

AVIATION BOARD BACKGROUND LETTER

Aviation Board Meeting Date: June 16, 2025

To: Chair Dickinson and Aviation Board Members
Cc: Shaundel Washington-Spivey, Mayor
From: Jeff Tripp, Airport Director
Subject: Resolution to appropriate funds to complete Output-Based Foam Testing for ARFF Unit FOX2

Background:

Earlier this year, the Airport successfully completed its transition from Aqueous Film Forming Foam (AFFF), which contains per- and polyfluoroalkyl substances (PFAS), to a new Federal Aviation Administration (FAA) approved Fluorine Free Foam (F3) as part of the airport's PFAS remediation program. This transition included the acquisition of a new primary Aircraft Rescue and Firefighting (ARFF) apparatus in November 2023 (FOX1) and the decontamination of the airport's secondary ARFF apparatus in January 2025 (FOX2).

Upon completion of the decontamination process, the Airport submitted documentation to the FAA and requested approval to return FOX2 to active service. In response, FAA indicated that pursuant to their December 31, 2024, mandate regarding the transition to F3, the apparatus cannot be certified for service until it successfully completes output-based foam testing. This testing requires the discharge of foam to verify proper foam proportioning rates of the F3 agent in accordance with prescribed FAA performance tolerances.

Purpose:

Although F3 foam is classified as non-hazardous by FAA and Wisconsin Department of Natural Resources (DNR), the Airport is committed to environmental stewardship and intends to conduct output-based testing in a manner that ensures full containment and proper disposal of all discharged foam and rinse water. The Airport has conducted research and engaged with peer airports that have successfully completed the mandated testing.

Based on our due diligence, the Airport has identified qualified and experienced vendors who can perform the required testing and manage the environmental aspects of foam containment and disposal in compliance with applicable regulations.

Fiscal Impact:

The estimated cost to complete the output-based testing, including all labor, containment, capture, disposal services, and replacement supply of foam is \$50,000. The Airport is finalizing the cost estimate for the July council request and proposes to fund this project through the Airport Operating Budget (600).

Currently, no federal or state grant funding is available to support this effort. However, the Airport will request reimbursement of said expenditures should federal or state grant funding become available.

Since January 2025, the Airport has been operating without its secondary ARFF apparatus. Continued delay in completing the required testing poses operational concerns. The Airport is required to maintain operational ARFF capability to support scheduled commercial air service such as that provided by American Airlines (operated by Envoy Airlines).

While the secondary apparatus is not required for normal air service operations, it provides essential backup in the event the primary apparatus is out of service for repairs, ensuring uninterrupted compliance with FAA Part 139 requirements.

Additionally, having the secondary apparatus available allows the airport to temporarily increase its ARFF Index to support military charter flights, VIP flights such as those occurring during presidential election cycles, or large aircraft diversions due to severe weather or other events.

Without this back-up ARFF capability, the Airport risks impacting normal air service operations and our ability to support charter flights, VIP, and/or military flights and the potential loss of revenues received from landing fees and fuel flowage fees.

Recommendation:

"I move to approve requesting council authorization to complete the output-based foam testing for FOX2 using airport operating budget funds."

Respectfully Submitted,



Jeffrey S. Tripp, A.A.E.
Airport Director

Attachment: Resolution 25-0688



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.

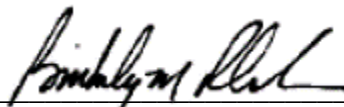
b. Background.

- 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.



Birke Rhodes, Manager
Airport Safety and Operations Division, Manager

12/31/2024
Date