

**RESPONSE TO SCDHEC COMMENTS
UNEXPLODED ORDNANCE (UXO) PLANS**

**CONGAREE RIVER MODIFIED REMOVAL ACTION
COLUMBIA, SOUTH CAROLINA**

The following provides responses to the South Carolina Department of Health and Environmental Control (SCDHEC) comments regarding the Unexploded Ordnance (UXO) Plans associated with the Congaree River, Stakeholder Developed - Modified Removal Action (MRA). SCDHEC's comments were provided in a letter to Dominion Energy South Carolina (DESC) dated April 27, 2021.

General Comments:

1. *Comment:* The ESS and WP are inconsistent in the use of the on-site Type 2 ATF&E explosives magazine. Specifically, the ESS states the magazine will be used to store donor charges (with consolidated detonations at the end of each day), while the WP states the magazine will be used to store acceptable-to-move MEC items for future consolidation and destruction (with donor charges being delivered and used same day). See comments 4, 8, and 10 below.
1. *Response:* Clarification – the UXO contractor will use the portable Type 2 ATF&E explosives magazine to store acceptable-to-move MEC as it's recovered. The donor explosives will be delivered on an as-needed basis the same day(s) that explosive demolition operations are scheduled. The ESS will be revised to match the WP for the intended use and purpose of Type 2 ATF&E explosives magazine.
2. *Comment:* The documents do not address what effect, if any, the BIP procedure may have on the cofferdam design/integrity if determined the item is unacceptable-to-move. Further, a similar concern, will the location of a land-based demolition area have any similar effect on the cofferdam integrity.
2. *Response:* Clarification – the UXO contractor does not anticipate BIP procedures will be required, based on the historical record of MEC that may be encountered; however, if MEC is deemed not safe to move, it will be remotely moved to a prepared MEC processing location away from the cofferdam. All on-site explosive neutralization will be performed using DoD approved engineering controls. The primary form of engineering control will be the use of the Department of Defense Explosive Safety Board (DDESB) Buried Explosion Module (BEM). This Excel-based electronic calculator will calculate a required burial depth for the site-specific disposal conditions so that the exclusion zone (EZ) can be reduced to zero and no blast or fragmentation will reach the ground surface. By using approved engineering controls, the integrity of the cofferdam will not be impacted. The documents will be revised to add additional detail for clarity and understanding. Consistent with other project-related plans, there is a strong commitment to preserve all

MEC that has been rendered inert and certified as nonhazardous. Recovered ordnance artifacts will be transferred to the on-site archaeologist for curation.

3. *Comment:* *With munitions cleanups in my section, we typically ask for the facility to NOT use the same consolidated detonation location so that they don't trigger the potential need for a RCRA emergency permit or RCRA thermal treatment permit. I would also ask to see the demolition area(s) located on a map and recommend they provide an explanation for why this location was selected.*

3. *Response:* Clarification – the UXO contractor will revise the documents to include a map of the proposed MEC processing area, and will alter the MEC processing location if multiple explosive neutralization events are required. By using the BEM, only a small footprint will be needed to process the MEC. Although the required EZ for blast and fragmentation is reduced to zero by following the BEM calculation, a 200 ft EZ is required to meet the Department of Defense (DoD) minimum standards for planned detonations.

4. *Comment:* *Although this MEC/UXO Disposal response chain is consistent with multiple sites across the state, we typically recommend that facilities provide acceptance of that role from the responding entities to ensure concurrence (i.e. does Richland County Bomb Squad know about this plan and want to be the first agency called to respond if Titan needs assistance?).*

4. *Response:* Clarification – the UXO contractor is not anticipating the need for UXO support from local/regional/state or military bomb response units based on the historical record of MEC that may be encountered. During revision of the UXO Plans, the UXO contractor will verify availability for emergency response support with the response chain detailed in the current plans in the unlikely event it is needed. Also, please note that Tetra Tech is now the UXO contractor.

ESS Specific Comments:

5. *Comment:* *Sections 3.3 and 3.5 - The ESS states that donor explosives will be stored in an on-site Type 2 ATF&E explosives magazine and consolidated on land demolition shots will be performed at the end of the day. These statements are inconsistent with the language in the WP. Further, due to the planned TLM/water treatment design footprint (shown on Figure B-3), it is unclear how/where any potential MEC items will be treated as the MEC Container storage location is near/overlaps the TLM treatment footprint.*

5. *Response:* Clarification – the UXO contractor will revise the ESS to address the inconsistency with the WPs detailed in general comment # 1, the portable Type 2 ATF&E explosives magazine will only be used to store acceptable to move MEC if required and will not be used for donor explosives. It is anticipated that if on-site explosive neutralization is required, it will occur on a weekly basis and not daily and may also be scheduled to occur at the end of the fieldwork depending on the number of MEC requiring explosive neutralization. The use of the TLM/water treatment design footprint will be sequenced to

occur after the MEC clearance/neutralization tasks and should not conflict with space requirements. However, the engineering controls identified in general response to comment #2 (DDESB BEM), will provide flexibility for operating the TLM/water treatment plant and the planned MEC processing location(s) simultaneously if required. In the event MEC processing operations encumber the water treatment/site operations, the daily schedule will be altered to mitigate the explosive safety hazards and short duration site staff evacuations from the exclusion zone can be used as needed to deconflict with other project tasks.

6. *Comment:* Section 6.5 and 7.2 – It is stated that no hazardous waste is anticipated for off-site transportation, treatment, storage, or disposal. I feel that this statement may be a bit misleading, since this munitions investigation and removal is being conducted to help DESC address TLM in the sediment/soil. A hazardous waste determination of any waste generated should ultimately be made by the generator (DESC). It is understood any MEC/MPPEH items will be treated on site prior to proper disposal. It does not address what will be done with the excavated sediment/soils/LTM during this effort.
6. *Response:* Clarification – the explosive planning documents are not addressing the disposition of the contaminated sediment, which will be addressed in the Modified Removal Action Work Plan submitted to SCDHEC for approval. For reference, the TLM has been previously characterized as “non-hazardous” material for disposal purposes. The “no hazardous waste” statement only relates to the MEC removal/neutralization process. Recovered MEC and Material Potentially Presenting an Explosive Hazard (MPPEH) will be inspected and classified following the DoD guidance for explosive hazardous waste. Recovered MEC/MPPEH will be assessed to determine its explosive safety status. Ordnance that can be inspected and certified as Material Documented as Safe (MDAS) will be transferred to the artifact recovery team.
7. *Comment:* Figure A-3 – How does the presence of high voltage power lines above/near the proposed magazine storage location affect the proposed location.
7. *Response:* Clarification – the portable Type 2 ATF&E explosives magazine is designed to mitigate blast and fragmentation hazards of an unintentional detonation as long as the net explosive weight (NEW) limits for the magazine are not exceeded. The UXO contractor will manage the storage of MEC and will conduct on-site explosive neutralization when needed to ensure the NEW limits of the magazine are not exceeded. In addition, any potential concern that the presence of high voltage power lines in the vicinity may adversely affect the recovered MEC is not an issue based on the knowledge and understanding of components and functioning of Civil War era munitions.

WP Specific Comments:

8. *Comment:* Sections 1.6 and 3.7.11 – These sections state a response by Department of Army emergency response personnel if not suspected RCWM or unidentifiable MEC/UXO is

identified or suspected to be found. For consistency with the ESS and the rest of the WP, it is suggested this language be updated to U.S. Military EOD as it is uncertain which military branch EOD would respond.

8. Response: Concur – The WPs will be revised to a more generic statement about U.S. Military EOD providing emergency response for recovery of unknown MEC/RCWM.

9. Comment: *Sections 3.7.9 and 3.7.13 – These sections regarding the MEC Holding Areas and Collection Points are inconsistent with the ESS. Section 3.7.13 – This section references the approved ESS regarding collection points. Section 3.7.9 – states the use of MEC Holding Areas. The ESS Section 3.5.2 states collection points may be used to temporarily accumulate MEC pending destruction at the end of the day using consolidated shots.*

9. Response: Clarification – The WPs and ESS will be revised to be consistent in the description of daily MEC movement and handling and will remove the description of conducting daily consolidated shots. Collection points will be used on a limited basis to consolidate daily recovery of MEC prior to being moved to the Type 2 ATF&E explosives magazine for temporary storage at the end of each day.

10. Comment: *Sections 3.9 and 6.2 – These sections discuss IDW Mitigation and Decontamination and Disposal of Equipment. If generated, where will the IDW be contained until disposal with impacted sediment material? It is also uncertain how the decontamination process will ensure proper capturing of any impacted sediment material.*

10. Response: Clarification – Field portable decontamination stations will be set up to process field staff and equipment exiting the contaminated sediment areas. Rinse water will be captured in plastic-lined sumps and transferred to 55-gallon drums or a suitable container for temporary storage until the material is processed on-site or transferred to an off-site disposal facility. If generated, sediment from decontamination procedures will be temporarily staged in a suitable area until transferred to the off-site disposal facility with sediment from the river bottom.

11. Comment: *Sections 5.1, 5.3, 5.7, 5.8, 5.11.3, 5.12, and 5.14 - These sections are inconsistent with the ESS. These sections state that donor explosives will be delivered to the site in the quantities required on the day of the planned demolition operations and MPPEH will be stored in an ATF Type 2 Magazine. Further, the initial list of donor charges to be deliver (but not stored on site) is greater than the list of quantities of donor expected to be required to conduct the day's operation. If not stored on site, where will this initial delivery of donor explosives be stored?*

11. Response: Clarification – The ESS will be revised to be consistent with the WP for the use of Type 2 ATF&E explosives magazine for temporary storage of recovered MEC/MPPEH. The WP will be revised to clarify that the amount of donor charges for same-day delivery will not

be in excess of the daily requirements, and no donor charges will be stored on-site. Normally any excess donor explosives are consumed on the final shot of the day, or excess explosive material is returned on the vendor explosives delivery vehicle at the end of the day's disposal operations.

12. *Comment: Figure B-3 – How does this proposed MEC Storage Magazine location correspond to the planned water treatment design proposed in Joint Application Supplement Project Description Attachment C's Figure 5 of the conceptual design? Since MEC investigation/removal of the sediment area will be conducted after construction of the cofferdam and dewatering, it seems the location of the proposed MEC Storage Magazine in relation to the operational area will overlap (to include additional offices/storage trailers).*

12. *Response: Clarification – The MEC/MPPEH clearance of the cofferdam footprint is sequenced to occur prior to the water treatment process and will not conflict with the Type 2 ATF&E explosives magazine storage location during this phase. During the MEC/MPPEH clearance of the dewatered areas, the water treatment plant will be operating and the MEC storage magazine will be positioned such that the magazine EZ won't encumber any project storage or office structures. An alternate mitigation method will be to alter daily schedules for accessing the magazine when operational areas are temporarily unoccupied.*

13. *Comment: Appendix D – Generally, DHEC does not comment on APPs, although Section 19.6 states TITAN does not anticipate the use of drums/containers/tanks during activities under the PWS. Please see Comment 9 above. This statement also seems inconsistent that waste material from equipment decontamination should be contained and disposed with the impacted sediment material.*

13. *Response: Clarification – The APP will be revised to include a narrative on the use of portable decontamination stations, collection and storage of rinse water/sediment, should decontamination processing be required. The APP statement will also be revised to include the use of 55-gallon drums or similar sealed containers for the storage and transport of MDAS, recovered artifacts and scrap. Also, please note that Tetra Tech is now the UXO contractor.*

Diving Operations Plan Comments:

14. *Comment: It is unclear if any additional PPE should be used during MEC investigation/removal due to the presence of TLM in the footprint of the cofferdams.*

14. *Response: Clarification – The divers will use PPE required by OSHA standards based on the level of contamination. At a minimum, the divers will wear impermeable gloves to prevent dermal contact with contaminated sediment. The Dive Operations Plan will be revised to add clarity on the use of PPE.*