



# Federal Aviation Administration

## National Part 139 CertAlert

**\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\*Advisory\*\*Cautionary\*\*Non-Directive\*\***

**Date:** 1/17/2019 **No. 19-01**

**To:** All Certificated Part 139 Airports and Aircraft Rescue and Firefighting (ARFF) Departments

**Subject:** Aqueous Film Forming Foam (AFFF) Testing at Certificated Part 139 Airports

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- 1. Purpose.** This CertAlert provides information and guidance to airport operators regarding optional equipment for use in testing Aqueous Film Forming Foam (AFFF) systems on their Aircraft Rescue and Firefighting vehicles. It also provides information on current research into fluorine-free firefighting foams, due to recent concerns over the use and discharge of AFFF at airports. This guidance has been prepared in response to a directive in the FAA Reauthorization Act of 2018, described in further detail below, and it does not revise or replace any previously issued guidance.

This guidance is not legally binding in its own right and will not be relied upon by the Agency as a separate basis for affirmative enforcement action or other administrative penalty. Furthermore, conformity with the guidance document (as distinct from existing statutes and regulations) is voluntary only, and nonconformity will not affect rights and obligations under existing statutes and regulations.

- 2. Background.** Title 14 Code of Federal Regulation (CFR) Part 139 requires airport operators to maintain their ARFF vehicle and its fire suppression operating systems. Such systems, including the foam proportioning system and discharge functions, must be able to operate properly in an emergency situation. To help ensure their operability, the FAA recommends vehicle system testing intervals occur within 6 months of the airport's periodic airport certification safety inspection. Airports must maintain proper documentation of the testing, and have it available during the periodic inspection. If the airport operator does not conduct testing within these intervals, the FAA will require the airport operator to discharge AFFF during the airport's periodic inspection, for those vehicles identified to meet the ARFF Index. Testing during the inspection may also include an analysis by refractometer, or conductivity meter, (as referenced in the National Fire Protection Association (NFPA) Standard 412), for at least one ARFF vehicle. This testing ensures the vehicle is proportioning the AFFF and water correctly and within tolerance, and demonstrates that the operator is knowledgeable about the equipment. Testing the

system is an integral part of maintaining ARFF vehicles in optimal condition for an emergency response.

Currently, all certificated Part 139 airports are required to use foams that meet military specifications (MIL-PRF-24385), which are listed on the Navy's Quality Product Database (QPD) website:

<https://qpldocs.dla.mil/search/parts.aspx?qpl=1910&param=QPL-24385&type=256>

Recently, there has been growing concern over the use and discharge of AFFF at airports. The molecular composition of specification MIL-PRF-24385 contains a chemical compound found to potentially contaminate drinking water. This concern led to the inclusion of a mandate within the FAA Reauthorization Act of 2018 (enacted October 5, 2018), directing the FAA to stop requiring the use of fluorinated foam no later than three years from the date of enactment (October 4, 2021).

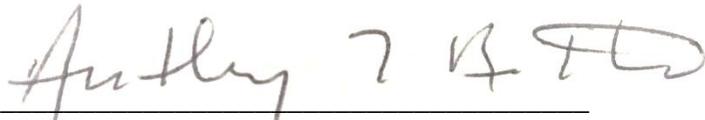
Currently, the fluorine-free foams on the market do not match the performance of their fluorinated counterparts, and they require more agent to extinguish fires quickly. Fluorine-free foams are not able to provide the same level of fire suppression, flexibility, and scope of usage as MIL-PRF-24385 AFFF firefighting foam.

The FAA is committed to ensuring safety at our nation's airports, while also balancing environmental concerns. The FAA and other organizations continue to conduct research on fluorine-free firefighting foams. To assist the research, the FAA has also begun construction on a new research facility focusing on testing for AFFF alternatives and other ARFF technologies. One of the goals of the agency's ARFF projects is to find an alternative firefighting foam that is environmentally friendly, while providing the same level of safety currently offered by MIL-PRF-24385 AFFF.

Last year, the FAA Technical Center initiated research on three different types of AFFF testing equipment that do not require foam to be dispensed onto the ground. The testing is now complete, and the FAA will accept use of these systems, shown in paragraph 3(a) below, as options to test the AFFF function on ARFF vehicles.

- 3. Recommendations.** The FAA believes that testing ARFF vehicles' AFFF systems is essential to safety. We are working to give ARFF departments the flexibility to ensure they maintain their ARFF vehicles' readiness, while also addressing environmental concerns. The FAA recommends the following to airport operators:
  - a. Consider using one of the following AFFF testing systems, which the FAA has accepted for immediate use, to satisfy the Part 139 testing requirement while minimizing the environmental impact:
    - a. Eco-Logic system from E-One
    - b. NoFoam System
    - c. Oshkosh Eco EFP (Electronic Foam Proportioning) System

- b. Consider establishing local Standard Operating Guidelines/Standard Operating Procedures (in conjunction with your local or state environmental regulatory organizations) to identify a suitable location/storage container to discharge AFFF for training and/or testing to ensure the functionality of the foam proportioning system on each ARFF vehicle.
- c. Consider establishing safe and environmentally effective handling and disposal procedures during testing and re-servicing of each ARFF vehicle with AFFF.
- d. Periodically visit the FAA ARFF webpage for further guidance:  
[https://www.faa.gov/airports/airport\\_safety/aircraft\\_rescue\\_fire\\_fighting/](https://www.faa.gov/airports/airport_safety/aircraft_rescue_fire_fighting/)
- e. Read the FAA Technical Center Report on Input-Based Foam Proportioner Testing, due to be released in early 2019.
- f. Consider contacting your ARFF vehicle manufacturer for information on next steps and vehicle modifications to begin using these optional testing systems.



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Date