



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

November 09, 2020

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Brian Hennessey, 730-B
SRS Remedial Project Manager
Area Completion Projects
Savannah River Operations Office
P.O. Box
Aiken, South Carolina 29802



Dear Mr. Hennessey:

The U.S. Environmental Protection Agency (EPA) has reviewed the 2019 Annual Comprehensive TNX Area Groundwater Monitoring and Remedial Action Effectiveness Interim Report (SEMS #21, 29), Revision 0, dated June 2020.

It was previously agreed to by all FFA signatories that a DOE-SRS proposed 2019/2020 meeting after 3 consecutive years to discuss data gaps, analytical methods (1,4 dioxane), elevated TCE and remedy efficacy along with general site path forward would be scheduled. Instead, this report recommends another 3 year period of evaluation prior to suggested discussions in reference to above noted concerns. EPA agrees to the recommended additional 3 years of evaluation and future discussion with the understanding that EPA reserves the option to open future discussions if the TCE values continue to be consistently elevated and are of concern and TCE levels remain above MCL and plume migration is towards an area without MW coverage.

EPA cannot approve the above mentioned report until the comments below have been addressed. If you have any questions, please contact me at (404) 229 -9500.

Sincerely,

Diedre Lloyd

Diedre Lloyd
Remedial Project Manager
Restoration and Sustainability Branch
Region 4, Superfund & Emergency Management Division
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

cc: Angelia Holmes, DOE-SRS, C. L. Bergren, SRNS-ACP (Signed Original), Karen Adams, DOE-SRS, C.L. Bergren SRNS-ACP (Signed Original), Susan Fulmer, SCDHEC

**EPA COMMENTS ON THE
2019 ANNUAL COMPREHENSIVE TNX AREA GROUNDWATER MONITORING AND
REMEDIAL EFFECTIVENESS INTERIM REPORT**

SEMS NUMBER 21, 29

REVISION 0, DATED JUNE 2020

**SAVANNAH RIVER SITE
SOUTH CAROLINA**

EPA COMMENTS:

1. Section 3.5 (Radiologically Contaminated Groundwater) of the 2019 Annual Comprehensive TNX Area Groundwater Monitoring and Remedial Action Effectiveness Interim Report (U), SEMS Numbers: 21, 29, SRNS-RP-2020-00326, Revision 0, dated June 2020 (2019 Annual Report) states well, XSB006R, was installed in April 2019 and was sampled during 2019 for both radiological and volatile organic compound (VOC) constituents; however according to Table 4-2. Summary of the Groundwater Sampling and Analyses Plan at TNX (2nd and 4th Quarters), this well was also sampled for mercury and nitrate-nitrite as Nitrogen.
 - a. According to Section 5.4 (Analytical Results), mercury exceeded the Maximum Contaminant Level (MCL) in the fourth quarter of 2019. Please revise the report to include discussion of this Mercury Exceedance.
 - b. The 2019 Annual Report does not provide information about what data gap was identified which warranted adding this well. Please revise the report to provide information to support installation of this well for the purposes of clarity/documentation.
 - c. A discussion is not presented with regard to how the data from this well will be used in facilitating evaluation of groundwater conditions and the interim remedial action effectiveness. Please revise the report to include this information.
2. Section 5.4 (Analytical Results) of the 2019 Annual Report indicates that the Dissolved Oxygen (DO) 4th quarter 2019 (4Q2019) measurements of 14.38 milligrams per Liter (mg/L) at well TVM 1M and 16.4 mg/L at well TNX 3D are higher than the maximum solubility in freshwater and are therefore suspect. However, Section 4.1.1 (Sampling Issues) does not mention that any sampling issues were identified for the collection of DO readings at wells TVM 1M or TNX 3D and does not provide an explanation for possible reasons the DO appeared to be erroneous.
 - a. Please revise the 2019 Annual Report to discuss the potential causes for the suspect DO results for wells TVM 1M and TNX 3D and to ensure consistent information about these anomalies are presented throughout the report.
3. Section 5.4 (Analytical Results) describes the exceedances of gross alpha at wells TBG 3, TBG 5, TCM 5, and TIR 1U, noting the MCL exceedance at TBG 3 occurred for the first time in 2019 since Edible Oil injections started, and for the first time since 2011 in TBG 5. This section also lists the uranium exceedances above the MCL for wells TBG 3 and TCM 5.
 - a. Section 5.4 does not present the results for adjusted gross alpha (with the total recoverable uranium results subtracted) such that it is clear how the uranium MCL exceedances in wells TBG 3 and TCM 5 are correlated to the gross alpha results. Please revise Section 5.4 to include the results of the adjusted gross alpha values for MWs TBG 3, TBG 5, TCM 5 and TIR 1U.
 - b. While Section 6.5 (Combined Radium, Uranium, Gross Alpha, and Adjusted Gross Alpha) does provide a discussion of the gross alpha versus adjusted gross alpha results in light of the high uranium concentrations in 2019 in well TBG 3, Section 6.5 does not discuss the MCL exceedance for uranium in well TCM 5. The 2019 Annual Report does not provide consistent and complete information about how the gross alpha results, uranium results, and adjusted gross alpha results

are correlated for well TCM 5. Please revise Section 6.5 to reference the detection of uranium above the MCL in well TCM 5 and discuss how the gross alpha results, uranium results and adjusted gross alpha results are correlated for TCM5.

4. Section 6.3 (VOC Constituents [i.e., PCE, TCE, Cis-1,2-DCE, VC, Ethylene, and CCl₄]) states in the second paragraph that as source TCE concentrations declined, distal TCE concentrations concurrently declined. However, from review of the graphs in Appendix E, Time-Series Plots, the following inconsistencies with this statement were noted:
 - In Appendix E, Page E-253 of E-292, the graph depicts well TCM 5 TCE concentrations exhibiting stable-steady trend.
 - In Appendix E, Page E-269 of E-292, the graph depicts well TNX 28 TCE concentrations exhibiting a potentially increasing rather than decreasing trend.
 - In Appendix E, Page E-278 of E-292, the graph depicts TCE concentrations in TRW 2 as variable but overall not decreasing, with fluctuations above and below the MCL.

Please revise Section 6.3 to provide a more detailed description of the TCE trends in wells TRW 2, TNX 28D, and TCM 5 and address the above noted inconsistencies. This information is of particular importance in assessing the interim remedial effectiveness with respect to Wells TRW 2 and TNX 28D which still continue to exhibit fluctuations in TCE concentrations above and below the MCL.

5. Section 6.4 (Edible Oil Parameters) states wells TNX 3D, TV 1M and TVR 1A had DO concentrations that were background DO concentrations; however, Section 5.4 does not discuss the potentially suspect DO result for well TVR 1A. For completeness and consistency, please revise Section 5.4 to include a discussion of the DO results for well TVR 1A.
6. EPA notes that the 2019 TNX EMR identified trichloroethylene (TCE) concentrations at well TNX 28D that continue to fluctuate with an exceedance of EPA's Maximum Contaminant Level (MCL) being reported for the fourth quarter of 2019 (4Q2019). Based on the recent history of TCE concentrations exceeding the MCL at well TNX 28D since 2016, it has been noted and requested by SCDHEC that a monitoring well between TNX 28D and the TNX 72 well cluster be installed. EPA supports and agrees that the requested MW installation would provide valuable information. The SRS agreed to evaluate the TCE concentrations at TNX 28D for three consecutive years until 2019. The agreement indicated if TNX 28D TCE concentrations continued to be elevated above the MCL, the possibility of installing a new monitoring well would be discussed with the federal facility agreement (FFA) parties. However, in the 2019 Annual Report, SRS proposes to extend the period of evaluation at TNX 28D for another three years, to 2022 and to postpone scheduling a meeting to discuss the possible installation of a new monitoring well between TNX 28D and TNX 72 until after the submittal of the 2022 Annual Comprehensive TNX Area Groundwater Monitoring and Remedial Action Effectiveness Interim Report.

EPA agrees to another 3 year period of evaluation however, reserves the option for future discussion if the TCE values continue to be consistently elevated to be of concern, especially when considering the GW plume is migrating towards an area without monitor well coverage and levels remain above MCL.

7. Section 5.4, pdg page 38 states "Ethylene was detected in three monitoring wells (TBG 3, 4, and 5) during 2Q 2019 and 4Q 2019. The detections ranged from 0.26 to 1.4 Please ensure the MCL is included when stating detected COCs.