the sole means of compliance. The desired heavy snow environment produces ''wet, sticky snow,'' which accumulates on unheated exterior and interior surfaces subject to impingement. Most artificial means (for example snow blowers) produce snow pellets that are dissimilar to the snowflakes associated with ''wet, sticky snow.'' Also, simulated snow produced indoors does not accumulate moisture from snow fall as seen in naturally created snow, with critical temperatures for simulated snow varying significantly from natural snow. Therefore, quantification of artificially produced snow to get critical conditions can be very difficult and subjective. If artificial means is proposed as a means of compliance, the applicant should provide data and substantiation on how the artificial means will effectively simulate the critical, desired operational consideration.

The concentration of snow entering the inlet in blowing snow will normally exceed the amount in falling snow; hence, the need to address ''blowing snow.'' Therefore, the location of the inlets should be considered to determine critical directions of blowing snow in relation to snow accumulation on impingement surfaces. Snow blowing in excess of 15 knots is the desired compliance condition. Means such as use of another airplane's propeller, taxiing the airplane in excess of 15 knots, and so forth, may be used to simulate blowing.

An additional area of emphasis for § 23.1093(b)(1)(ii) compliance is the words in the regulation ''* * * within the limitations established for the airplane for such operation.'' As with all environmental considerations, such as rain, ice, hail, lightning, and so forth, operation in snow is considered an unavoidable, meteorological hazard that must be addressed. The only plausible Flight Manual limitation that may be acceptable would be prohibitions for ground operations such as taxi, take-off, engine runs, and so forth. However, the case of flying into snow after deployment must be considered.

Ice Fog

The basic requirement contained in § 23.1093(b)(2), also incorporated by Amendment 23–15, addresses the condition of idling the engine on the ground to ensure no adverse ice build-up (for example, no surges, adverse power loss, and so forth), commonly referred to as ''ice fog.'' A way to view the § 23.1093(b)(2) requirement is as an extension upon the 14 CFR, part 25, Appendix C icing envelope addressed in §§ 23.1093(b)(1)(i) and 23.1419. Therefore, the methodologies and analysis used for compliance with § 23.1093(b)(1)(i) can be extended for § 23.1093(b)(2) compliance.

It is often difficult to encounter all the ambient conditions required by § 23.1093(b)(2); therefore, when testing, one or more of the conditions is typically simulated. For example, a common and acceptable method of compliance is using water spray devices to simulate the water conditions required, while testing at the required ambient temperature conditions. Other manufacturers have used thermal analysis combined with dry air tests using ice shapes/simulated blockage to demonstrate compliance, which is also acceptable if properly substantiated.

The rule allows an engine run-up periodically to higher power settings to shed ice. As with snow testing, if run-ups are performed during compliance demonstration, then these procedures should be incorporated as limitations in the Flight Manual. Also, before run-ups are accepted, the practicality of the procedures should be evaluated.

Issued in Kansas City, Missouri, on July 18, 2001.

James E. Jackson,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01–19154 Filed 7–31–01; 8:45 am]

BILLING CODE 4910–13–U