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VIA ELECTRONIC MAIL

Portia C. Kayser Harris Dowell Fisher & Young L.C. 15400 South Outer 40, Suite 202 Chesterfield, MO 63017 Email: <u>pkayser@harrisdowell.com</u>

Re:

Dear Portia:

We are writing to provide information for our upcoming meeting between the Ameren and St. Charles technical and legal teams. The proposed topics of the meeting are:

- A) Ameren's most recent EPA-approved work plan (attached) for additional remedial work within the Findett OU4 Superfund site;
- B) municipal well operational details in the context of Ameren's work plan and our proposal, set forth below, regarding how short-term interim operations of the City's water supply wells can facilitate the speed and efficiency of Ameren's remedial work and most rapidly eliminate the City's present concern about use of its water supply wells; and
- C) Ameren's proposal for enhanced groundwater monitoring and potential additional responses, set forth below, that Ameren would implement during the relatively short time period following completion of the remedial work.

As you will see from the attached work plan, Ameren will install ZVI subsurface barriers in three areas north of Highway 370. Such barriers will provide additional protection to City Wells 6, 7 and 9. Coordination of the Ameren remediation program and the City's well pumping will expedite groundwater restoration and will allow the City to return certain wells to full service, as EPA repeatedly has suggested to you. Recommendations for an optimal pumping schedule and anticipated timelines are provided below. The operating regime proposed below is designed to optimize groundwater flow to the north through the treatment barriers and to minimize, to the extent practicable, groundwater flow to the east. We will welcome your input on this proposal in order to make our efforts to protect of St. Charles drinking water as effective as possible. An overall timeline of this process is set forth below:

City Wells Timeline



ZVI barrier installations at substation completed

Ameren Remediation Program

Under the oversight of USEPA, Ameren is implementing a series of measures to destroy contaminants in the groundwater on and off the Huster Road substation. The goal of this groundwater remediation program is to reduce the concentrations of cis-1,2-dichloroethene (DCE) and vinyl chloride (VC) to levels that will prevent an exceedance of the remedial objective, which is the Maximum Contaminant Level ("MCL") in wells potentially affected by the substation. These measures, which include injection of oxidizing agents at the substation and installation of flow-through treatment walls, are anticipated to be in place by May 30, 2023. The timeframes listed below will shift if that target date moves. Temporary monitoring wells will be installed to confirm the treatment walls are functioning as designed. Sampling of the temporary wells will occur at 30–60-day intervals commencing in May/June 2023.

As additional measures, Ameren is proposing a recommended schedule for operation of City Wells CW-5, 6, 7, 9 and 10 to support the USEPA-approved groundwater remediation program, and with that, a monitoring program for these City Wells with redundant safeguards to ensure that water entering the City's water supply will not exceed MCLs for DCE and VC. Sentinel wells relative to City supply wells is set forth below:

City Well	Sentinel Wells			
4	MW-4	MW-3		
5	MW-7	PZ-8		
6	PZ-3	PZ-11		
7	PZ-13*			
9	PZ-12	PZ-14 *		
10	PZ-15*			

* denotes wells that have yet to be installed

PZ-15	PZ-15 near CW-10 PZ-13 North side EHC Wall # 6	
PZ-13		
PZ-14	North side of EHC Wall #5	

1. Recommended Schedule for Operation of City Wells CW-5, 6, 7, 9, and 10

A) June through September, 2023

Pump Wells CW-7, CW-9, and CW-10 to their maximum capacity, if needed. Maintain at least 75% of the total supply volume from Wells CW-7 and CW-9, with CW-10 comprising 25% or less of the total pumping volume. This will help flush groundwater north through the flow-through treatment walls. Ameren will monitor the concentrations of DCE and VC in Ameren on-site and off-site monitoring wells and other sampling points monthly or other designated intervals as may be approved by USEPA. Attached, and provided for illustrative purposes, is a

schedule of potential operating regimes of how various well combinations could be used to produce approximately 4.2M GPD from the wellfield.

B) <u>October 2023 or Earlier</u>

Well CW-6 can be reactivated at this approximate time, pending two consecutive monthly test results showing DCE and VC in nearby monitoring wells (i.e. PZ-11 and PZ-3) to be less than applicable MCLs. Thereafter, Wells CW-6, 7, and 9 should be pumped to produce 75% of the total supply, with CW-10 comprising 25% or less of the total pumping volume. Pumping of Well CW-6 at or near its capacity will expedite clean-up at Well CW-5. Ameren will monitor concentrations of DCE and VC in Ameren on-site and off-site monitoring wells and other sampling points monthly.

C) Estimated Timeframe: December 2023/January 2024 - City Well CW-5

Monitoring wells will be installed along Highway 370 and the northern property boundary of the substation. Once data indicates concentrations at or below the MCL for three consecutive (3) monthly monitoring periods in these wells, Well CW-5 could be available for production. Monitoring at such locations should commence no earlier than six (6) months *following* treatment wall installation (i.e., October/November 2023). Once Well CW-5 is available for production as described herein, the 75/25% pumping ratio can be discontinued.

D) <u>Reactivation of City Well CW-4</u>

In February/March 2023, Ameren will have completed remediation efforts at the substation, consisting of injection of oxidizing agents and installation of flow-through treatment walls along the northern and western boundaries of the substation. Groundwater sampling will be conducted monthly **March thru June 2023** to evaluate the effectiveness of this remediation program and assess the timeframe for reactivation of Well CW-4. (Substation monitoring well 4 functions as a sentinel to CW-4.) At present, City Well 4 has been hard-piped and connected to the St. Charles City municipal sewer system and does not appear to be used for potable purposes. (Ameren requests that the City share the results of any testing of the water discharged from City Well 4 to the sewer on the SharePoint site to be established by USEPA.)

E) <u>Considerations Regarding Well CW-8</u>

Available information from USEPA's January 2023 site investigation confirms that the Ameren substation has had no effect on Well CW-8 nor is any such effect anticipated in the future. Rather, chemical impacts near Well CW-8 are understood to be associated with the nearby Findett Superfund Site. Accordingly, Ameren is providing no recommendations regarding the operation of this well.

2. Monitoring Program and Potential Additional Measures

As described above, City Wells CW-7, 9 and 10 will be immediately available for water production within the recommended operational schedule described above. City Wells CW-6 and CW-5 can be brought into production following short monitoring periods that are anticipated to end by early 2024 together with the elimination of the above-recommended schedule for operation of CW-7, 9 and 10. However, to ensure that the St. Charles public water supply continues to meet MCLs for VC and DCE at the effluent of the Water Treatment Plant (WTP), Ameren will implement a Monitoring Program designed for early detection of any threat to the City Wells, redundant monitoring at each component of the public water supply, and contingency measures. A schematic of the Monitoring Program is provided below and includes the following components:



Illustrative Monitoring Program Locations

A) <u>Sentinel Monitoring Wells (Location D)</u>

Knowing whether VC and/or DCE are detected in the groundwater proximate to any individual water supply well, and the levels at which they may be present, will be useful as a possible predictor of detections and/or MCL remedial objective exceedances in the individual water supply wells. Continued groundwater monitoring throughout the area in which the Elm Point Wellfield resides will be conducted by both the City and Ameren. Such locations are identified as Location D in the attached figure, and hence there will be multiple Location D's. One or more such locations will be identified as 'sentinel' or indicator points for each of the City's water supply wells. These groundwater monitoring locations will serve to indicate whether detections and possibly MCL remedial objective exceedances may be expected at the city's water supply wells.

- 1. If concentrations are below MCLs in the surrounding groundwater, it can be expected that they will be below MCLs in the water supply wells and WTP influent and effluent.
- 2. If MCL remedial objective exceedances are observed at any of these indicator locations, then additional remedial action may be necessary. Remedial action may involve subsurface sodium persulfate injection or other groundwater remediation technologies. The objective of the action is to ensure that VC and DCE concentrations remain below MCLs at these groundwater monitoring locations and consequently at the City's water supply wells.
- 3. Monthly monitoring is recommended at these locations and should continue until monitoring results at all groundwater monitoring Location D's have been determined to be at or below the MCL remedial objectives for twelve months. Quarterly monitoring is then recommended for an additional twelve months. *This schedule provides for a full two years of monitoring after all sentinel monitoring wells have already been shown to have concentrations below the remedial objectives.*
- B) <u>Water Supply Wells (Location C)</u>

Knowing whether VC and/or DCE are detected in water pumped from the active water supply wells, and the levels at which they may be present, will be useful to estimate whether detections at or above the MCLs may be expected in the WTP influent. Actions may be warranted depending on the monitoring results obtained at the individual wells in operation. There will be multiple Location C's at any given time corresponding to the number of water supply wells that the City is operating at any given time. Ameren will perform monthly monitoring at active water supply wells (i.e., water supply wells actively pumped to supply drinking water) and will continue monitoring until results at all sentinel groundwater monitoring locations have been determined to be at or below the MCL remedial objectives for twelve months. Quarterly monitoring is then recommended for an additional twelve months at active water supply wells. Inactive water supply wells will not be monitoring of the City's active water supply wells after all sentinel monitoring wells have already been shown to have concentrations below the remedial objectives.

- 1. If MCLs are being exceeded at other groundwater monitoring locations proximate to a water supply well, then monitoring of the water supply well while active will continue until the proximate groundwater monitoring locations are shown to reliably be expected to have concentrations at or below MCLs.
- 2. Increasing frequency or magnitude of detections at an active water supply well, even if those detections are at or below MCLs, will require action be taken. That action could be to take the well offline for a period of time

coupled with undertaking additional groundwater remedial action to reverse the increasing trend at the water supply well.

3. A sudden unanticipated detection above MCLs will warrant immediate action. The first action should be to repeat monitoring immediately to confirm whether the sudden unanticipated detection is an anomaly or a lab/sampling error. If three more rounds of weekly monitoring are conducted and reveal non-detectable concentrations in the active water supply well, the sudden unanticipated detection will be considered an anomaly and return to regular monitoring can then ensue. If immediate and follow-up weekly monitoring reveals continued detections above MCLs, then remedial action will be needed. That action could be to take the well offline for a period of time coupled with undertaking additional groundwater remedial action to reduce the observed concentrations at the active water supply well.

C) Influent to the WTP (Location B)

In addition to monthly monitoring at the sentinel monitoring wells and City water supply wells, Ameren is proposing monthly monitoring of the influent to the WTP. Knowing whether VC and/or DCE are detected in the influent to the WTP (and the levels at which they may be present) as the blended well water enters the WTP will be useful as a possible predictor of detections and/or MCL exceedances in the WTP effluent. WTP influent data combined with the WTP effluent data will also help us understand the extent to which concentrations diminish through the WTP. (We understand that the WTP was not specifically designed to remove VC and/or DCE, but incidental removal may occur due to aeration and other processes.) Actions may be warranted depending on the monitoring results obtained at this location in conjunction with monitoring results at other locations. Monthly monitoring is recommended until monitoring results at all sentinel groundwater monitoring locations (Location D as described above and in the attached diagram) have been determined to be at or below MCLs for twelve months. Quarterly monitoring is then recommended for an additional twelve months.

- 1. If VC and/or DCE are detected in any sample at the WTP influent the following action should be undertaken:
 - i. In conjunction with monitoring at the individual water supply wells in operation at the time, an assessment as to whether any individual water supply well should be taken offline can be based on the presence and concentrations observed in the WTP influent. If a well is causing MCL exceedances in the WTP influent, it should be taken offline and evaluated as to whether and how it can be operated so as to not cause MCL exceedances in the WTP influent. An operating rule for the system should be to keep concentrations below MCLs at the WTP influent. This operating rule provides a conservative margin of safety in ensuring compliance with MCLs in the WTP

effluent, i.e., the actual water delivered to users. If any individual water supply well will cause this rule to be violated, it temporarily should be taken offline until it can be demonstrated that the well can be reactivated and not cause violation of this rule. The water lost to the overall supply by doing so must be replaced by augmented pumping at another water supply well, or by additional purchases from St. Louis until such demonstration can be made.

D) <u>WTP Effluent (Location A)</u>

The monthly monitoring of the sentinel wells, City water supply wells, and WTP influent, will provide cumulative data that will serve as a conservative indicator of any threat to the effluent from the WTP. However, Ameren is also proposing to perform regular monitoring of the WTP effluent (Location A) as a safeguard. Monthly monitoring of the WTP effluent is recommended until monitoring results at all sentinel groundwater monitoring locations (Location D's as described below and in the attached diagram) have been determined to be at or below MCLs for twelve months. Quarterly monitoring is then recommended for an additional twelve months.

Benefits of This Approach

There is no doubt that our mutual goal is to continue protecting public health while quickly implementing EPA's plan to remediate the aquifer. The proposals outlined in this letter make sure that the public will continue to receive safe drinking water, while providing multiple redundant levels of safety precautions and extensive groundwater monitoring data to prove the effectiveness of our work. Moreover, this work will allow us to achieve those results while maintaining the City's capacity to produce enough water to meet typical seasonal demands in an efficient and cost-effective manner, while continuing with its historical purchases of water from St. Louis.

Most importantly, this approach will achieve all of those objectives while avoiding potential interference and disruption of the remedy's effectiveness and efficiency that could occur if the parties do not work together towards a stable, predictable and coordinated approach for operating municipal water supply wells during short-term implementation of Ameren's work. As you know, the pumping of municipal water supply wells is one of the single most significant determinants of groundwater dynamics and direction within the aquifer that supplies the Elm Point Well Field. Not only would the City's failure to help mitigate unpredictable or erratic municipal well pumping patterns thwart Ameren's and EPA's work to continue protecting public health, but it also would frustrate any efforts to restore the aquifer to EPA's standards and impede the CERCLA process. We are confident that Ameren and the City of St. Charles will be able to work together to avoid those negative consequences for city residents.

We understand that the City has been considering other options for upgrading the municipal water supply system. In light of the program described in this letter, those other options could very well be redundant, unnecessary, and not consistent with the National Contingency Plan (NCP) regulations that govern work at Superfund sites. For example, this program will result in complete compliance with drinking water criteria for Vinyl Chloride and DCE in the tap water supplied to

customers, and it will address detections of those substances in City water supply wells. Thus, the City's proposed *additional* work to build a carbon filtration system for the City's drinking water treatment plant would serve no environmental or public health purpose, other than potentially to provide a level of protection for *other* contaminants that are unrelated to Ameren. Likewise, if there is complete compliance with drinking water criteria for Vinyl Chloride and DCE in the tap water supplied to customers, and no detections of Vinyl Chloride or DCE in excess of the MCL remedial objectives at any water supply wells during the Monitoring Program, it would serve no legal, scientific, public health or environmental purpose to move the City's water supply wells from one compliant aquifer to another. The City obviously is free to provide citizens with whatever infrastructure upgrades it wants, but in light of the ongoing remedial work that Ameren will be performing over the next 60 days or so, any such upgrades are not part of the Superfund process and not part of the EPA-approved remedy for this Superfund site.

We look forward to meeting with you and your team to discuss these issues and work towards a mutually acceptable program for the benefit of St. Charles residents. Thanks Portia.

Sincerely,

de MAdouit seph F. Madonia