Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

NOV 20 2017

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Acting Savannah River Site Remedial Project Manager
Superfund Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Savannah River Site's Responses to the Regulatory Comments on the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit (OU) - January through December 2016 (SRNS-RP-2017-00125, Revision 0, May 2017) CERCLIS Number: 28

In accordance with the terms of the Federal Facility Agreement, the U.S. Department of Energy (DOE) is submitting the subject comment responses for your review and approval. The U.S. Environmental Protection Agency's (EPA) and the South Carolina Department of Health and Environmental Control's (SCDHEC) comments on the report were received on September 21, 2017 and September 27, 2017 respectively. This performance evaluation report (PER) will not be revised; however, all comment responses will be included in the next scheduled PER, as applicable. In their comments, the EPA requested additional information for converting AHT-08B, AHT-11A and ASH-06 from active soil vapor extraction (SVE) to passive SVE with MicroBlowers™ as recommended in the report. Based on the information presented in the Section 4.1, ABRP Trench Subunit Conclusion, the SCDHEC found the transition from active SVE to passive SVE (i.e., MicroBlowers™) acceptable for AHT-08B, AHT-11A and ASH-06. Please review these responses and provide your approval, including transition of the three wells to MicroBlowers™, within thirty (30) days from receipt. The time and effort that the SCDHEC and the EPA have given on the subject operable unit are greatly appreciated.

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Questions from you or your staff may be directed to me at (803) 952-8365, or the DOE Federal Project Director, Ms. Karen Adams, at (803) 952-7871.

Sincerely,

Brian T. Hennessey
SRS Remedial Project Manager
Infrastructure and Area Completion Division

IACD-18-108

Enclosures:

1. SRS Responses to the South Carolina Department of Health & Environmental Control Comments on the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit (OU) - January through December 2016 (SRNS-RP-2017-00125, Revision 0, May 2017) CERCLIS Number: 28
2. SRS Responses to the U. S. Environmental Protection Agency's Comments on the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit (OU) - January through December 2016 (SRNS-RP-2017-00125, Revision 0, May 2017) CERCLIS Number: 28

cc w/o encl:
D. Scaturo, SCDHEC-Columbia
S. French, SCDHEC-Columbia
M. D. Wilson, SCDHEC-Columbia
G. K. Taylor, SCDHEC-Columbia
T. Fuss, SCDHEC–Aiken Environmental Affairs Office
R. Pope, EPA-Atlanta

cc w/ encl:
J. Tufts, EPA-Atlanta
M. McRae, TechLaw, Inc.

SRS Responses to U.S. Environmental Protection Agency's Comments on the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit, January through December 2016 (U), SRNS-RP-2017-00125, Revision 0, May 2017, CERCLIS Number: 28, Savannah River Site, Aiken, South Carolina
Comments Received: September 21, 2017

General Comments

1. In Section 4.3, Overall Recommendations on Page 16 of 62 of the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit (OU) (U) (ABRP/MCB/MBP OU), January through December 2016 (U), CERCLIS Numbers: 28, SRNS-RP-2017-00125, Revision 0, May 2017 (PER) the text states "It is recommended that AHT-08B, AHT-11A and ASH-06 be transitioned to PSVE with MicroBlowers ™ since the ASVE system has reached a point of diminishing returns as indicated in the text."

   However, trichloroethylene (TCE) concentrations detected in the soil vapor extraction (SVE) system sample at well ASH-06 were detected at 0.16 ppmV and 0.26 ppmV in samples collected on September 12, 2016 and December 12, 2016, respectively. These concentrations are higher than previously detected in samples collected in 2015 and consistent with samples collected in 2014. Additionally, TCE production measured at ASH-06 during the first and second half of 2016 was greater than previous years at 0.30 and 0.62 pounds, respectively. Furthermore, rebound testing is not recommended prior to converting these three (3) wells from ASVE to passive soil vapor extraction (PSVE). Revise the PER to include a discussion as to why converting ASVE well ASH-06 is justified based on the sampling data provided from the 2016 sampling events and provide discussion as to why rebound testing is not warranted prior to converting the three (3) proposed wells from ASVE to PSVE.

   Response: Agree with Clarification. There was a small increase in TCE levels that was most likely caused by the conversion of nearby wells (i.e., AHT-7A, -7B, -8A, -9A, -9B, -10A, -10B, -11B, -12A and -12B) to passive soil vapor extraction (PSVE). The proposal to transition to PSVE is not based solely on these concentrations, but on the combination of diminishing returns of an energy intensive remediation system in combination with a diffusion limited soil formation. These factors, as well as, the concentrations hovering above detection limits lead to a viable and reasonable recommendation for conversion to a passive system. A rebound test is not warranted since current site conditions (i.e., TCE concentrations) are still consistent with conditions measured previously during the 2012 rebound testing.

   Section 4.3 will be revised in the next PER to include a discussion of ASH-06 similar to the following:

   "ASH-06 experienced a small increase in TCE concentrations with readings slightly above non-detect levels of 0.16 ppmV and 0.24 ppmV (See Appendix A). The small increase was most likely due to the conversion of nearby wells (see Figure 5) to

MicroBlowers™ and BaroBalls™ in 2015 (see Table 1). The impact of converting nearby wells was more apparent at ASH-06 because of its longer screen length of 100 feet versus screen lengths of 40 feet and 25 feet at wells AHT-11A and AHT-08B, respectively."

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

2. The PER asserts the ASVE system has reached a point of diminishing returns as indicated by monitoring data and the soil formation is considered "diffusion limited". However, it is not clearly understood whether the length of the well screen(s) has any impact or bias on the TCE production data and/or vapor sample results. For example, according to Table 5, ABRP Well Construction Details, the well screen in well ASH-06 is 100-feet in length and screened from 40 to 140 feet below the ground surface (bgs). Well ASH-06 is the only well with a 100-foot well screen and is twice the length and greater as compared to the other SVE well screen lengths. It is not known whether some amount or volume of clean air is being pulled through the 100-foot well screen thus biasing the data. Revise the PER to address this issue.

Response: Agree with clarification. Well ASH-06 does have the longest screen length which increases the probability that clean air is being pulled through the well screen. Because this cannot be confidently confirmed with analytical measurements, the assumption is based on previous measurements and operational experience signifying that the well is still performing within a lithologic zone that is diffusion limited in VOC removal capacity. See response to General Comment #1. No change to the PER is recommended.

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

3. In Table 3, Well Testing Field Data, the change in vacuum measurement at well number ARV-2D1 was recorded as +1.3 inch of water. However, the notation below the table states, "The pressure actually decreased in the direction of the SVEU when the SVEU was operating. The MicroBlower ™ operation is not impacted by the operation of the SVEU and is thus outside of the zone of influence (ZOI)." For clarity and completeness, revise Table 3 to include the measurement recorded when the pressure decreased in the direction of the SVEU when the SVEU was operating.

Response: Clarification. The footnote is misleading in that the pressures (inches H_2O) listed in Table 3 show well pressures with the SVEU off and on with the difference being a net gain in vacuum (inches H_2O) for ARV-2D1. For reasons not quite understood, this is an indication of positive flow towards the MicroBlower™ when the active SVEU is on. This is an unexpected consequence, but still indicates

that the MicroBlower™ is outside the ZOI of the active SVEU. The next PER will clarify Table 3 ARV-2D1's positive measurement of +1.3 by removing the footnote.

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

4. The fluctuations in TCE concentrations depicted on Figure 7 (ABRP Phased SVE [Active] Well TCE Production Rates) and Figure 9 (ABRP Phased SVE [Active] Well Exhaust Gas TCE Concentrations), are not easily discernable. Revise Figures 7 and 9 using a different scale so that the fluctuations in TCE concentrations are depicted in a way that can be more readily seen and useable.

Response: Clarification. The purpose of the figures is to show the large decrease in TCE production and well exhaust gas concentrations since the initial operation of the ASVE. In the next PER, Figures 7 and 9 will be revised to show only the current ASVE wells similar to the attached figures.

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

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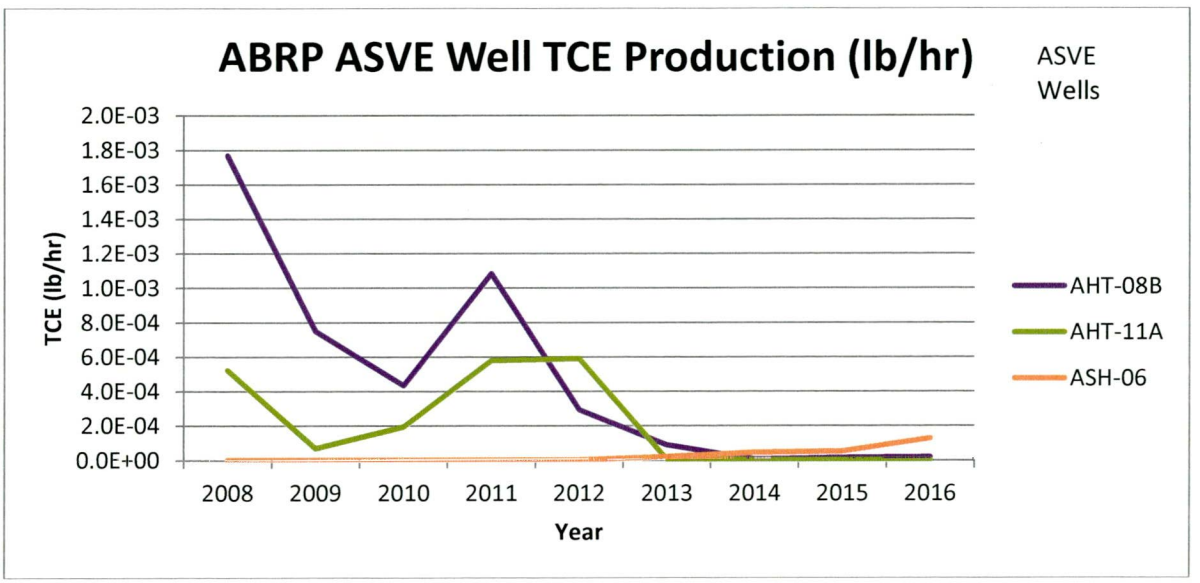

Figure 7. ABRP Phased SVE (Active) Well TCE Production Rates

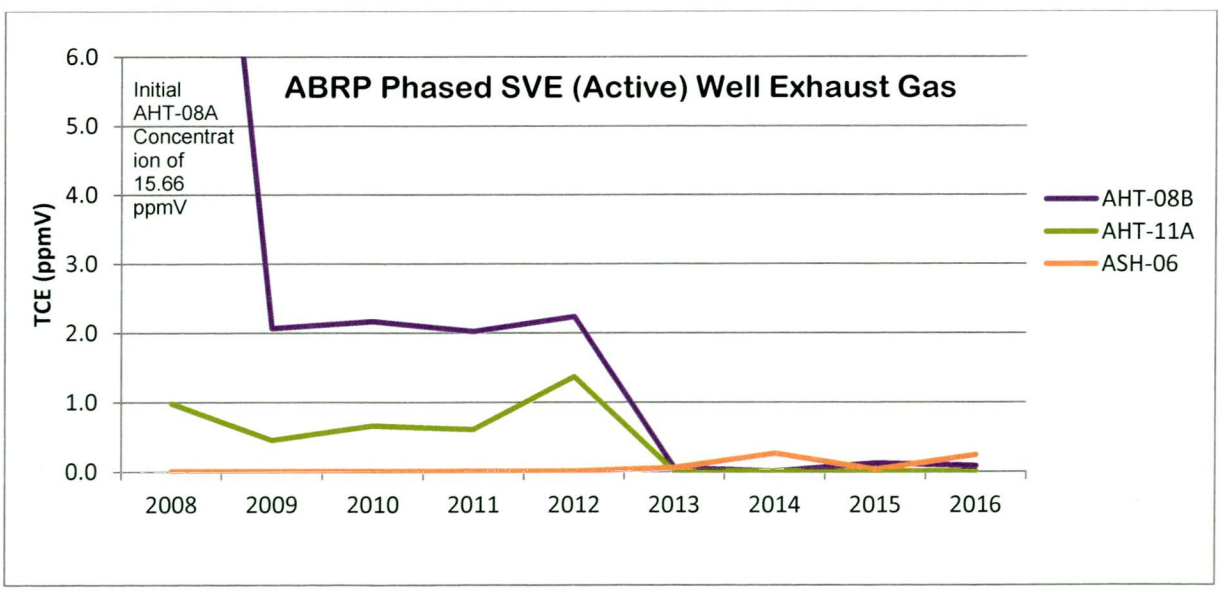

Figure 9. ABRP Phased SVE (Active) Well Exhaust Gas TCE Concentration

SRS Responses to South Carolina Department of Health and Environmental Control's Comments on the Performance Evaluation Report (PER) for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) and the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A, -5A) Operable Unit, January through December 2016 (U), SRNS-RP-2017-00125, Revision 0, May 2017, CERCLIS Number: 28, Savannah River Site, Aiken, South Carolina
Comments Received: September 27, 2017

General Comments

1. Based on the information presented in Section 4.1, ABRP Trench Subunit Conclusion, the Department finds Option 4 (converting wells AHT-08B, -11A, and ASH-06 from ASVE to MicroBlower™ operation) acceptable for future operation of the SVE well system at the trench subunit.

   Response: Agree. However, resolution of EPA General Comment #1 is needed before converting AHT-08B, AHT-11A, and ASH-06 to MicroBlower™ operation.

   Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

Specific Comments

1. Section 2.1.5, Operational Issues, page 8. The final sentence of this page refers to Table 9 for a listing of all SVEU shutdown events. It should reference Table 12 instead. Please correct.

   Response: Agree. The referenced sentence in Section 2.1.5 should refer to Table 12. The sentence will be revised in the next PER to reference the correct table similar to the following:

   "…Refer to Table ~~9~~12 for a listing of all SVEU shutdown events."

   Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

2. Section 4.1, ABRP Trench Subunit Conclusion, pages 14-15. The last sentence beginning on page 14 references Tables 5 and 6 for sampling requirements for the SVEU and SVE wells. It appears that Tables 8 and 9 should be referenced instead. Please correct.

   Response: Agree. The referenced sentence in Section 4.1 should refer to Tables 8 and 9. The sentence will be revised in the next PER to reference the correct table similar to the following:

   "…Sampling and analysis of the wells and the SVEU will continue in accordance with Tables ~~5~~8 and ~~6~~9 until phasing to PSVE is fully achieved followed by sampling per Table 5 only…"

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3. Figure 3, Map of the MCB Airlift Recirculation Well Banks, page 25. The figure provided on this page is blurry and difficult to read. Please provide a sharper image with legible letters, numbers, and details, if possible.

   Response: Agree. Figure 3 was updated to be clearer (see attachment) and will be provided in the next PER.

   Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

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