

EFFECTIVE CLEANOUT OPTIONS FOR AFFF TO FLUORINE-FREE FOAM TRANSITIONS

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Background/Objectives:

Aqueous film forming foam (AFFF) contains persistent and toxic per- and polyfluoroalkyl substances (PFAS). As AFFF is banned and production phased out, transition from the use of AFFF to fluorine-free foam (F3) will be required for thousands of vehicles and systems in the United States alone. Traditional water rinsing methods, such as triple rinsing with potable water, leave unacceptable amounts of PFAS residues in tanks, piping, and proportioning systems, responsible parties desire more effective removal solutions.

Approach/Activities:

TRS Group (TRS), a Parsons company, has performed more than a hundred cleanouts of AFFF from fire suppression systems using the [PerfluorAd®](#) Technology, developed by Martin Cornelsen of Cornelsen Group. PerfluorAd is a biodegradable, surfactant-like agent that binds ionically to PFAS molecules, forming flocs that can be easily filtered and removed. The [PerfluorAd®](#) Process is adaptable to mobile and fixed systems. Unlike water rinses, PerfluorAd penetrates and lifts PFAS residues from internal wet surfaces, including foam tanks, discharge lines, turrets, and proportioners. With a focus on mitigating the environmental and worker health risks posed by PFAS, TRS Group will present comparisons of water rinses and PerfluorAd, recent project results, where TRS reduced PFAS concentrations by more than 99%, and subsequent rebound studies.

Results/Lessons Learned:

The [PerfluorAd®](#) Process offers a field-validated alternative that reduces the PFAS liabilities in mobile and fixed systems and facilitates the transition to F3. The presentation will provide pre- and post-AFFF cleanout data using PerfluorAd, rebound testing data indicating minimal PFAS releases after nine months, and the application of PerfluorAd to treat rinse water on-site, allowing for the discharge of the rinse water to the sanitary sewer, leaving a relatively small amount of waste for off-site disposal

About The Author

Mr. Knight is currently the Operations Manager of AFFF (a-triple-f) cleanout services for TRS Group, a Parsons company. Mr. Knight oversees the field application of the full range of AFFF cleanout services for both mobile and fixed fire suppression systems. Mr Knight has been working exclusively on AFFF/PFAS cleanouts for the last 5 years, reinforced with over 30 years of experience in environmental remediation.

