ARF-022892

Department of Energy
Savannah River Operations Office
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SEP 22 2020

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
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: Proposed Plan for the Lower Three Runs Integrator Operable Unit (U) (SRNS-RP-2019-00058, Revision 1 Redline, September 2020) and Savannah River Site's Responses to the Regulatory Comments on the Revision 0 Document, SEMS Number: 35

In accordance with the terms of the Federal Facility Agreement, the U. S. Department of Energy (DOE) is submitting the subject information for your review. The South Carolina Department of Health and Environmental Control (SCDHEC) and U. S. Environmental Protection Agency (EPA) provided comments on the Revision 0 Proposed Plan on June 18, 2020 and July 24, 2020, respectively. The draft Savannah River Site's (SRS) comment responses were transmitted electronically to the SCDHEC and EPA on August 17, 2020. The enclosed final SRS responses have been incorporated into the revised document. Please review the enclosures and provide your approval within thirty (30) days of receipt. The effort and time that the SCDHEC and the EPA have provided on this operable unit are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 952-8365.

Sincerely,

BRIAN HENNESSEY
Digitally signed by BRIAN HENNESSEY
Date: 2020.09.16 16:58:39 -04'00'

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

IACD-20-181

SEP 22 2020

Ms. Susan Fulmer
Mr. Jon Richards

Enclosures:
1. Proposed Plan for the Lower Three Runs Integrator Operable Unit (U) (SRNS-RP-2019-00058, Revision 1, September 2020) SEMS Number: 35 (Redline Copy)
2. SRS Responses to EPA Comments on the Proposed Plan for the Lower Three Runs Integrator Operable Unit (U) (SRNS-RP-2019-00058, Revision 0, April 2020) SEMS Number: 35
3. SRS Responses to SCDHEC Comments on the Proposed Plan for the Lower Three Runs Integrator Operable Unit (U) (SRNS-RP-2019-00058, Revision 0, April 2020) SEMS Number: 35

cc w/o encl:
J. Blalock, SCDHEC-Columbia
S. French, SCDHEC-Columbia
M. Reece, SCDHEC-Columbia
G. K. Taylor, SCDHEC-Columbia
T. Fuss, SCDHEC–Aiken Environmental Affairs Office
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B. Cameron, SCDHEC–Aiken Environmental Affairs Office
R. H. Pope, EPA-Atlanta

cc w/encl:
M. McRae, TechLaw, Inc.

SRS Responses to the
South Carolina Department of Health and Environmental Control
Comments on the:
Proposed Plan for the Lower Three Runs Integrator Operable Unit (U),
SEMS Number: 35 (SRNS-RP-2019-00058, Revision 0, April 2020) received April 23, 2020.

Comment received: June 18, 2020

Specific Comment

1. Section IX. Preferred Alternative, Alternative A-6 – Maintain Water in Ponds, page 22 of 44. The first paragraph states that Cs-137 concentrations will take approximately 50 years to decay below PTSM concentrations but fails to mention this applies only to EA3. EA6 and EA9 do not have locations above PTSM. Please restructure the paragraph so it is clear that only EA3 has two locations above PTSM levels. Furthermore, please add a sentence or two to explain why this alternative is protective of human health and the environment for EA3. This comment also applies to the Fact Sheet, last paragraph on page 4 of 6.

Response: Agree. Section IX. Preferred Alternative, Alternative A-6 first paragraph will be revised as follows:

"For EA3 (Pond B) and EA6 (PAR Pond), the preferred alternative is Alternative A-6 Maintain Water in Ponds in addition to Alternative A-2 LUCs with MNR. This alternative was evaluated for EA3, EA6, and EA9 through the timeframe that allows Cs-137 concentrations to decay below the PTSM threshold (~50 years). The PTSM decay threshold is based on two discrete sediment/soil sample locations within EA3 only. EA6 and EA9 have no PTSM sediment/soil locations. This remedy is protective of human health and the environment to minimize access and to break a direct contact pathway to submerged, contaminated sediment within the ponds. This remedy includes maintenance of the dam structures so that water retention is viable and allows for natural fluctuations of water levels. In addition, ….."

The Fact Sheet will be updated to reflect this additional text.

Contact for comment: Jim Kupar, (803) 507-8072, james.kupar@srs.gov

SRS Responses to
U.S. Environmental Protection Agency
Comments on the
PROPOSED PLAN FOR THE LOWER THREE RUNS INTEGRATOR OPERABLE UNIT (IOU) (U), SEMS NUMBER 35, [SRNS-RP-2019-00058], REVISION 0, APRIL 2020, SAVANNAH RIVER SITE, AIKEN, SOUTH CAROLINA
Comments Received: July 27, 2020

Contact for all comments: Jim Kupar, (803) 507-8072, james.kupar@srs.gov

EPA COMMENTS

1. Pages 1 and 2, Introduction. Please describe the actions to be taken for each individual Exposure Area (EA) first before describing the remedy of Land Use Controls and Monitored Natural Recovery for all EAs.

   Response: Agree. The third and fourth sentences of the sixth paragraph of Section I. Introduction and Background will be moved to below the bullets, and the text will be revised to state (beginning with the second sentence of the sixth paragraph):

   "….and the environment. Due to the complexity of the Upper subunit, multiple remedies are needed to address the nature and extent of contamination within the LTR IOU system. The preferred remedial alternative ~~for all nine EAs within the Upper subunit of the LTR IOU (i.e., EA1 thru EA9) is Land Use Controls (LUCs) with Monitored Natural Recovery (MNR) which is effective in reducing exposure of contaminated media to human receptors and will achieve the remedial action objectives (RAOs). The SRS Land Use Control Assurance Plan (WSRC 1999) ensures that LUCs will be maintained for as long as necessary to keep the selected remedy fully protective of human health and the environment. In addition to LUCs with MNR, additional preferred remedial actions are~~ identified for specific EAs <u>are</u> as follows:

   - **For EA1, the Excavation, Treatment and Disposal of Principal Threat Source Material (PTSM) Sediment/Soil remedial alternative to address Cs-137 contamination above the PTSM threshold (i.e., risk ≥1E-03) in a ~~single~~ sediment location.**

   - **For EA3, Maintain Water in Ponds remedial alternative to address Cs-137 contamination above the PTSM threshold in sediment located at depth beneath the surface water in Pond B.**

   - **For EA6, Maintain Water in Ponds remedial alternative due to elevated levels of Cs-137 contamination in the sediment beneath PAR Pond and acts as the final barrier for contaminant migration in the Upper Subunit.**

   <u>In addition to the EA specific actions, the preferred remedial alternative for all nine EAs within the Upper subunit of the LTR IOU (i.e., EA1 thru EA9) is Land Use Controls (LUCs) with Monitored Natural Recovery (MNR) which is effective in reducing exposure</u>

of contaminated media to human receptors and will achieve the remedial action objectives (RAOs). The SRS Land Use Control Assurance Plan (WSRC 1999) ensures that LUCs will be maintained for as long as necessary to keep the selected remedy fully protective of human health and the environment.

As part of the selected remedy, the future land use for the Upper subunit of the LTR IOU will be non-residential…"

2. Page 2, EA 1 bullet. Please delete the word "single"

Response: Agree. As noted in the response to comment #1 above, the first bullet was revised to delete the word "single".

3. Page 4, Operable Unit Background. Please add a brief statement regarding the Removal Action completed and reference the Action Memorandum and the Removal Action Report in the text.

Response: Agree. The following text will be added in two sections. First into the last paragraph in Section I. Introduction and Background, *Introduction* as follows:

"…The 2012 ESD documents the selection of LUCs as the final remedy for the Middle and Lower subunits following completion of a non-time critical removal action for contaminated soil/sediment. The non-time critical removal actions are detailed in the *Removal Action Report for the Lower Three Runs (LTR) Integrator Operable Unit (IOU) Tail Portion (Middle and Lower Subunits)* (SRNS 2013a), and the *Action Memorandum for the Time Critical Removal Action for the Lower Three Runs Integrator Operable Unit Tail Portion (Middle and Lower Subunits), and the Removal Site Evaluation Report for the Lower Three Runs Integrator Operable Unit Tail Portion (Middle and Lower Subunits)* (SRNS 2012a). An Early Action Land Use Control Implementation Plan (EALUCIP) is in place for the Middle and Lower subunits that describes the LUCs selected in the ESD…"

In addition, text in Section III. Operable Unit Background will be added to the third paragraph as follows:

"….an area referred to as the "tail portion" of the LTR IOU. The remedial action for the Middle and Lower subunits was previously addressed and documented in the Removal Action Report (SRNS 2013a), the Action Memorandum (SRNS 2012a), and the *Explanation of Significant Differences (ESD) for the Revision 0 Interim Action Record of Decision Remedial Alternative Selection: PAR Pond Unit (U); Lower Three Runs Integrator*

Operable Unit Tail Portion (Middle and Lower Subunits) (U) **(SRNS 2012b). As documented in the ESD, no additional data collection, risk assessment, or response evaluation is necessary for the Middle and Lower subunits, and the remedial action of LUCs will be documented as the final action in the LTR IOU ROD for the Middle and Lower subunits."**

The references to both the Action Memorandum and Removal Action Report will be added to Section XI. Reference as follows:

"SRNS, 2013a. *Removal Action Report for the Lower three Runs (LTR) Integrator Operable Unit (IOU) Tail Portion (Middle and Lower Subunits) (U)*, CERCLIS Number: 35, SRNS-RP-2013-00003, Revision 1, October 2013, Savannah River Nuclear Solutions LLC, Savannah River Site, Aiken, SC"

"SRNS, 2012a. Hennessey (USDOE) to Keisler (SCDHEC) and Pope (USEPA), *Action Memorandum for the Time Critical Removal Action for the Lower Three Runs Integrator Operable Unit Tail Portion (Middle and Lower Subunits) and the Removal Site Evaluation Report for the Lower Three Runs Integrator Operable Unit Tail Portion (Middle and Lower Subunits)* (SRNS-RP-2012-00118, Revision 1, April 2012), CERCLIS Number: 35, ACP-12-150, Dated May 9, 2012."

In addition, the ESD reference will be changed to (SRNS, 2012b), the EALUCIP reference will be changed to (SRNS, 2013b) and the CMS/FS reference will be changed to (SRNS, 2013c).

4. Page 5. In the discussion regarding sampling, please add a statement regarding the additional sampling done in accordance with the 2016 SAP.

Response: Agree. The following text will be added to the eighth paragraph of Section III, Operable Unit Background:

"In 2009/2010, extensive sampling of the Upper subunit was undertaken to augment previously collected data to support the risk evaluation. In 2016, it was determined that additional sampling was needed to address data gaps in surface water and sediment in PAR Pond. The sampling was performed as outlined in approved Sampling and Analysis Plans (SRNS 2010, SRNS 2016) and included sampling of sediment/soil, surface water, and fish."

5. Page 7, EA5. Please add a statement regarding the accessibility of the area of Joyce Branch.

Response: Agree. The following statement will be added to the description in EA5: Joyce Branch (Old Discharge Canal) within Section IV. Scope and Role of Operable Unit and Response Action:

"…..to Pond B. Joyce Branch is ~2,533-m (8,310.3-ft) long and is ~3.0-m (9.8-ft) across the base of the stream bed. The stream runs through a densely vegetated, deep valley flowing southeast away from EA1 and has no developed access points to its banks prior to emptying into a marshy area of Pond C. Water levels in Joyce Branch fluctuate throughout the year and certain areas may become dry during instances of low rainfall. …."

6. Page 8, Summary of Site Risks. A brief description of the conceptual site model is needed in the section. The pathway of contaminated sediment to benthic organisms to pelagic fish to fisherperson should be described in the section.

Response: Agree. Section V. Summary of Site Risks, Summary of Human Health Risk Assessment, third paragraph will be revised to include a brief description of the conceptual site model as follows:

"For the entire Upper subunit of the LTR IOU, the IOU onsite worker was selected as the most likely receptor for exposure to contaminated sediment/soil. The primary pathway of concern is external exposure to radionuclides in the contaminated sediment/soil. The IOU onsite worker…"

Additionally, further into the paragraph a statement on the contaminant pathway to fish will be included as follows:

"…Because it is known that some contaminants could bioaccumulate in fish and fish are a mobile medium, the hypothetical recreational fisherman was chosen as the most likely receptor for the ingestion of contaminated fish tissue. The pathway of concern is contaminated sediment to benthic/aquatic organisms to fish and ultimately to the recreational fisherman. The recreational fisherman scenario was determined …."

7. Page 13, ARARs. Please delete the reference to Table 2. Please add language stating that draft ARARs are presented in the Feasibility Study and that final ARARs will be selected and presented in the Record of Decision (ROD).

Response: Agree. Table 2 will be removed from the document, and the remaining table numbers adjusted appropriately. Section VI. Remedial Action Objectives, Applicable or Relevant and Appropriate Requirements third paragraph will be revised to remove the reference to Table 2 and include language for the location of the proposed ARARs in the Feasibility Study and final ARARs in the ROD as follows:

"~~A summary of the ARARs for the preferred alternative(s) are presented in Table 2.~~ Proposed ARARs are presented in the LTR IOU FS for the preferred alternative(s) (SRNS 2020). Final ARARs for the selected alternative(s) will be documented in the ROD for the LTR IOU."

In addition, Section VIII. Evaluation of Alternatives, Compliance with ARARs, will be revised to remove the first sentence as follows:

"**~~The list of applicable and relevant ARARs and TBC Criteria for the Upper Subunit of the LTR IOU are presented in Table 2.~~ There are no ARARs associated with Alternatives A-1 or A-2. Alternatives A-3, A-5, and A-6 are expected to comply with ~~the identified~~ ARARs as shown in the comparative analysis evaluation in Table 43."**

8. Description and Comparison of Alternatives. Please add language regard Alternative A-6 to clearly state that the alternative is not to address surface water contamination but is instead to continue to break the direct contact pathway to the contaminated sediments.

Response: Agree. Text will be added to the description of Alternative A-6 within Section VII. Summary of Remedial Alternatives as follows:

"Alternative A-6 consists of maintaining dam structures to sustain water levels. This alternative minimizes access and breaks a direct contact pathway that limits exposure to submerged, contaminated sediment/soil within the pond. This alternative addresses contamination in sediment and is not intended to address surface water as it is not identified in the RI/FS as a media of concern. This action is only applicable to….."

Text will also be added to Section VIII, the last paragraph under the Overall Protection of Human Health and the Environment, as follows:

"…This alternative minimizes access and limits exposure to submerged, contaminated sediment/soil. This alternative also prevents the transport of contaminated sediment downstream of the dam structures. This alternative is not meant to address surface water but breaks the direct contact pathway to the contaminated sediments. The alternative

addresses contamination in sediment and is not intended to address surface water as it is not identified in the RI/FS as a media of concern. Alternative A-6 provides an additional layer..."

In addition, Section IX. Preferred Alternative for Alternative A-6 first paragraph has been revised as follows:

"For EA3 (Pond B) and EA6 (PAR Pond), the preferred alternative is Alternative A-6 Maintain Water in Ponds in addition to Alternative A-2 LUCs with MNR. This alternative was evaluated for EA3, EA6, and EA9 through the timeframe that allows Cs-137 concentrations to decay below the PTSM threshold (~50 years). The PTSM decay threshold is based on two discrete sediment/soil sample locations within EA3 only. EA6 and EA9 have no PTSM sediment/soil locations. This remedy is protective of human health and the environment to minimize access and to break a direct contact pathway to submerged, contaminated sediment within the ponds. This remedy includes maintenance of the dam structures so that water retention is viable and allows for natural fluctuations of water levels. In addition, …."

9. Table 2, Page 33. Please remove the ARARs table. Final ARARs should be presented in the ROD. EPA may comment on or request additional ARARs during the review of the ROD. However, ARARs are not required to be included in the Proposed Plan and are not finalized until the ROD is signed by all three parties to the Federal Facilities Agreement.

Response: Agree. Table 2 will be removed from the document, and the remaining table numbers adjusted appropriately. Please see the response to EPA Comment #7 for text revisions to the document related to the removal of Table 2.

COMMENTS PROVIDED BY THE EPA OFFICE OF REGIONAL COUNSEL

1. Page 4 of 44. III. OPERABLE UNIT BACKGROUND. Please add the following underlined text clarifying what is meant by "designated as freshwater.": "LTR is a large blackwater stream containing ponds and tributary systems that are waters of the state classified as fresh water (FW)."

   Response: Agree. As stated, text will be added to the following statement in Section III. Operable Unit Background:

   "LTR is a large blackwater stream containing ponds and tributary systems that are waters of the state classified ~~designated~~ as fresh water."

2. Page 8 of 44. Text states: "The risk to the IOU onsite worker from Cs-137 (Exposure Point Concentration [EPC] = 148 pCi/g) is 8.2E-04 (decay corrected to 6.4E-04). The risk to the IOU onsite worker from Co-60 is 1.7E-06 (decay corrected to <1E-06)." What is EPC value for Co-60? Suggest adding explanation of "Exposure Point Concentration" to either the body of the proposed plan or glossary to aid public in understanding the term. As an example, the following is an explanation of EPC described in a ROD for another Site: "In the HHRA, the EPA uses a concentration for each COPC to calculate the risk. This concentration, called the exposure point concentration, is a statistically-derived number based on the sampling data for the Site. Generally, the 95 percent upper confidence limit (UCL) on the arithmetic mean concentration for a chemical is used as the exposure point concentration. Exposure point concentrations for each exposure medium are shown in Table 15."

   Response: Agree. The EPC for Co-60 is 0.144 pCi/g. Text will be added to Section V. Summary of Site Risks, EA1: Pond A – Including R-Discharge Canal, as follows:

   "…The risk to the IOU onsite worker from Cs-137 (Exposure Point Concentration [EPC] = 148 pCi/g) is 8.2E-04 (decay corrected to 6.4E-04). The risk to the IOU onsite worker from Co-60 (EPC = 0.144 pCi/g) is 1.7E-06 (decay corrected to <1E-06)."

   In addition, a definition of exposure point concentration will be provided in Section XII. Glossary, as follows:

"Exposure Point Concentration (EPC): Risk and hazard calculations are based on the RME (reasonable maximum exposure) exposure point concentrations, which is defined as the lesser of the maximum detected concentration and the 95% upper confidence level (UCL) of the mean concentration. The 95% UCL is a statistically derived number based on the sampling data for each exposure area."

3. Page 9 of 44. Text states in multiple places that the PTSM threshold is risk ≥1E-03. Please explain basis for the PTSM threshold or how it was derived. Recommend adding to glossary the following explanation of "Principal Threat Source Material" to aid public in understanding the term: "The NCP establishes an expectation that the remedial action use treatment to address the principal threats posed by a Site wherever practicable (40 CFR §300.430(a)(1)(iii)(A)). Identifying principal threat wastes combines concepts of both hazard and risk. In general, principal threat wastes are those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. Conversely, non-principal threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of exposure."

Response: Agree. A definition of PTSM that includes the basis of the threshold will be provided in Section XII. Glossary, as follows:

"Principal Threat Source Material (PTSM): The NCP establishes an expectation that the remedial action use treatment to address the principal threats posed by a site wherever practicable (40 CFR §300.430(a)(1)(iii)(A)). Identifying principal threat wastes combines concepts of both hazard and risk. In general, principal threat wastes are those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. Conversely, non-principal threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of exposure. No threshold level of toxicity/risk has been established to equate to principal threat. However, USEPA guidance does state that treatment alternatives for source materials should generally be evaluated where the combined toxicity and mobility pose a potential risk of 1E-03 or greater. At the Savannah River Site (SRS), source material is preliminarily considered to be PTSM if the cumulative risk is greater than 1E-03

for carcinogens and/or if the hazard index (HI) is greater than 10 for noncarcinogens."

4. Page 9 of 44. Regarding EA3, the text states: "Based on results of the PTSM screening for EA3 and the subsequent refinement/uncertainty evaluation, there are no PTSM RCOCs identified for EA3. However, two locations (Figure 3) had sample results above the PTSM threshold (i.e., risk ≥1E-03) for the IOU onsite worker and were conservatively taken into consideration for the remedial alternative evaluation." To the public, the target audience of the proposed plan, these two statements appear to contradict one another and should be further explained or clarified. If sample results indicate PTSM above threshold levels is present in one or more locations, then provide explanation why DOE concluded no PTSM RCOCs have been identified for EA3?

   Response: Agree. No PTSM RCOCs were identified for EA3 because the decay-corrected risk, based on the 95% UCL concentration for the entire exposure area, is < 1E-03. Text will be revised in Section V. Summary of Site Risks, EA3: Pond B – Including Canal to Pond C, as follows:

   "~~Based on results of the PTSM screening for EA3 and the subsequent refinement/uncertainty evaluation, there are no PTSM RCOCs identified for EA3. However, t~~ Two discrete sample locations (Figure 3) had results above the PTSM threshold (i.e., risk ≥1E-03) for the IOU onsite worker and were conservatively taken into consideration for the remedial alternative evaluation. Based on an evaluation of the exposure area in its entirety (decay corrected risk = 3.3E-04) and the subsequent refinement/uncertainty evaluation, there were no PTSM RCOCs identified for EA3."

5. Page 9 of 44. Regarding EA5, the text states: "Based on results of the PTSM screening for EA5 and the subsequent refinement/uncertainty evaluation, there are no PTSM RCOCs identified for EA5. However, two locations (Figure 3) had sample results above the PTSM threshold (i.e., risk ≥1E-03) for the IOU onsite worker and were conservatively taken into consideration for the remedial alternative evaluation." Same as previous comment. Please clarify. If sample results indicate PTSM above threshold is present, then why has DOE concluded no PTSM RCOCs have been identified for EA3?

Response: Agree. No PTSM RCOCs were identified for EA5 because the decay-corrected risk, based on the 95% UCL concentration for the entire exposure area, is < 1E-03. Text will be revised in Section V. Summary of Site Risks, EA5: Joyce Branch (Old Discharge Canal), as follows:

"~~Based on results of the PTSM screening for EA5 and the subsequent refinement/uncertainty evaluation, there are no PTSM RCOCs identified for EA5. However, t~~Two discrete sample locations within EA5 (Figure 3) had results above the PTSM threshold (i.e., risk ≥1E-03) for the IOU onsite worker and were conservatively taken into consideration for the remedial alternative evaluation. Based on an evaluation of the exposure area in its entirety (decay corrected risk = 9.4E-04) and the subsequent refinement/uncertainty evaluation, there are no PTSM RCOCs identified for EA5."

6. Page 11 of 44. Conclusion section. The text states: "No PTSM RCOCs are identified for any EA within the LTR IOU. However, EA1, EA3, and EA5 had specific locations where Cs-137 levels were above the PTSM threshold (i.e., risk ≥1E-03) and were taken into consideration for the remedial alternative evaluation." Same as previous comment. Please clarify. If sample results indicate PTSM above threshold is present, then why has DOE concluded no PTSM RCOCs have been identified for EA3?

Response: Agree. No PTSM RCOCs were identified for EA1, EA3, and EA5 because the decay-corrected risks, based on the 95% UCL concentration for each exposure area, is < 1E-03. Text will be added to Section V. Summary of Site Risks, Conclusion, as follows:

"No PTSM RCOCs are identified for any EA within the LTR IOU. This determination is based on an evaluation of each exposure area as a whole and the associated decay-corrected risks that are <1E-03, not individual sample results. However, EA1, EA3, and EA5 had specific locations where Cs-137 levels were above the PTSM threshold (i.e., risk ≥1E-03) and were taken into consideration for the remedial alternative evaluation. No ecological RCOCs were identified for either the sediment/soil or surface water medium."

7. Page 18 of 44. Evaluation of alternatives states that: "Alternative A-2 would prevent human exposure to all contaminated sediment/soil. Contaminated sediment/soil would be left in place, but exposure pathways would be broken." LUCs discussion states that signs, worker protection programs, and deed restrictions would implemented in the EAs. Evaluation of alternatives should be clear that while LUC measures may mitigate human exposure they do not prevent exposure. In addition, evaluation should note that alternative A-2 does not reduce bioavailability of COCs to eco-receptors, including fish that may be consumed by humans. Alternative A-2, absent conjunction with other remedial measures, does not break all exposure pathways.

   Response: Agree. The following text will be added into the description:

   "Alternative A-2, in the absence of conjunction with other remedial actions does not break all exposure pathways; however, rigorous enforcement of the controls would prevent human exposure to all contaminated sediment/soil and fish. Contaminated sediment/soil would be left in place, but exposure pathways would be mitigated for human exposure but still be bioavailable for eco-receptors~~broken~~. MNR would ensure that any unexpected changes to the system that would allow for human exposure to contaminated sediment/soil or fish would be identified and mitigated."

8. Page 16 of 44. Please indicate whether E-Area Low Level Waste Facility [LLWF]) is an NRC licensed facility under DHEC authority or done under DOE order authority.

   Response: Agree. Text will be added to Section VII. Summary of Remedial Alternatives, *Alternative A-5 – Excavation, Treatment, and Disposal of PTSM Sediment/Soil*, as follows:

   "…The E-Area LLWF is operated by the USDOE under the authority of the Atomic Energy Act and in accordance with USDOE Order 435.1, *Radioactive Waste Management.* The E-Area LLWF has CERCLA Off site Rule Acceptability issued by USEPA Region 4 RCRA Division…"