PFAS Containing Firefighting Foam: Decontamination Guidance for Fire Apparatus

This guidance is for the decontamination of fire apparatus that contained Class B firefighting foam with intentionally added PFAS. The New Jersey Department of Community Affairs Division of Fire Safety coordinated efforts with the New Jersey Department of Environmental Protection to provide this guidance.

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I. Background

On January 8, 2024, New Jersey passed a law (P.L. 2023, c. 243) that restricts the use, offering for sale, sale, manufacture, and distribution of Class B firefighting foam containing intentionally added PFAS in New Jersey that was intended to begin on January 8, 2026. This legislation was amended (P.L. 2025, c. 266) to allow for a one-year extension for compliance and will now begin on **January 1, 2027**.

Class B firefighting foam is foam designed to prevent or extinguish a fire in flammable liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases.

Many Class B firefighting foams contain PFAS, including perfluorooctanoic acid (PFOA) or perfluorooctane sulfonic acid (PFOS). PFAS (per- and polyfluoroalkyl substances) are harmful chemicals that persist in the environment and are linked to serious health risks.

In addition to the law banning most uses of Class B firefighting foams with intentionally added PFAS (P.L. 2023, c. 243), other legal restrictions apply to certain PFAS. Importantly, New Jersey law generally prohibits the unpermitted discharge of PFOA and PFOS because they are listed as hazardous substances at N.J.A.C. 7:1E, Appendix A.

For more information on New Jersey's Law on PFAS in Firefighting Foam visit https://www.nj.gov/dca/dfs/pdf/AFFF%20FAQ2.pdf

Why is decontamination necessary?

Starting January 1, 2027, the use of Class B firefighting foams with intentionally added PFAS is prohibited by law (P.L. 2023, c. 243, as amended by P.L. 2025, c. 266).

Decontamination of equipment that held Class B firefighting foam with intentionally added PFAS is necessary to reduce risk of:

- Damage to equipment
  PFAS containing residue that is left in equipment after it is drained of the foams will contaminate new fluorine-free foams and could cause coagulation of the two foams that could impact performance of equipment.
- Releases of residual PFAS to the environment
  In the absence of decontamination, use of the new/replacement fluorine-free foam that becomes contaminated by PFAS residuals or discharge of the contaminated rinse water (known as rinsate) will result in unlawful releases of PFAS to the environment.

Decontamination is best performed by a professional contractor/vendor with experience in cleaning firefighting equipment contaminated with PFAS and collecting samples of cleaning fluids and foams for analysis and documentation. In all cases, ceasing use of

firefighting foams with intentionally added PFAS and moving to fluorine-free replacement foams will require careful planning. Steps involved in the decontamination and transition process are detailed below.

II. Develop a Transition Plan

The transition from Class B firefighting foams with intentionally added PFAS to fluorine-free foams (F3) requires a comprehensive transition plan that includes:

- A full evaluation of equipment decontamination and replacement options for all contaminated equipment. The goal of this evaluation is to minimize releases of PFAS to the environment.
- The selection and implementation of a thorough decontamination approach.
- A full plan for safety, environmental protection, and waste management during the transition process.

III. Important Considerations

Consider Decontamination Level

- Decontamination of equipment is necessary to reduce the discharge of PFAS, particularly the hazardous substances PFOA and PFOS.
- Multiple rinses, rinses with a cleaning agent that is specifically designed for PFAS removal, and the heating of the rinsing solutions should increase effectiveness.
- After the third rinse, the effectiveness of each additional rinse may decline.
- Laboratory analysis of final rinse water, and replacement foam (collected three weeks after loaded into cleaned equipment) should guide evaluation of decontamination process and should be documented.

Vendor Selection

- Consider asking potential vendors whether they have expertise in the decontamination of fire equipment that has held fluorinated foams or AFFF.
- These vendors can provide relevant documentation and can often be found through hazmat service contacts, or by searching online for Aqueous Film Forming Foam (AFFF) or PFAS/foams deep cleaning or decontamination services.
- Vendors should provide a workplan for the decontamination process, which includes a Health and Safety Plan.
- See *Questions to Ask Vendors* at the end of this document.

Foam and Rinsate Disposal

Vendor workplans should:

- Ensure that all recovered Class B firefighting foams are disposed of through the official state firefighting foam collection program, or in compliance with hazardous substances regulations.
- Dispose of rinsate in accordance with hazardous substances regulations, and in compliance with all federal and state wastewater discharge regulations.
- Ensure that no rinsate will be released, including to land or surface water, stormwater catch basins, or onsite septic systems.
- Ensure that any release to a wastewater treatment plant is done in accordance with state and federal regulations or permits and only with notification to and the permission of that treatment plant.

Documentation

- Keep detailed records of all cleaning steps and costs incurred.
- Maintain Safety Data Sheet documentation for all foams onsite.
    - Manifests should be maintained.

IV. General Decontamination Protocols

Vendor workplans should generally include the following steps, which are intended to help ensure effective decontamination and to minimize the risk of PFAS releases.

Step 1: Empty the vehicle

1. Completely remove all Class B firefighting foams with intentionally added PFAS from the apparatus. Minimize the need for any additional equipment necessary during the draining process, such as hoses or pumps. If used, these items would also require decontamination.
    - Consider replacement of select parts that may prove difficult to clean.
2. Drain Class B firefighting foams with intentionally added PFAS into dedicated containers and avoid spillage. Secure containers.
3. Label the containers clearly.

Step 2: Rinse the Vehicle

1. Perform a hot water rinse (between 110- and 160-degrees Fahrenheit) of the tank system, including all plumbing. It is recommended adding a glycol-based cleaning solution (e.g., 20% butyl CARBITOL™ solution, FluoroFighter™, or PerfluorAd™) to the hot water rinse to help to remove residual PFAS containing firefighting foam concentrate. It is also recommended that this process be conducted at ambient air temperatures no lower than 55 degrees Fahrenheit.
    a. Allow the cleaning solution to stay in the system for at least 30 minutes. Agitate the system during this time, if possible.
    b. Drain to a dedicated container and label with "PFAS foam rinsate" and date of activity.
    c. Collect sample of initial rinse water, according to certified lab sample collection methods, to send for PFAS analysis (EPA Method 1633A[1]). (*Refer to NJDEP Data Miner to search for labs capable of performing PFAS analysis (EPA Method 1633A) -- search by Categories, Certified Laboratories*).
2. Power/pressure wash the interior tank surface to remove residual PFAS (if possible).
3. Perform second hot water cleaning rinse. Repeat agitation and let stand for at least 30 minutes. Drain this rinsate into a labeled PFAS foam rinsate container.
4. Perform third hot water cleaning rinse if needed, agitate[2] and let stand for at least 30 minutes. Drain this rinsate into a labeled PFAS foam rinsate container.
5. Rinse water can be treated onsite with specialty equipment and recycled for subsequent rinses. This has been shown to reduce costs and increase efficiency.

Step 3: Sample Final Rinsate

To document that the vendor has performed decontamination adequately, ensure that they collect a final rinsate sample according to laboratory directions for PFAS analysis.

Step 4: Storage of AFFF and Rinsate

- Ensure all containers are kept clean to allow for the identification of any signs of leakage.
- Store within secondary containment.
- Store away from floor drains and catch basins.

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[1] EPA Method 1633A includes the analysis for up to 40 different PFAS, but does not include precursors to PFOA or PFOS, which are designated hazardous substances. Precursor analysis can be performed by a test known as the Total Oxidizable Precursor Assay. Please discuss with your analytical laboratory.
[2] Agitation can be performed by driving vehicle in ways that can produce movement in the solutions being used. This may be performed in other ways depending on access to tank.

- Store indoors (if possible) or where fully protected from environmental conditions.
- Do not store in a flood zone or flood hazard area. See New Jersey's Flood Indicator Tool for flood information.
- The length of time for onsite storage of Class B firefighting foams with intentionally added PFAS and contaminated rinsate should be minimized. Disposal should be initiated with proper waste handler as soon as is possible.

Step 5: Acquire Fluorine Free Foams (F3)

- The State of New Jersey has not reviewed F3 foams for their environmental impact or for fire suppression effectiveness.
- Fire companies are advised to seek additional information from their equipment vendor and the National Fire Protection Association.
- Recent information on F3 foams is also available from:
    - Green Screen Certified® Firefighting Foam
    - United States Department of Defense Qualified Products Database which has certified F3 foams as meeting the military's performance specifications.

V. Questions to Ask Vendors

1. Do you have experience with PFAS?
2. Do you have experience decontaminating or deep cleaning fire equipment that has held Class B firefighting foams with intentionally added PFAS?
3. Can you provide (written) details of the decontamination process that you propose, and does it align with this guidance?
4. How do you destroy or dispose of the water used to rinse (rinsate) the equipment?
5. What documentation do you provide to show how the PFAS in the rinsate was disposed of or destroyed?
6. What type of documentation will you provide on the efficiency of the methods used to decontaminate, as was applied to the specific equipment? Will you provide analytical results for the rinsate (initial and final rinses) and for follow up foam samples (to document residual impact)?
7. How long will equipment need to be out of service?

Any questions should be directed to Bruce Tynan at the Department of Community Affairs, Division of Fire Safety at Bruce.Tynan@dca.nj.gov