



Federal Aviation Administration

National Part 139 CertAlert

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

Date: 12/31/2024 **No. 24-11**

To: Airport Operators, All Certificated Part 139 Airports and Aircraft Rescue and Firefighting (ARFF) Departments and FAA Airport Certification Safety Inspectors (ACSI)

Subject: REQUIRED OUTPUT BASED TESTING AFTER COMPLETION OF FLUORINE FREE FOAM (F3) TRANSITION

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a. Purpose.

The purpose of this CertAlert is to inform airport operators of the requirement in accordance with 139.319(g)(1) to conduct an output-based foam test on each index vehicle once Part 139 airport ARFF index vehicles have completely transitioned from AFFF to F3.

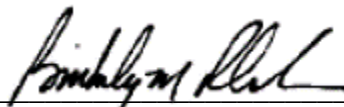
b. Background.

- a. Congress has taken steps to reduce the use of firefighting agents containing PFAS by the DoD and Part 139 airports. Results from several years of research and testing led to the development of the Military Specification MIL-PRF-32725 for fire extinguishing agent, F3 liquid concentrate, for land-based, freshwater applications. Subsequently, the FAA authorized the use of F3 qualified products at all certificated airports.
- b. Title 14 Code of Federal Regulation (CFR) Part 139.319 (g)(1) requires airport operators to maintain their ARFF vehicles and their fire suppression operating systems to be operationally capable of performing the functions required by the regulation during all air carrier operations.
- c. Testing the firefighting systems is an essential part of maintaining ARFF vehicles in optimal condition for an emergency response. Discussions with industry at the FAA AFFF Advisory - Transition Planning Group disclosed that due to different viscosities of F3, in relationship to both AFFF and other F3 products, flow rates after transitioning to F3 have been below tolerances. To ensure the vehicles are meeting Part 139.319 (g)(1) requirements, the FAA continues to require testing on all index vehicles to ensure proper flow rates.

c. Guidance.

- a. Once an airport ARFF index vehicle has completely transitioned from AFFF to F3, airports must complete both an output- and input-based test to ensure the proportioning system is working correctly and to recalibrate the input-based systems.

- b. Prior to performing output-based testing, airports must conduct input-based testing (if available) to identify and correct any known or unknown issues with their ARFF vehicles. Airports must confirm:
 - i. Discharge flow rates are within range and stable.
 - ii. There is no bad sealing in the metering devices causing flow through the proportioning system when not discharging.
 - iii. Orifices only open for their corresponding and proper discharge (not applicable to Rosenbauer)
 - iv. Pump pressure is in proper operating range.
 - v. Manual foam metering valve and/or bypass is disabled.
- c. Output-based testing will be required, utilizing the roof and bumper turrets only, to ensure both electronic and mechanical foam proportioning systems are functioning properly.
- d. The results of the output-based test for each turret discharge must be within 2.8% and 3.5% for turrets (pursuant to National Fire Protection Association (NFPA) 460). After verifying the vehicles are within range, conduct another input-based test. These input-based test results will be used as the reference value moving forward for all input-based tests.
- e. Once the input-based testing system is verified, airports will be allowed to use input-based testing systems for future testing unless:
 - i. The airport changes foam formulations/different type of F3 foam or
 - ii. The vehicle requires adjustments made to the foam proportioning system, triggering changes to the pump pressure.In either of the instances described in (e)(i) or (ii), another output-based test will be required.
- f. Certificated part 139 airports should notify their Airport Certification Safety Inspector once the transition to F3 and testing are complete.



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