UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

December 18, 2019

LR-16J

Mr. Jeffrey Danko
EHS Manager – Environmental Remediation
Johnson Controls
5757 N. Green Bay Avenue
Milwaukee, Wisconsin 53209

RE: EPA Review of the September 27, 2019 Vapor Intrusion Assessment and Work Plan
Tyco Fire Products LP, Stanton Street Facility, Marinette, Wisconsin
EPA ID: WID 006 125 215
EPA RCRA Administrative Order Docket No. RCRA-05-2009-0007

Dear Mr. Danko:

The United States Environmental Protection Agency (EPA) and the Wisconsin Department of Natural Resources (WDNR) have reviewed the September 27, 2019 Vapor Intrusion Assessment and Work Plan (VI Work Plan) for the Tyco Fire Products LP, Stanton Street Facility, located in Marinette, Wisconsin. Comments on the VI Work Plan are contained in the Enclosure to this letter.

The vapor intrusion assessment of Building 14 has been identified as a priority by the Agencies. We request an expedited determination of the demographics and occupancy information of potential receptors in Building 14. The initial round of sampling should be completed as soon as possible should it be determined to be necessary.

If you have any questions regarding these comments, please do not hesitate to contact me at 312-886-1484 or dodds.jennifer@epa.gov.

Sincerely,

Jennifer Dodds
EPA Project Manager

ecc: Tammy Moore, EPA
Rich Clarizio, EPA
Angela Carey, WDNR

Enclosure: EPA and WDNR Comments on the September 27, 2019 Vapor Intrusion Assessment and Work Plan for the Tyco Fire Products LP, Stanton Street Facility, Marinette, Wisconsin

General Comments:

1. **Vapor Intrusion (VI) Pathways:** A site investigation under Wisconsin Admin. Code ch. NR 716 requires that the degree, nature and extent of contamination are defined to allow the selection of an appropriate remedial action. While past remedial actions implemented at the Stanton St. site minimize the potential for groundwater migration, the risk posed by chlorinated volatile organic compounds (CVOCs) in shallow groundwater and soil remains and should be evaluated for all potential pathways. This evaluation should include identifying buildings whose design (small enclosed offices) or occupancy (sensitive receptors) create spaces with an enhanced VI concern. Presuming that building use and occupants on this large property is not static, protocols being used to prevent future risks should be defined.

2. **Building 14:** The VI assessment of Building 14 is a priority considering occupancy, use, and proximity to monitoring well MW067S where trichloroethylene (TCE) is present in groundwater at 100 ppb. WDNR guidance document RR800, Section 3.4 recommends that when TCE is a contaminant of concern, the demographics of potential receptors should be determined, and sampling done as soon as possible if women of child-bearing years (age range of 14 to 44) are present. If members of this sensitive population work in Building 14, the initial round of sampling should be completed as soon as possible. We recommend that a quick lab turnaround be used in such cases, and that the Agencies are provided with the results upon receipt from the lab.

3. **Indoor Air Sampling:** Indoor air sampling is not proposed in the VI Work Plan. Indoor air sampling for commercial or industrial spaces isn't *necessarily* recommended per RR800 and the guidance (Table 5c) states that this depends on sub-slab results. However, if there are women of childbearing years working in the buildings, indoor air samples should be taken during the first round of sampling to quickly assess the risk to these sensitive receptors. If that demographic does not exist, the decision regarding indoor air sampling can wait until after the sub-slab results are available. The location of indoor air samples should be chosen based in part on the results of the preferential pathway assessment, with some samples taken in rooms serviced by plumbing features.

Specific Comments:

4. **Page 2, Section 2, paragraph 2:** A comprehensive evaluation of the potential for VI at this site should include areas where groundwater comes in contact with building foundations. The VI Work Plan did not provide any information on groundwater

gradients within the containment system, nor did it contain an assessment of groundwater elevations in relation to the foundations of site buildings, including whether any of these buildings have features such as sumps that would increase the likelihood of VI. The description of the hydrogeologic setting on page 2, paragraph 2 states that groundwater within the containment area occurs within a few feet below ground surface. It also states that the operational criterion of the extraction wells is to maintain the water table at levels below the ground surface to prevent site flooding. It seems possible, given this situation, that the slabs of at least some of the buildings may be in contact with groundwater. If this is the case, it changes the criteria for screening for both chlorinated volatile organic compounds (CVOCs) and polar volatile organic compounds (PVOCs). For CVOCs, the threshold becomes the NR 140 Preventive Action Limit for all compounds, instead of the Enforcement Standard for PCE and TCE, and the groundwater vapor risk screening level (VRSL) for all other compounds.

5. **Page 2, Section 2, paragraph 3:** A comprehensive evaluation of the potential for VI at this site should include areas with VOC impacted soil. Page 2, paragraph 3 states "RCRA facility investigations conducted through 2000 identified the presence of VOCs in site soil and groundwater of several areas at concentrations exceeding applicable screening levels and/or standards..." and paragraph 4 states "VI can occur when VOC vapors in contaminated soil or groundwater migrate into the indoor space of overlying buildings." RR800 (Section 3) guidelines for determining whether vapor sampling is necessary includes a criterion for proximity to soil contamination in addition to those for utilities and groundwater. There are separate criteria for CVOCs (Section 3.4.2) and PVOCS (Section 3.5.3). Although this VI Work Plan considers utilities and groundwater, an assessment of whether buildings are within the screening distances to known areas of soil contamination is not provided.

6. **Page 3, Section 2:** All sub slab, sewer cleanout, manhole, and indoor air samples should be analyzed by Method TO-15 for the detection of VOCs.

7. **Page 3, Section 2, bullet 2:** Another potential indoor air exposure pathway exists at the site, not necessarily due to VI but to the volatilization of chemicals from the wastewater treatment plant/pumping station in Building 14. The design of the area containing the treatment operations and secondary containment system and how it separates air movement from the office and lunchroom portion of the building should be described in more detail. Please include and evaluate this potential exposure pathway.

8. **Page 3, Section 3:** The desktop evaluation of VI started with known areas of groundwater contamination and then evaluated whether buildings or utility lines were within screening distances to those areas. In the decision matrix in Section 3.1, the first bullet indicates that existing groundwater quality data were reviewed to identify shallow monitoring wells where the concentrations of one or more VOCs exceed calculated VI screening levels. The set of existing groundwater quality data appears to include

sampling events from 2000 through 2019. Figure 3 illustrates locations where VOC sampling has occurred from 2000 through 2019 and no vapor intrusion screening level (VISL) exceedances exist. In some cases, this provides historical perspective on VOC contamination but does not define the current risk. Figure 3 should be updated to clarify the dates the samples were collected for the VISL evaluation.

9. **Page 4, Section 3.1:** Sewer vapor concentrations fluctuate greatly within sewer lines due to water drag, slope changes or stack effect. Sewer cleanouts leading into the buildings should also be sampled simultaneously. Any detections of COCs in sewer cleanouts should be followed up with indoor air sampling.

10. **Page 6, Section 3.4.1, bullet 2:** If Tyco confirms a connection between sewer lines and Buildings 14 and 36, manhole sampling, sewer lateral cleanout and indoor air sampling should be completed. The paired data collection along with sub slab soil gas data will be put together to identify the dominant vapor migration flow path. The indoor air samples should be collected in restrooms or a room with a floor drain.

11. **Page 7, bullet 1:** If Tyco confirms a connection between storm sewer lines and Building 62, sewer gas samples from the manhole and lateral cleanout connected to the building and indoor air sampling in room with a floor drain should be collected.

12. **Page 7, Section 3.4.3:** High levels of ethyl benzene in groundwater warrant an investigation of the preferential pathway of all buildings potentially connected to sewer lines.

13. **Page 7, Section 3.4.4:** It is not acceptable to evaluate the preferential pathways only for chlorinated solvents. All the manholes in the vicinity of TW-1 should also be evaluated for petroleum VOCs.

14. **Page 8, Section 4.1:** The last paragraph of Section 4.1 describes the survey of the sewer lines within 100 feet of MW045S AND MW067S. In addition to drains and manholes, samples should be collected from cleanouts of any sewer penetrations to assess the potential for VI.

15. **Page 8, Section 4.3:** Only one round of sampling has been proposed and references Table 5c of RR800. Table 5c specifies that one round may be appropriate for industrial buildings, however this is only appropriate for high volume sampling. Two to three sampling events is recommended for standard sampling. Because of the low toxic threshold of TCE, three rounds should be performed and at the time of year recommended in Table 5c (at least one round in the winter). For Building 14, a sample should be taken as soon as possible, another 2020 winter season, and a third later in 2020.

16. **Page 9, Section 4.3, bullet 1:** Two sub-slab probes are proposed for installation in the "office and lunch room areas" of Building 14. The office is described to be "only 800 square feet" however, it is unclear if the lunch room is included, or if it is a separate space. Please clarify the square footage of each space and whether they are combined. Although two sampling locations may be sufficient for an 800 square foot area, additional information must be submitted to support this number. Building 14 was constructed in 2010 but the site had a long history before then. Please detail what activity occurred within the footprint of this building prior to construction that might have a bearing on the variability of sub-slab conditions and therefore the number of probes needed to characterize sub-slab vapor concentrations. This assessment should not delay the initial sampling in Building 14.

17. **Page 9, Section 4.4:** Please provide the rationale for using 1-liter summa cannisters in lieu of more commonly used 6-liter cannisters.

18. **Table 3, Building 41/42:** Paired indoor air sampling should be implemented where applicable.

19. **Figures:** The scale of the figures in the report makes it difficult to review the information. Figures which show better detail of the layout of utilities should be submitted.