



July 9, 2019

SCOTT WAHL
JOHNSON CONTROLS INTERNATIONAL
2700 INDUSTRIAL PARKWAY SOUTH
MARINETTE WI 54143

Subject: Response to Wis. Admin. Code ch. NR 722 Remedial Action Options Report
JCI/Tyco Fire Technology Center, 2700 Industrial Parkway South, Marinette
DNR BRRTS # 02-38-580694

Dear Mr. Wahl:

On May 22, 2019, the Wisconsin Department of Natural Resources (DNR) received a report titled *Remedial Action Options Report for Long-Term Drinking Water Supply, Town of Peshtigo, Wisconsin*, dated May 16, 2019 (RAOR) for the above-referenced site (Property). Arcadis U.S., Inc. (Arcadis) submitted the Wis. Admin. Code ch. NR 722 RAOR on JCI's behalf. The DNR also received the \$1,050 review fee in accordance with Wis. Admin. Code ch. NR 749. Property boundaries and approximate area of interest in the Town of Peshtigo are depicted on the attached Figure 1-2, *Site Overview*, by Arcadis, dated April 12, 2019. The DNR is providing its comments in accordance with Wis. Admin. Code s. NR 722.15. This letter addresses the area of interest as of report date May 22ND, 2019; additional areas of investigation may be included in the future based upon additional data collected.

Summary of Options Evaluated

On January 16, 2018, Johnson Controls International (JCI), dba Tyco Fire Products LP, was issued a responsible party letter by the DNR related to a discharge of per- and polyfluoroalkyl substances (PFAS) at the JCI Fire Technology Center (FTC). Subsequent interim remedial actions and site investigations identified PFAS compounds in surface water and groundwater which had migrated into the City of Marinette and Town of Peshtigo. The Town of Peshtigo (the Town) is serviced entirely by private potable wells. Data indicates a number of these Town wells are impacted with PFAS compounds originating from the discharge of hazardous substance or environmental pollution at the FTC. Under DNR direction, JCI developed the Wis. Admin. Code ch. NR 722 RAOR to evaluate long-term, drinking water supply alternatives with the goal of identifying potentially feasible options to supply drinking water to Town of Peshtigo residents in the impacted area.

According to the RAOR, six (6) alternatives were evaluated by being assigned scores for a variety of criteria including, among others, technical feasibility, quality of water, timing to implement, and cost. The six alternatives considered consisted of:

- Alternative 1 - City of Marinette Public Water System Expansion
- Alternative 2 - Town of Peshtigo Sanitary District
- Alternative 3 - Existing Private Wells with Point of Entry Treatment (POET) systems
- Alternative 4 - Private Special Casing Deep Water Supply Wells
- Alternative 5 – Town of Peshtigo Public Water System
- Alternative 6 – Combination of Water Supply Methods

Based upon JCI's analysis, this list was narrowed to what JCI believes is the three (3) most feasible options:

- Alternative 1 - City of Marinette Public Water System Expansion
- Alternative 2 - Town of Peshtigo Sanitary District
- Alternative 4 - Private Special Casing Deep Water Supply Wells

Arcadis collected additional information to conduct a detailed desktop evaluation of these three (3) selected alternatives. The results of the detailed evaluation identified Alternative 1, City of Marinette Public Water System Expansion, as the recommended long-term drink water supply. This alternative consisted of connection of all existing residences in the well study area in the Town of Peshtigo to the City of Marinette public water system.

DNR Determinations

The DNR has made the following determinations with respect to the RAOR's compliance with Wis. Adm. Code s. NR 722, and requests the following actions be taken prior to the DNR approving any response action that is needed to supply safe drinking water to the current and future residents impacted:

- The DNR recommends that all affected parties are contacted and given the opportunity to identify their preferred alternative. The methods of soliciting the responses and the results are to be provided to the DNR.
- The DNR supports supplying drinking water via a public water system to all current and future affected properties within the defined scope and extent of the contamination. It is the DNR's position that a public (municipal) water source offers the best regulated, safest, and most reliable drinking water for consumers, current and future.
- Evaluation of a City of Peshtigo Public Water System Expansion should be included as an Alternative 7.
- The Wisconsin Public Service Commission (PSC) will have a role in any Alternative 1, Alternative 2, or Alternative 7 negotiations. The DNR recommends that any comments on the evaluated alternatives by the PSC be considered prior to recommending a remedial action option.
- DNR continues to have concerns about Alternative 4, Private Special Casing Deep Water Supply Wells, particularly with respect to the long-term effectiveness and implementability, which are two key evaluation criteria required in Wis. Admin. Code ch. NR 722, as noted below.
- Per Wis. Admin. Code ch. NR 714, provide fact sheets summarizing the options and evaluation criteria no later than August 10, 2019, with content approval by the DNR. This fact sheet will be used by JCI and the DNR to solicit input from the impacted public in the Town of Peshtigo. JCI will provide a 30-day public comment period for the RAOR. The DNR will host a public meeting in September to allow the public an opportunity for comment on the RAOR and fact sheets.

Additional Considerations

The DNR offers the following comments and suggestions:

- Section 3.1.1: DNR recommends that water mains proposed along County Trunk Highway (CTH) B, Radar Road, and Shore Drive (CTH BB) be a minimum of 6-inches to allow for installation of fire hydrants (if necessary), providing a means to conduct unidirectional flushing

and maintenance of good water quality, as well as improved system capacity, pressure and reliability. The number of adjacent properties and potential water system users will support this diameter main, to maintain good daily water quality.

- Section 3.1.2: DNR recommends a minimum of two (2) interconnection points, without storage being provided, as there will be greater than 50 customers. The concern is that if the single interconnection is offline for any reason (i.e. main break upstream, etc.) there is no backup source of water. Regardless, a second interconnection is strongly recommended to provide reliability and redundancy, and to maintain good water quality and system pressure.
- Figure 6-1: The purple baseline project would need to be extended south on CTH B to reach all properties with known detections. Dead end mains should be minimized to avoid water quality concerns and high operations and maintenance requirements. The main on Weigers Road should be connected to Green Gables Road and the main on Cooke Lane should be connected to Shore Drive. The extensions from Woodland Road should be interconnected, and the future expansion on Stanley Lane should be connected to CTH B.
- Section 4.3: If wells under Alternative 4 are “private wells” (individual or cluster), then Wis. Admin. Code 811 does not apply for source development treatment. Wis. Admin. Code 812 requirements apply, and contaminant treatment is not regulated by DNR for private wells. This section states “A water quality analysis for wells that are in operation drawing from the Sandstone Aquifer was performed on existing data from wells throughout Marinette County.” However, the report does not include the specific data. Inclusion of this data including well location, construction, and results would provide important information regarding the validity of the recommendations for treatment on new private wells for affected individuals.
- Section 4.3.1 and 4.3.2: These sections should be amended to reflect that Alternative 4 may not meet the remedy selection criteria in Wis. Admin. Code ch. NR 700 rule series and ch. 281, Wis. Stats. As noted above, Alternative 4 may not be approvable by the DNR for the reasons noted in the RAOR and the following criteria from Wis. Admin. Code s. NR 722.07(4):

Criterion 1:

(a) Technical feasibility. The technical feasibility of each appropriate remedial action option that effectively and efficiently addresses the sources of contamination shall be evaluated using the following criteria:

1. ‘Long-term effectiveness.’ The long-term effectiveness of appropriate remedial action options, taking into account all of the following:

b. The degree to which a remedial action option, if implemented, will protect public health, safety, and welfare and the environment over time.

DNR Comments on Criterion 1:

Relying on special well casing and depths does not ensure that the current and any future potable wells will provide safe water that is free of human-made and naturally occurring chemicals.

Many well drillers are experienced in using methods during the drilling process designed to prevent contaminants from migrating to lower aquifers. However, well drillers’ experiences have been with contaminants whose features are much better understood than PFAS.

It is important to note that wells from deep aquifers in Wisconsin often produce water with lower aesthetic qualities - such as hard water and water with high iron, manganese, and/or sulfur content. Additionally, deeper aquifer wells in Wisconsin are also susceptible to naturally occurring contaminants such as radium and arsenic. These latter contaminants are not regulated in private wells but are monitored for and addressed in public water systems.

The DNR cannot guarantee that potable wells in the impacted area, even if located in the deeper aquifer, won't be impacted in the future.

Criterion 2:

3. *'Implementability.'* The implementability of appropriate remedial action options, taking into account all of the following:

d. The difficulties associated with monitoring the effectiveness of the remedial action option.

DNR Response to Criterion 2:

The DNR would be concerned with how, over decades, DNR and JCI could monitor the effectiveness of the current potable wells to ensure they provide safe drinking water. Further, the DNR is uncertain that future private, potable wells would be able to provide safe drinking water.

Criterion 3:

i. The redevelopment potential of the site once the remedy has been implemented.

DNR Response to Criterion 3:

The DNR is concerned on behalf of homeowners that plan to sell their homes or lands in the future what impact relying on private, potable wells in the impacted groundwater area may have on the resale of their homes and land. If you own real estate in Wisconsin and are planning to sell, state law requires you to disclose any "defects," as defined in Wis. Admin. Code s. NR 709.02 & 709.033, that "...would have a significant adverse effect on the value of the property; that would significantly impair the health or safety of future occupants of the property; or that if not repaired, removed or replaced, would significantly shorten or adversely affect the expected normal life of the premises."

Criterion 4:

g. Effectiveness, reliability, and enforceability of continuing obligations.

DNR Response to Criterion 4:

Relying on special well casing and depths does not ensure that the current and any future potable wells will provide safe water that is free of human-made and naturally occurring chemicals.

- Section 6.3: DNR will require final construction drawings to provide construction approval. The included schedule shows 90% drawings being submitted for approval and final design occurring after.

Next Steps

Please provide us with a RAOR fact sheet by August 10th, 2019, and a revised RAOR within 60 days of the date of this letter.

Any remedy proposed by JCI must comply with all applicable laws, including the Wis. Admin. Code ch. NR 700 rule series. The DNR continues to recommend that all affected parties are contacted and given the ability to provide input on the water supply alternatives. The DNR supports supplying drinking water via a public water system to all current and future affected properties.

Thank you for the opportunity to review the RAOR. I look forward to future updates regarding the progress of the system approval, design, and construction. Please contact me with any questions by phone at 920-424-0399 or by email at david.neste@wisconsin.gov.

Sincerely,



David Neste
Hydrogeologist
Remediation & Redevelopment Program

Attachments:
Figure 1-2, *Site Overview*, by Arcadis, 4/12/2019

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