



February 23, 2022

Dr. Carlton Waterhouse
Deputy Assistant Administrator
Office of Land and Emergency Management
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004

Dear Deputy Assistant Administrator Waterhouse,

The International Liquid Terminals Association (ILTA) appreciates the important work the U.S. EPA is undertaking to address Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) through its PFAS Council, the PFAS Strategic Roadmap and other Agency actions. ILTA members are dedicated to safe, reliable, and environmentally responsible operations at terminal facilities and recognize the potentially serious health effects of PFAS exposure. Thus, ILTA firmly supports a safe, strategic, well-managed transition to fluorine-free, or PFAS-free, firefighting foams, while ensuring that the safety of firefighters, our workers, and our communities is not compromised.

With unique expertise in the application of firefighting foams at liquid terminals, ILTA would like to serve as a resource to the EPA PFAS Council and the many offices within EPA working on the details related to a safe transition. We are writing to provide crucial considerations for the transition away from class B firefighting foams containing PFAS (also known as aqueous film forming foam, or AFFF). Keys to a safe and timely transition include thorough development, demonstration, and deployment of alternative foams, as well as clear disposal guidelines for existing AFFF stocks.

ILTA represents nearly eighty terminal companies providing critical infrastructure, storage, and transportation logistics for bulk liquid products at over 1,500 facilities in locations across all 50 states. Our members form a key link in supply chains for a wide range of commodities, including crude oil, gasoline, diesel, jet fuel, ethanol, industrial chemicals, fertilizers, and agricultural oils. Many of the bulk liquid products handled by ILTA member companies demand special precautions due to their flammable properties. While significant fire events at terminals are rare, responsible facility management demands that terminal operators maintain capabilities to respond quickly and effectively to fire events when they do occur. For decades, the tank storage industry has relied upon AFFF to protect communities, workers, commodities, and infrastructure from potentially dangerous fire hazards and environmental risks from fire events including air pollution. As alternative foams are developed and deployed, it is critical that these protections remain in place.

While understanding the risks posed by PFAS exposure, ILTA also recognizes that significant barriers must be addressed to achieve a complete, industry-wide transition to these alternatives. A limited number of alternative firefighting foams are commercially available today. However, it will likely take time to replace all existing stock of AFFF. Firefighting foams have a long shelf life and therefore, manufacturers do not have the production capacity to supply the quantities of foam that are likely to be demanded of a rapid and total transition. Additionally, these alternatives foams are not drop-in substitutes for AFFF, and appropriate training will likely be needed for their safe and effective use. Below, we have outlined some of the key considerations unique to the liquid terminal industry for safely and rapidly transitioning away from AFFF.

Unique Fire Safety Considerations for the Liquid Terminal Industry

Terminal operators face several requirements for fire preparedness and response that are not common in other contexts, such as municipal firefighting. Firefighting professionals at terminal facilities must address unique considerations, including:

- **Potential for Large-scale Events.** While large scale fire events are rare, it is imperative that terminal facility operators remain able to respond to these emergencies effectively. It is critical that the industry's ability to ensure the safety of employees and neighboring communities is not compromised at any point during the transition away from PFAS containing foams. Until alternative foams are commercially available and adopted at-scale at liquid terminals, regulations that could put acute fire safety at risk should be weighed carefully and clearly communicated to stakeholders.
- **Alcohol-type Fires.** Terminals store a wide variety of bulk liquid products, ranging from fuels to food products to industrial chemicals. These products can have vastly different combustion properties. The type of foam used to suppress a fire will be determined by the specific product involved in the fire. One category of fires that has proved challenging to address with fluorine free foams is alcohol-type fires (e.g., ethanol or gasoline blends containing ethanol). These types of fires require specialized foams for alcohol-type fires.
- **Deep Tank Fires.** A low product level in a tank can complicate the process of applying adequate foam to the product surface, potentially slowing the fire suppression process. In the future, it is possible that this challenge could be met through different operational practices and alternative delivery technology such as compressed air foam systems (CAFS). Time is needed to allow for study and to put novel approaches into practice.

Keys to a Safe Transition for the Liquid Terminal Industry

ILTA encourages the PFAS Council and relevant EPA offices to consider the following dimensions when formulating policies to address firefighting foams containing PFAS.

1. Develop a Strategic Transition Timeline

Potential Risk. Adequately preparing to transition the liquid terminal industry's stocks of firefighting foam to fluorine-free foams will require collaboration between regulators and industry stakeholders, including terminal owners and operators, firefighters, foam manufacturers, and disposal vendors. Alternative foams are not a drop-in substitute for AFFF. There are important research, development, and deployment, training, disposal, and other activities that should be strategically thought through in developing a transition timeline. For example, to be effective, the replacement foams may require higher foam volumes, additional labor, and different application techniques and equipment. Additionally, there are potential safety risks associated with the transition without allowing appropriate time for coordination between these stakeholders for testing, training, equipment replacement, disposal, and other critical activities.

Proposed Solution. ILTA recommends a convening of all relevant stakeholders to determine the amount of time needed to safely transition as fast as possible. A timeline that allows all terminals to transition at the same time is important, given the mutual aid concerns that must be considered (see #3 below). Some actions can be taken in the near-term, such as banning the use of firefighting foams containing PFAS for training purposes. As the timeline is developed, policymakers can work

to ensure adequate support is provided for the resources that fire departments and other fire safety officials will need for the transition.

2. Support Fluorine-free Foam Research, Development and Deployment

Potential Risk. The liquid terminal industry is collaborating with foam suppliers to continue developing and testing alternative foams that provide effective fire safety for local communities and critical infrastructure. As end-users around the world are required to transition away from AFFF and alternative foams become commercialized, there will be a rapid demand for the alternative foams. Historically, foam suppliers supplied new stock on a predictable schedule that could see as many as 20 years between orders. Given this periodic and predictable demand, foam suppliers do not currently have the capacity to rapidly scale-up production and deployment for the demand that will be seen once regulations are put into place on a large scale. Additionally, the acquisition of an entire new stock of foam supply could be financially burdensome for some businesses, as their budgets typically only planned for their next scheduled order which could be years away.

Proposed Solution. While there are some commercially available alternative foams on the market, ILTA supports further demonstrations to develop fluorine-free firefighting foams to ensure maximum effectiveness and safety at liquid terminals. ILTA encourages policymakers and regulators to support the research, development, production, and deployment of alternative firefighting foams in collaboration with foam suppliers and industry end-users to ensure new foam production is rapid, has sufficient infrastructure for deployment, and is cost-effective for end-users that are not typically replacing entire stocks of foam supply on short notice.

3. Accommodating Mutual Aid Response

Potential risk. Terminal operators rely on the principle of mutual aid to ensure they can provide adequate responses to incidents. During an event, neighboring facilities may provide foam, equipment, or fire-fighting personnel. Importantly, due to the foam flow rates and potential contamination concerns, equipment prepared to deliver PFAS containing foams cannot be used to deliver fluorine-free foams, and vice versa. For the largest fires, foam may be provided from other facilities across the region or even from across the country. This inherent interdependence of terminals makes it necessary to allow additional time for the entire industry to move together to eliminate PFAS containing foams.

Proposed Solution. ILTA supports clear national standards and regulations to avoid an inconsistent, piecemeal approach with differing timelines enforced in different states. A coordinated transition to fluorine-free firefighting foams is essential to safe incident response across the liquid terminal industry.

4. Addressing Disposal of Existing Stocks

Potential Risk. Today, options for destruction or disposal of PFAS based firefighting foams are extremely limited and there is no universally accepted method of safe disposal. Although incineration is the best currently available PFAS disposal method, incineration of PFAS chemicals has been limited by bans in several states and a moratorium has been placed on incinerating PFAS by the Department of Defense in the 2022 National Defense Authorization Guidance.¹ These restrictions eliminate a clear pathway to dispose of PFAS in the near-term. ILTA thanks the agency for its support of research and development to provide new, effective, and economic means of

¹ <https://www.congress.gov/bill/117th-congress/senate-bill/1605/text>

PFAS destruction and disposal. Until new alternatives are available, end-users need clear guidance on how to dispose of their existing stocks to ensure all eventual contamination risks are mitigated.

Proposed Solution. ILTA is aware of and supports EPA's ongoing support to identify adequate destruction and disposal methods for PFAS. When formulating future regulation or guidance for the transition to alternative firefighting foams, we recommend clear instructions that outline the details for disposal of existing stocks of firefighting foams, including timing, method, and which party has responsibility for the safe disposal. Also, guidance is needed on how to clean out apparatuses and equipment where PFAS laden foam has been used. ILTA encourages EPA to consider allowing on-site storage of PFAS-based firefighting foam stocks at liquid terminals until adequate disposal pathways exist.

5. Minimizing Potential Replacement Remorse

Potential Risk. Toxicity assessments can change over time and do not necessarily tell us the full, long-term impacts that are important for consideration. For example, when PFAS chemicals were introduced, their toxicity and persistence in the human body and environment were not known. There is a possibility that the liquid terminal industry could face replacement remorse if the new chemistries in alternative foams are not thoroughly examined because of a transition timeline that is adopted too quickly without strategic stakeholder collaboration. We must do everything we can to ensure that the replacement foams are not toxic as well and that we will not be facing a similar problem in the near future.

Proposed Solution. To ensure that the new chemistries in alternative forms are safe for decades to come, ILTA encourages EPA to consider a mandatory alternative foam certification program, such as Green Screen. Currently, little information is publicly available about the new alternative foam chemistries. Having an assessment or certification process would help ensure liquid terminal companies and staff, firefighters, and the communities surrounding these facilities that the alternatives being implemented are as safe as possible.

6. Exemption of Liquid Terminals under CERCLA

Potential Risk. Firefighting foams containing PFAS have enabled fires to be extinguished as rapidly as possible to protect safety, infrastructure, and minimize unwanted byproducts. With the potential CERCLA classification of PFAS, there is a risk that terminal operators will be held legally and financially responsible for following the best safety practices to reduce health effects from fires to firefighters, terminal employees, and the community when suppressing fires in the rare occasion that they occur.

Proposed Solution. ILTA encourages EPA to consider an exemption for the historic use of AFFF at liquid terminal facilities. The fire hazards and air quality impacts of fire events at these facilities have required the continued use of AFFF until adequate alternatives are commercially available for all facilities. Until the transition to alternative foams is complete across the industry, the risk of future liability should not weigh against a facility's options to respond to fire events. We understand that exemptions for airports are being considered by EPA and would encourage the Agency to consider this for the liquid terminal industry, as certainty for industry would reinforce best safety practices across these facilities.

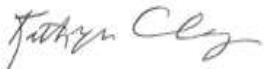
Conclusion

ILTA members are committed to moving away from AFFF as quickly as practicable and while remaining committed to a safe, industry-wide transition. With their responsibility to protect communities, workers, and the environment near liquid terminal facilities, members must be confident that the foams they use can not only extinguish fires safely and effectively, but also will not present risks to human health and the environment.

With ILTA's unique expertise in these areas, the association and its membership are ready to serve as a resource to ensure a safe and timely transition to alternative foams to phase-out the use of PFAS as rapidly as possible. ILTA is connected to stakeholders in the liquid terminal and firefighting foam industries in the United States as well as in other countries where the transition to alternative foams is already underway.

We would be happy to discuss any of these topics further so please contact us if you have any questions. Thank you for your time and consideration.

Kind regards,

A handwritten signature in cursive script that reads "Kathryn Clay".

Kathryn Clay

President

Additional Resources:

National Fire Protection Agency (NFPA)

- [Firefighting Foams: Fire Service Roadmap](#)
- [Evaluation of the fire protection effectiveness of fluorine free firefighting foams](#)
- [NFPA 11 “Low-, Medium-, and High-Expansion Foam”](#)

U.S. Department of Labor Occupational Safety and Health Administration

- [Standard 1910.106 - Flammable Liquids](#)

European Commission DG Environment / European Chemicals Agency

- Report: [The use of PFAS and fluorine-free alternatives in fire-fighting foams](#)

LASTFIRE

- Large Atmospheric Storage Tank Fires: <http://www.lastfire.co.uk/default.aspx?ReturnUrl=%2f>
- Defenses to and Exemptions from Superfund Liability-
<https://www.epa.gov/enforcement/defenses-and-exemptions-superfund-liability>

Interstate Technology Regulatory Council (ITRC)

- [AFFF Explainer Video](#)
- [AFFF Fact Sheet \(2020\)](#)
- [PFAS Report section on Firefighting Foams](#)
 - [Report section on AFFF Disposal](#)

Commercially Available PFAS-Free Firefighting

- [National Foam](#)
- [BIOEX](#)