

# Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites

## Appendix A – Historical Use of Class B Firefighting Foam That Contained PFAS: Survey Questions for DOE Facilities

### **Department of Energy Historical Use of Class B Firefighting Foam<sup>1</sup> Containing Per- and Polyfluoroalkyl Substances (PFAS): Survey Questions for DOE Facilities**

---

#### 1. Does the site currently have, or did it previously have, a fire department?<sup>1</sup>

**Yes                      No                      Unknown**

*If yes, please note:*

- a. Date range of operation:
- b. Number of fire department facilities located on site:
  - I. Are any of the facilities operated by other agencies (e.g., U.S. Forest Service, local municipal fire department)?
- c. Have the fire department facilities always been at the same location(s)?
- d. Are engineering and other documents available related to firehouse construction and supporting utilities (e.g., locations of floor drains, stormwater, and sanitary systems) for each facility?
- e. Are incident reports for emergency responses and firefighter training available for review (e.g., documents maintained at the fire department or by fire protection engineers, chemical inventory records, Safety Data Sheets, procurement records, or photographs of firefighting or firefighter training activities taken by site photographers)?
  - I. For what years are records available? <sup>2</sup>
- f. Other relevant information:

---

<sup>1</sup> **Class B firefighting foam** for the purpose of this document includes aqueous film forming foam (AFFF), alcohol resistant aqueous film forming foam (AR-AFFF), film-forming fluoroprotein foam (FFFP), alcohol resistant film-forming fluoroprotein foam (AR-AFFF), and fluoroprotein foam (FP).

<sup>1</sup> Fire Department – an emergency response organization, equipped and trained to fight fires. This includes established fire departments and formal employee-based Emergency Response Organizations that have support from a neighboring municipality.

<sup>2</sup> A useful starting timeframe would be 1964 when firefighting foam that contained PFAS became readily available.

## **Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites**

*If no, please note:*

- g. Is the site protected by a municipal fire department?
- h. Are there incident reports related to municipal fire departments responding to on-site fires?
- i. Are records available that document municipal firefighters conducting on-site training?
- j. Other relevant information:

### **Former DOE Facilities:**

- k. For former DOE facilities (e.g., Mound) that have been redeveloped for commercial/private business use, who is currently providing fire protection for the site and is Class B foam being used or stored at the facility?

## **2. Has Class B fire suppression foam (also referred to as Aqueous Film Forming Foam, High Expansion Foam, or Low Expansion Foam) ever been stored and/or used at the fire department facility, at an on-site firefighting training facility, or at a building protected by a fire suppression system?**

**Yes                      No                      Unknown**

*If no*, please describe in section 2a, what was done to confirm that Class B foam was never stored or used at the site. *There is no need to answer the remaining questions.*

a. Explanation:

*If yes*, please answer all questions below:

- b. How many locations (i.e., at more than one firehouse or support facility)?
- c. Method of storage (e.g., in original containers, storage tanks on fire apparatus):
- d. Range of dates for storage and use:
- e. If foam concentrate was stored in fire apparatus holding tanks, were the foam delivery systems routinely tested and at what frequency?
  - I. If testing occurred, where would the foam be discharged? Was foam discharged to ditches, stormwater catch basins or other conveyances?
  - II. What was done with unused foam when the tanks and lines had to be emptied and flushed?

**Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites**

- III. Is information available regarding where emergency vehicles were washed, maintained, or tested? Including spray nozzle refractory test locations?
- IV. If firefighting equipment/apparatus that contained Class B foam was decommissioned/sent to surplus, were the foam holding tanks drained and flushed, and where would this occur?
- f. Is information available on the manufacturer(s), types, and quantities of Class B foam stored or quantities used over the years?
- g. Other relevant information:

***If unknown***, has the facility started to investigate whether Class B foam was ever stored or used at the site?

h. Explanation:

**3. Is Class B fire suppression foam currently used or stored at the fire department or other facility (e.g., centralized emergency services storage facility or a facility protected by a fixed fire suppression system)?**

**Yes                      No                      Unknown**

***If yes***, please note for each location or system:

- a. Manufacturer and type of Class B foam:
- b. Date of purchase:
- c. Quantity:
- d. % PFOS/A in foam concentrate:
- e. Method of storage (e.g., in original containers, storage tanks on fire apparatus):
- f. Is information on the types and quantities of foam in storage being tracked using the site's chemical management system?
- g. Other relevant information:

**4. Has Class B fire suppression foam ever been used for training purposes at the facility?**

**Yes                      No                      Unknown**

***If yes***, please note:

- a. Did/does the training occur at a dedicated firefighter training area/facility?
  - I. Location(s):
  - II. Dates or frequency of training:

**Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites**

- b. Did/does training occur at other on-site areas (e.g., fuel storage or research facilities)?
  - I. Location(s):
  - II. Dates or frequency of training:
- c. Was foam ever released for firefighting demonstration purposes (for outside agencies, employees, or employee-family events) in areas not normally used for training?
- d. Manufacturer and type of Class B foam used:
- e. Quantity of foam used:
- f. Is/was the foam used for training containerized for treatment/disposal?
- g. Was foam released in areas where it could infiltrate soil, or enter stormwater drainage or sanitary systems?
- h. Other relevant information:

**5. Has Class B fire suppression foam ever been used for firefighting or other emergency responses at the facility? This includes emergency foam releases at facilities that have fixed fire suppression systems that used Class B foam.**

**Yes                  No                  Unknown**

*If yes*, please note:

- a. Dates and locations:
- b. Manufacturer and type of Class B foam used:
- c. Quantity of foam used:
- d. Could the foam have infiltrated nearby soils, entered exterior stormwater drainage systems, interior drainage systems, or sanitary systems?
- e. As part of a mutual aid response, did an outside fire department use Class B foam at the site? Is information available on where the event(s) occurred, and the type and quality of foam that was used?
- f. Other relevant information:

**6. Has the facility ever been responsible for the use of Class B fire suppression foam for training or emergency response that occurred at an off-site area or facility?**

**Yes                  No                  Unknown**

**Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites**

*If yes*, please note:

- a. Use of Class B foam for an emergency response as part of a mutual aid to another fire department?
  - I. Dates and locations where foam was used:
- b. Was Class B foam used at an off-site regional firefighter training facility?
  - I. Are training records available?
- c. Other relevant information:

**7. Was there ever an accidental spill or leak of Class B fire suppression foam?**

**Yes                      No                      Unknown**

*If yes*, please note:

- a. Dates and locations:
- b. Manufacturer and type of Class B foam used:
- c. Quantity of foam spilled/leaked:
- d. Could the foam have infiltrated nearby soils, entered exterior stormwater drainage systems, interior drainage systems, or sanitary systems?
- e. Other relevant information:

**8. Does/did the facility have fixed fire suppression systems for buildings, aircraft hangars, research facilities, or other which use/used Class B fire suppression foam?**

**Yes                      No                      Unknown**

*If yes*, please note:

- a. Locations of systems:
- b. Dates the systems were in service:
- c. Are records available on the design of the fire suppression systems?
- d. Manufacturer and type of Class B foam used:
- e. Quantity of foam used:
- f. Are there records related to acceptance testing/commissioning, and the routine testing of the systems?
  - I. How often are/were the systems tested?
- g. Was foam ever released in response to a fire at the facility?
- h. Was foam released inside protected structures, and could the foam have entered interior drainage systems?

**Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites**

- l. Where do interior drainage systems discharge into (e.g., sanitary or stormwater systems)?
- i. Was the foam released outside, and could the foam have infiltrated nearby soils or enter stormwater drainage?
- j. Other relevant information:

**9. Does/did the facility have procedures for handling Class B fire suppression foam that has reached its expiration date?**

**Yes                  No                  Unknown**

*If yes*, please note:

- a. Foam was/is containerized for disposal:
- b. Foam was/is used for training:
- c. Foam was/is disposed on-site (e.g., released to ground or landfill):
- d. Could the foam have infiltrated nearby soils, entered stormwater drainage, or have been released to interior drainage systems (e.g., floor drains at the firehouse)?
- e. Other relevant information:

**10. Has the site tested environmental or treatment system samples for PFAS in areas where Class B fire suppression foam had been used for training, released during fire suppression system testing/maintenance, or used for emergency response?**

**Yes                  No                  Unknown**

*If yes*, please note the types of monitoring conducted and whether PFAS have been detected in the samples:

- a. Groundwater:
- b. Soils:
- c. Surface water:
- d. Sanitary treatment system:
- e. Groundwater treatment systems:
- f. Other monitoring:

**11. What is the general level of confidence in the site's ability to document all relevant information related to Class B foam release locations and quantities?**

**Very Confident                  Confident                  Not Confident**