



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

January 27, 2021

Mr. Brian T. Hennessey
SRS Remedial Project Manager
Infrastructure and Area Completion Division
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802



**RE: EPA 5-YEAR MONITORING REPORT (DATA SUMMARY LETTER)
FOR THE K-AREA GROUNDWATER OPERABLE UNIT, 2016
THROUGH 2020 SEMS 99, ARF-022913, SEPTEMBER 29, 2020**

Dear Mr. Hennessey,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the 5 year Monitoring Report for the K-Area GW OU. Attached are our comments.

If you have any questions or require additional information, please contact me at (404) 562-8648.

Sincerely,

JON

RICHARDS

Digitally signed by
JON RICHARDS
Date: 2021.01.27
10:01:31 -05'00'

Jon Richards
FFA Remedial Project Manager
Superfund & Emergency
Management Division

ec: C.L. Bergren, SRNS-
ACP Susan Fulmer,
SCDHEC

TECHNICAL REVIEW COMMENTS

1. The boundary area of the K-Area Groundwater (KAGW) Operable Unit (OU) is not clearly identified in the 5-Year Monitoring Report (Data Summary Letter) for the K-Area Groundwater Operable Unit, 2016 through 2020, SEMS Number 99, ARF-022913, September 29, 2020 (Letter Report). For example, in Figure 1: 1Q2020 Tritium Plume and Concentrations at KAGW OU, the inset figure depicts a red box around the KAGW monitoring wells and surface water stations. However, neither the text nor the figure state the red box delineates the boundary of the KAGW OU. *Please revise the Letter Report to clearly identify the boundary area of the KAGW OU.*
2. Several deficiencies were noted in the Letter Report that impact the analysis of the monitoring data. For example, well construction information (e.g., total depth, screened interval depth), groundwater flow direction (i.e., potentiometric surface maps), surface water flow direction, sampling methodologies (e.g., bailer, low flow, etc.) and the laboratory analysis methods were not presented for groundwater and surface water samples. *Please revise the Letter Report to address these noted deficiencies.*
3. Based on the tritium results in well KRB 19D, it appears the vertical extent of contamination is not defined in groundwater directly downgradient of the K-Area Containment Basin (904-88G). For example, under the subheading KAGW OU Tritium Results, Monitoring Well Results, page 4, the text states tritium trends are steadily decreasing in KRB 19D where the highest concentrations of tritium are detected in KAGW OU at a concentration of 2,090 picocuries per milliliter (pCi/mL) in 2020 which is above the maximum contaminant level (MCL) of 20 pCi/mL. Additionally, according to the sample event water elevation data presented in Attachment 1. KAGW 5-Year Data Table 2016 through 2020, well KRB 19D appears to be the deepest well of the six KAGW OU upper water bearing zone (UWBZ) wells currently being monitored. Thus, it appears the vertical extent of tritium groundwater contamination is currently not defined at KRB 19D with concentrations of tritium at a magnitude of 10X above the MCL for tritium within the well furthest downgradient of potential tritium sources and within the deepest water column of the wells within the monitoring well network. While it is currently understood the six KAGW OU monitoring wells only represents annual sampling of a subset of wells currently available, it is not known whether additional wells are available to be sampled to address the data gap in the vertical extent of tritium contamination. *Please revise the Letter Report to discuss addressing the data gap in the vertical extent of tritium contamination as pre-work plan characterization data in advance of the remedial investigation.*
4. Based on the tritium results at surface water sampling station KSW-16, the extent of surface water contamination downstream of the K-Area Reactor Complex tritium plume is not clearly defined. For example, the 2020 tritium concentration in KSW-16 was measured at 51.4 pCi/mL and exceeding than MCL of 20 pCi/mL. It is noted the bounding downstream tritium surface water sample location is KSW-17 which measured tritium at 8.29 pCi/mL. However, KSW-17 is located past the confluence of Indian Grave Branch and Pen Branch and located outside of the KAGW OU. As such, there appears to be a data gap in the downstream extent of tritium contamination within the KAGW OU and in Indian Grave Branch prior to its confluence with Pen Branch. *Please revise the Letter Report to discuss addressing the data gap in the downgradient extent of tritium contamination in Indian Grave Branch within the KAGW OU and prior to the confluence as pre-work plan characterization data in advance of the remedial investigation.*