



July 21, 2022

MS. DENICE NELSON
JOHNSON CONTROLS, INC
5757 N. GREEN BAY AVENUE
MILWAUKEE, WI 53209

Via Email Only to denice.karen.nelson@jci.com

SUBJECT: Response to 5th Revised Long-Term Potable Well Sampling Plan
JCI/Tyco FTC PFAS, 2700 Industrial Parkway South, Marinette, WI
BRRTS #02-38-580694

Dear Ms. Nelson:

On May 19, 2022, the Wisconsin Department of Natural Resources (DNR) received the fifth *Revised Long-Term Potable Well Sampling Plan* (Sampling Plan v.5) for the above-referenced site (the "Site"). The report was submitted by Arcadis U.S., Inc. (Arcadis) on behalf of Johnson Controls, Inc. and Tyco Fire Products LP (JCI/Tyco) and was accompanied by the appropriate fee of \$425 required under Wisconsin Administrative Code (Wis. Admin. Code) § NR 749.04(1) for formal DNR review and response.

On May 19, 2022, the DNR also received correspondence from JCI/Tyco's outside legal counsel, Foley and Larder LLP (Foley), regarding JCI/Tyco's intent to not include the hazard index (HI) in its evaluation of the sampling results for per- and polyfluoroalkyl substances (PFAS); this correspondence was included in the DNR's review of Sampling Plan v.5. In this letter, the DNR approves Sampling Plan v.5 and provides comments on JCI/Tyco's current approach for reporting and evaluating the sampling results.

Background

JCI/Tyco is investigating and responding to the discharge of PFAS to the environment at the JCI/Tyco Fire Technology Center (FTC), located at 2700 Industrial Parkway South in Marinette, Wisconsin. The discharge occurred as the result of fire suppressant training, testing, research and development of PFAS-containing aqueous film forming foams (AFFF) at the Site starting in the early 1960s.

Data collected to date by JCI/Tyco indicates PFAS contaminants have migrated from the FTC property and impacted drinking water wells and other media in the area. JCI/Tyco's site investigation to define the degree and extent of contamination is on-going. As part of the field investigation, JCI/Tyco is required to sample known and potentially impacted water supply wells per Wis. Admin. Code § NR 716.13(16).

JCI/Tyco sampled 173 drinking water wells in an area JCI/Tyco refers to as the potable well sampling area (PWSA). The DNR previously directed JCI/Tyco to sample drinking water wells in an area beyond the PWSA - an area referred to as the expanded site investigation area (ESIA). JCI/Tyco refused to complete sampling in the ESIA; thus, JCI/Tyco's Sampling Plan v.5 is specific to the PWSA.

JCI/Tyco offers bottled water to all residents in the PWSA (Wis. Admin. Code § NR 708.05(4)(f)). JCI/Tyco also offered point of entry treatment (POET) systems to residents whose drinking water had perfluorooctanesulfonic acid (PFOS) or perfluorooctanoic acid (PFOA) detected above the laboratory reporting limit; JCI/Tyco currently maintains POET systems on 46 properties in the PWSA.

Summary of Sampling Plan v.5

The Sampling Plan documents the methods, frequency, and rationale for testing of drinking water wells in the PWSA and the maintenance and testing frequency for POET systems in the PWSA. JCI/Tyco states that the purpose of the sampling is to inform residents about PFAS levels in their drinking water and not for remedial decision making.

JCI/Tyco updates the Sampling Plan to keep it current with respect to the wells and POET systems included in the plan, updates to the recommended PFAS standards and analyte lists and advancements in finding from the on-going site investigation. JCI/Tyco submitted the first Sampling Plan on March 8, 2018; previous versions and the DNR's comments to previous Sampling Plans are posted to the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web.

Sampling Plan v.5 includes the following:

- Table 1 summarizes the 173 wells that JCI/Tyco tested in the PWSA, the number of samples collected from each well, and the next anticipated sampling event for each well.
- Table 2 identifies the 46 wells that have a POET system and the carbon changeout frequency for each.
 - The carbon changeout schedule is based on at least 1 year of quarterly monitoring for each POET.
 - Section 3 states once a carbon changeout schedule has been established, the effluent will continue to be sampled annually or every-other-year (prior to carbon changeout) to confirm treatment efficacy. Annual effluent sampling will occur for wells that had PFAS concentrations greater than or equal to the DHS's current recommendations prior to treatment. Every-other-year sampling is for wells where PFAS was less than the DHS's current recommendations prior to treatment.
- Table 3 summarizes evaluation criteria, including the Wisconsin Department of Health Services' (DHS) current recommended groundwater standards for PFAS.
- Table 4 categorizes the wells relative to whether PFAS were detected above the reporting limit in at least one sample and if the concentrations were greater than the DHS's current recommendations.
- Table 5 identifies 23 wells previously sampled for PFAS, but the laboratory analyte list did not contain the current list of 36 PFAS compounds. (Initially, wells may have only been tested for 6 or 14 PFAS compounds; so, in 2021, JCI/Tyco notified all residents in the PWSA that they could have their well tested for 36 PFAS compounds.)
- Report states that JCI/Tyco will provide the DNR with updates or validated sampling results in its bi-weekly updates to the database, will submit a comprehensive Summary Report to document and evaluate the results by July 31st each year and will submit an updated Sampling Plan every 6 months.
- Report states that each property owner, tenant (if applicable) and the DNR will be notified of the sampling results within 10 days of receipt of the laboratory data.
- Exhibit 1 is a template of the letter used to notify residents of their testing results. (The letter template was revised since the version included in Sampling Plan v.4.)

DNR Review

The DNR reviewed Sampling Plan v.5 and approves the plans for monitoring the private drinking water wells and POET systems in the PWSA and the carbon changeout schedule for the POET systems. The DNR's approval of Sampling Plan v.5 does not constitute approval of the boundaries that JCI/Tyco established for sampling private drinking water wells or its refusal to sample drinking water wells in the ESIA.

The DNR provides the following comments based on its review of Sampling Plan v.5:

Table 4 Recommended Revisions

The DNR recommends that JCI/Tyco revise Table 4. Eight wells were not categorized correctly (WS-006, -098, -127, -137, -145, -149, -151 should be categorized as PFAS detected and WS-009 should be categorized as PFAS detected at or above the DHS' current recommendations). These wells are highlighted in yellow in the attached copy of Table 4.

Also, the DNR recommends using the laboratory's Method Detection Limit (MDL) to classify whether PFAS were detected in a well. JCI/Tyco defined "non-detect" as "below the laboratory Reporting Limit (RL)" in its tables; however, this is an inaccurate representation. The DNR notes that while values of detections between the MDL and RL are estimated concentrations, values above the MDL are detections of PFAS. Reporting values over the MDL as detections of PFAS is important for understanding exposure¹. PFAS was detected in 44 wells with PFAS between the MDL and RL; these are highlighted in grey in the attached copy of Table 4.

For this reporting period, if JCI/Tyco were to apply the two recommendations discussed above, then Table 4 would indicate the following:

- 37 wells with no PFAS detected above the laboratory MDL
- 98 wells with PFAS detected at concentrations below the values in Table 3 (DHS recommendations)
- 38 wells with PFAS detected at or above the concentrations in Table 3 (DHS recommendations)

The DNR recommends updating Tables 1 and 4 in future private well sampling reports and sampling plans to reflect these changes.

Results Notification Letter Template and Hazard Index (HI) Reporting

Between March and April 2022, the DNR discussed changes to JCI/Tyco's results notification letter with Foley. In May 2022, JCI/Tyco modified the notification letter as indicated in Exhibit 1 of Sampling Plan v.5. This modified notification letter included DHS recommendations for Cycle 10 and Cycle 11 PFAS groundwater standards, described the then-current status of DNR rulemaking for state drinking water and groundwater standards, and cited the EPA's 2019 interim recommendations for addressing groundwater contaminated with PFOA and PFOS. While the DNR would have preferred (and recommended) that recommendations for PFAS in drinking water be presented in a manner that is easier to understand, the DHS's current numeric recommendations were included, as requested by the DNR. As Foley reported in a May 19, 2022 letter to DNR, the notification did not report the HI.

The purpose of the notification letters is to provide information to well owners to assist them in assessing the significance of the PFAS sample results. In the modified notification letter, JCI/Tyco included the EPA's Preliminary Remediation Goals (PRGs) for PFOA and PFOS in groundwater. At the time, these PRGs were equivalent to the EPA's drinking water Health Advisory Levels (HALs); however, on June 15, 2022, the EPA revised (lowered) the drinking water HALs for PFOA and PFOS. Given the change in EPA's interim updated

¹ On June 15, 2022, the [U.S. Environmental Protection Agency \(EPA\) released an updated Health Advisory Levels for four PFAS](#), including PFOA and PFOS. The updated HALs acknowledges the significant health risks associated with detections of certain PFAS in drinking water.

HAL recommendations, the DNR recommends that the PRGs not be included in future notification letters presenting PFAS testing results for private drinking water wells.

The modified notification letter also includes information about the status of DNR rules. For your information, the DNR expects that rules setting surface water standards and drinking water maximum contaminant levels for public water systems for PFAS will be published and will become effective on August 1, 2022. Once the rules become effective, the DNR recommends JCI/Tyco revise the notification letters to provide this information.

JCI/Tyco's decision to not report the HI for certain situations remains a point of disagreement between the DNR and JCI/Tyco. The DNR continues to recommend that JCI/Tyco evaluate and report the HI for drinking water samples where the PFAS were detected but the concentrations of individual substances were below DHS' numeric recommendations. Reporting the HI for these situations provides residents with information to evaluate if an alternative drinking water source is recommended by the DHS based on the *combined mixture* of PFAS detected in their drinking water.

Next Steps:

JCI/Tyco is currently working with stakeholders to advance long-term drinking water solutions for the PWSA. Until long-term water solutions are in place, JCI/Tyco must maintain an up-to-date Potable Well Sampling Plan that identifies the wells and POET systems included in the plan, the current evaluation criteria and incorporates new findings from the on-going site investigation (Wis. Admin. Code § NR 716.17(1)). At this time, JCI/Tyco should continue to update the Sampling Plan every 6 months; thus, the next version (Sampling Plan v.6) is due on, or about, **October 1, 2022**. The DNR recommends including the changes discussed above in Sampling Plan v.6.

As a reminder, this Site is subject to an enforcement action and therefore all submittals to the DNR under Wis. Admin. Code chs. NR 700-799 and submittals directed by the DNR must be accompanied by an Wis. Admin. Code ch. NR 749 fee per Wis. Stat. § 292.94. These fees are not pro-ratable or refundable per Wis. Admin. Code § NR 749.04(1). If you have any questions about whether to include a fee with a submittal, please contact DNR staff prior to submitting a document without a fee.

If you have any questions about this letter, please contact me, the DNR Project Manager, at (608) 622-8606 or Alyssa.Sellwood@wisconsin.gov.

Sincerely,



Alyssa Sellwood, PE
Complex Sites Project Manager
Remediation & Redevelopment Program

Attachments: Comments to Table 4 from Sampling Plan v.5

cc: Scott Potter, Arcadis (via email: Scott.Potter@arcadis.com)
Jodie Peotter, DNR (via email: Jodie.Peotter@wisconsin.gov)
Kyle Burton, DNR (via email: Kyle.Burton@wisconsin.gov)

Copy of Table 4 from May 19, 2022 Sampling Plan v.5 (Comments Added)

Table 4
Potable Well Results By Category - All Potable Wells
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

Potable Wells Not Detected Above the Reporting Limit		Potable Wells with Results Between Non-Detect and Table 3 Values	Potable Wells with Results Exceeding Table 3 Values
WS-001	WS-089	WS-009	WS-007A
WS-002	WS-091	WS-013	WS-007B
WS-004	WS-092	WS-015	WS-008
WS-005	WS-095	WS-017	WS-018
WS-005B	WS-098	WS-023	WS-019
WS-006	WS-104	WS-031	WS-024
WS-010	WS-105	WS-035	WS-025
WS-011	WS-108	WS-040	WS-030
WS-012	WS-110A	WS-041	WS-036
WS-014	WS-112	WS-042	WS-037
WS-016	WS-113	WS-044	WS-038
WS-020	WS-114	WS-046	WS-048
WS-021	WS-115	WS-049	WS-052
WS-022	WS-116	WS-053	WS-054
WS-026	WS-117	WS-055	WS-057
WS-027	WS-118A	WS-059	WS-058
WS-028	WS-118B	WS-064	WS-060
WS-029	WS-119	WS-066	WS-061B
WS-032	WS-122	WS-067	WS-062
WS-033	WS-125	WS-069A	WS-068
WS-034	WS-126	WS-071	WS-069B
WS-039	WS-127	WS-074	WS-070
WS-043	WS-128	WS-077	WS-082B
WS-045	WS-130	WS-079	WS-082C
WS-047	WS-131	WS-087	WS-082D
WS-050	WS-132	WS-093	WS-090
WS-051	WS-134	WS-094	WS-096
WS-056	WS-137	WS-097	WS-101
WS-061A	WS-138	WS-099	WS-106R
WS-063	WS-139	WS-100	WS-109
WS-065	WS-141	WS-102	WS-121A
WS-072	WS-144	WS-103	WS-146AR
WS-073	WS-145	WS-107	WS-146B
WS-075	WS-148	WS-111	WS-147
WS-076	WS-149	WS-120	WS-158
WS-078	WS-151	WS-121B	WS-159
WS-080	WS-153	WS-123	WS-163
WS-081	WS-154	WS-124	
WS-082	WS-155	WS-129	
WS-083	WS-156	WS-133	
WS-084	WS-160	WS-135	
WS-085	WS-161	WS-136	
WS-086	WS-162	WS-140	
WS-088	WS-164	WS-142	
		WS-143	
		WS-150	
		WS-152	
		WS-157	

88 – 37

48 – 98

37 – 38

Comments

Well to be moved up to next category based on testing results.

Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit. The concentration is an approximate value. Nonetheless, the well should move up to next category because PFAS were detected in the well.