



Federal Aviation Administration

Memorandum

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To: Office of Airports Regional Directors, AXX-600s; Airport Planning & Programming Managers, AXX-610s; Airports District Office Managers, XXX-ADOs.

From: 
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Subject: PGL 19-01: Aqueous Film Forming Foam (AFFF) Input-Based Testing Equipment

1. Purpose and Background

FAA 2018 Reauthorization

The FAA Reauthorization bill of October 2018, stated that the FAA Administrator, no later than October 2021, in coordination with the Administrator of the Environmental Protection Agency, aircraft manufacturers, and airport operators, shall not require the use of fluorinated chemicals in AFFF. This provision does not impact the current use of fluorinated foams.

Currently, the FAA has found that the fluorine-free foams are not as effective as fluorinated foams. Therefore, firefighting with fluorine-free foams requires a higher percentage of foam to water than fluorinated. The FAA continues to research fluorine-free AFFF as a high priority activity at the FAA Technical Center, with the focus on AFFF alternatives research testing and other ARFF technologies. One of the goals of these projects is to find alternative firefighting foams that are environmentally friendly, while providing the same level of safety currently offered by the AFFF that is in use today at airports.

14 CFR Part 139 Requirements

Title 14, Code of Federal Regulation (CFR) §139.317 requires airport operators use AFFF in their vehicles that meet Index A through E requirements. Section 139.319 (g) states: Vehicle readiness. Each vehicle required under §139.317 must be maintained as follows:

(1) The vehicle and its systems must be maintained so as to be operationally capable of performing the functions required by this subpart during all air carrier operations. Such systems, including the foam proportioning system and discharge of AFFF must be able to operate properly in an emergency situation.

The FAA issued National CertAlert 19-01, addressing AFFF testing at Part 139 certificated airports. To help ensure their operability, the FAA recommends vehicle system testing intervals occur 6 months prior to the airport's periodic airport certification safety inspection. National Fire Protection Association (NFPA) 412, Standard for Evaluating Aircraft Rescue and Firefighting Foam Equipment, identifies two possible methods for testing the foam proportioning systems on ARFF vehicles. The output-based option requires the discharge of AFFF externally, and an input-based testing system, which does not require AFFF to be discharged externally from the vehicle. Due to increasing environmental concerns, the FAA has conducted research to allow airports to use the input-based testing procedures as identified in NFPA 412 paragraph 6.2.4 to maintain compliance.

Testing of Fluorinated Foams

Several airport operators have indicated a desire to begin using input-based testing on their ARFF equipment prior to October 2021, rather than output-based testing, in which AFFF must be discharged (whether onto the ground or into a collection and containment vessel).

This PGL addresses the eligibility of equipment, including airport rescue and firefighting truck modifications, to install in-line proportioner testing systems (input-based testing) for Aqueous Film Forming Foam (AFFF). This PGL is approved for immediate use for 14 CFR Part 139 certificated Airports that are required to test AFFF to ensure continued compliance with regulatory requirements.

2. AIP Eligibility

Under 49 U.S.C. 47102(3), "Airport development" is a defined term that includes 18 broad categories. Among those broad categories included is:

acquiring for, or installing at, a public-use airport ...

(iv) firefighting and rescue equipment at an airport that serves scheduled passenger operations of air carrier aircraft designed for more than 9 passenger seats

AFFF input-based testing equipment specifically applies to airport rescue and firefighting. The FAA has determined that AFFF testing equipment is considered part of "firefighting and rescue equipment" as defined under the statute.

3. AIP Justification

This PGL does not require airports to modify existing ARFF vehicles to allow input based testing. Output-based discharge testing remains an allowable method of testing foam proportioning. However, if an airport sponsor decides to modify an existing ARFF vehicle to allow input based testing, AIP costs will be limited to reimbursement of in-line proportioner testing equipment and associated direct installation costs needed as part of required ARFF truck modifications.

AIP funding is justified for:

- a. Only ARFF vehicles required by 14 CFR Part 139 to have AFFF onboard to meet required Index (or class). Including those made eligible under PGL 17-01.
- b. Eligible costs of equipment and installation only.
- c. For a sponsor acquiring a new ARFF vehicle, the sponsor may include the piping required to allow input-based testing. However, because there are three different known

AFFF Testing Equipment

methods of piping to allow input-based testing, a sponsor must not specify its preferred method of piping and/or testing. This would result in an unallowable sole-source procurement. Until the Office of Airport Safety and Standards has issued a change to the Advisory Circular 150/5220-10E - Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, the sponsor must use the following language as an additional item to specify input-based testing on a new ARFF vehicle:

- Piping, internal modification, cart, trailer, or other equipment needed to support NFPA 412 input-based testing.
- d. Only one set of external equipment is allowed per airport. External equipment refers to the piping, cart, hoses, trailer, or other equipment that is not permanently affixed to the truck, but that is used to conduct input-based testing. This external testing equipment is justified and more cost effective for multiple vehicles, especially those nearing the end of their useful life.
- e. Spare parts, disposable items, measurement and testing equipment are not allowed.

4. AIP Eligibility Sunset

The eligibility for stand-alone acquisition of input-based testing equipment and truck modification sunsets on November 1, 2021. After this date, acquisition of input-based testing equipment will be an allowable cost of acquiring an ARFF vehicle. At that time, if a clarifying PGL is needed, it will be issued.