



March 30, 2018

Mr. Richard Mator  
Senior EHS Manager – Environmental Remediation  
Tyco Fire Products, LP  
1400 Pennbrook Parkway  
Lansdale, PA 19446

SUBJECT: March 2018 *Site Investigation Workplan*  
Tyco Fire Technology Center, 2700 Industrial Parkway, Marinette, WI  
DNR BRRTS Activity #: 02-38-580694

Dear Mr. Mator:

On March 9, 2018, the Department of Natural Resources (Department) received the *Site Investigation Workplan* dated March 2018 (Workplan), submitted by Arcadis U.S. Inc. (Arcadis) on behalf of Tyco Fire Products, LP (Tyco), along with the associated \$700 review fee in accordance with Wis. Admin. Code ch. NR 749.

The Department performed a detailed technical review of the Workplan and associated site file to provide this response. The review indicated the following items where requirements of Wis. Admin. Code § NR 716.09 were not satisfied:

**Section 2 – Site Background:**

1. Previously collected per- and polyfluoroalkyl substances (PFAS) site data and preliminary interpretation on the distribution in the environment should be included and discussed in the workplan to justify the scope of the proposed field investigation [Wis. Admin. Code § 716.09(2)(d) & (e)].
2. Provide a contact name and number for the relevant Tyco contact in the Workplan [Wis. Admin. Code § 716.09(2)(b)].
3. Provide estimated dates of PFAS use at the site's Outdoor Training Area (OTA), as well as the types of PFAS used and waste disposal methods [Wis. Admin. Code § 716.07(1)].
4. Provide a history of previous discharges or environmental pollution documented at the site [Wis. Admin. Code § 716.07(3)].
5. Describe the location of the site in proximity to other known sources of contamination in the general area [Wis. Admin. Code § 716.07(5)].
6. Describe immediate or interim actions taken or in progress; including efforts to protect receptors (i.e. potable wells), sampling, and steps taken to prevent on-going/future releases. It is the Department's opinion that PFAS impacts to potable wells are a critical part to consider in the workplan and should be discussed [Wis. Admin. Code § 716.07(10)].

7. As the State of Wisconsin has yet to establish a groundwater Enforcement Standard for PFAS constituents, the Department recommends the establishment of a site-specific Wis. Admin. Code NR 720 Groundwater Pathway Residual Contaminant Level (RCL) value as a groundwater clean-up standard [Wis. Admin. Code § NR 722.09(2)].
8. The Workplan should indicate the locations of potential or known impacts to receptors, including public and private water supplies, including mapping of the location of all water supply wells within a 1,200-foot radius of the outermost edge of contamination [Wis. Admin. Code § 716.07(7)].

**Section 3 – General Field Activities:**

9. The Workplan should clarify that all investigation derived waste will be stored in a secured location (e.g. fencing, gate, etc) pending waste characterization and disposal.
10. The Workplan should state the need for obtaining permission from impacted property owners to grant access to the site and adjacent or nearby properties [Wis. Admin. Code § 716.07(6)].

**Section 4 – Groundwater Investigation Activities:**

11. The Workplan should state that vertical hydraulic gradient will be measured in nested wells. Measurement of vertical movement of groundwater/contaminants will be important in determining how contaminants are moving through the aquifer(s).
12. Related to item 1. above, the Workplan should discuss the completeness of the on-site groundwater PFAS investigation. A discuss of how the existing monitoring well network will be integrated into the PFAS groundwater investigation should be included.
13. Related to item 1. above, discuss if the previous Vertical Aquifer Profile (VAP) borings were extended into the silty clay “confining unit” (if known).
14. The Workplan should address the need (if any) to gather data to determine the hydraulic conductivity of materials where contaminated groundwater is found [Wis. Admin. Code § 716.07(12)].

**Section 6 – Ditch Investigation Activities:**

15. The Department recommends surveying the proposed sediment sampling zones for depositional areas. Measuring the depth of sediment in the sample area is recommended.
16. The two (2) ponds located on the Biehl property, near the intersection of University Drive and County Trunk Highway (CTH) B, should be included in the initial surface water evaluation. The Department bases this opinion on the ponds’ proximity to the site, as well as potential for communication between nearby surface water ditches and the ponds.



**Section 7 – Quality Assurance and Quality Control:**

17. The Workplan states that a modified version of United States Environmental Protection Agency (US EPA) Method 537. To maintain consistency with other PFAS investigations in the State of Wisconsin, the Department is requesting that the complete Method 537 be used for all drinking water samples, while the modified Method 537 can be employed for sampling of other media.

**The following is presented for consideration in preparation of future submittals:**

18. All PFAS data collected to date in relation to the Tyco site should be included in tables and figures submitted as part of future reports and/or status updates to support the conclusions and recommendations for additional investigation.

**In Closing**

The Department requests that, **within 60 days of this letter**, you address the issues addresses above to bring the Workplan into compliance with the standards outlined in Wis. Admin. Code § NR 716.09.

This letter is in response to only the actions outlined in the March 2018 *Site Investigation Workplan*, and does not constitute approval of future workplans or completion of the site investigation. Based on data that has been submitted to the Department to date, the activities outlined in the Workplan will not likely complete the site investigation. The Department understands this investigation is an iterative process, with additional workplans and site investigation activities required to completely delineate environmental impacts resulting from the PFAS release from the site.

The Bureau for Remediation and Redevelopment Tracking System (BRRTS) identification number for this activity is shown at the top of this letter. The Department tracks information on all case determinations such as this letter in a Department database that is available on the internet at: <http://dnr.wi.gov/topic/Brownfields/botw.html>.

Thank you for the opportunity to review the Workplan. If you have any questions, please contact Dave Neste at 920-662-5165, by writing to the address at the top of this letter, or by email at [David.Neste@Wisconsin.gov](mailto:David.Neste@Wisconsin.gov).

Sincerely,



David Neste  
Hydrogeologist  
Remediation & Development Program

cc: Mr. Michael Bedard, Arcadis U.S., Inc. (via email: [michael.bedard@arcadis.com](mailto:michael.bedard@arcadis.com))  
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