

**Cold Regions Research and Engineering Laboratory (CRREL)**

**Restoration Advisory Board (RAB) Meeting Minutes**

**September 17<sup>th</sup>, 2025, 1600 HRS**

Hybrid Meeting: Held In-Person at the Richmond Middle School Library and Virtually, via Microsoft Teams

**Attending:**

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Christopher Kane (USACE-NAE)         | Whitney Plasket (USACE)            |
| Amy Rosenstein (USACE-NAE) (virtual) | Roberto Rivera (USAEC) (virtual)   |
| Terry Harwood (CRREL)                | Scott Calkin (WSP)                 |
| Michael Gilbert (Hanover Fire Chief) | Wolfgang Calicchio (WSP) (virtual) |
| James M. Wieck (GZA)                 | Bryan Connolly (WSP)               |
| Kristine McDevitt (Community Member) | Amy Quintin (WSP)                  |
| Rene Nahlik (NHDES)                  | Kathryn Sarsfield (WSP) (virtual)  |
| Richard Spiese (VTDEC) (virtual)     | Bree Carlson (Dartmouth)           |
| Matt Bergen (GZA)                    | Dion Lewis (USACE-NAE)             |
| Lee Rosberg (Weston & Sampson)       | Katherine Miller (USACE)           |
| Roelof Versteeg (Community Member)   |                                    |

*Presentation file: 2025\_09\_17 CRREL\_RAB\_Meeting\_Final.ppt*

Mr. Kane of the United States Army Corps of Engineers-New England District (USACE) called the meeting to order at 1601hours on September 17, 2025. Mr. Kane welcomed everyone to the RAB for the CRREL Remedial Investigation/Feasibility Study (RI/FS) project.

Mr. Kane summarized the meeting agenda and requested the meeting attendees introduce themselves, their role, and association with the project.

Mr. Connolly introduced those in virtual attendance.

Mr. Kane motioned to approve the May 14<sup>th</sup>, 2025, RAB meeting minutes. The motion was seconded by Mr. Calkin and approved unanimously by the RAB members.

Mr. Kane began the presentation giving a summary of what will be covered in the meeting including roof sampling, compliance sampling, and document updates. Mr. Kane introduced the support personnel who were attending online.

Mr. Kane then turned over the meeting presentation to Mr. Calkin.

Mr. Calkin first discussed the update of the administrative record which can be found at the Howe Library. The records can be found by going to the service desk. The update is expected to be completed by Friday September 19, 2025.

Mr. Calkin informed the RAB members of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) document status. USACE is currently working on finalizing the Connecticut River Remedial Investigation Report. The Feasibility Study addendum is

being drafted and is undergoing review of Applicable or Relevant and Appropriate Requirements (ARARs). Certain remedial alternatives such as the water treatment plant and soil vapor extraction costs may be re-evaluated as more recent data is available.

Mr. Calkin moved forward with the presentation and discussed the groundwater treatment plant (GWTP). Currently, the GWTP design is being tabled as the focus is being shifted to the groundwater extraction well pilot test which is currently in draft final status with the USACE.

Mr. Calkin continued the presentation and informed the RAB members of the recent groundwater sampling event back in July 2025 completed as part of annual compliance monitoring. The groundwater plume has remained relatively consistent since SVE pilot testing was completed in the fall of 2021. During the July groundwater sampling event there was an exceedance in one of the boundary wells, CECRL-16. Due to the exceedance resampling was required and the resample result was below the threshold for TCE in groundwater. The resample results will be included in the annual report which is currently being drafted for USACE review.

Mr. Calkin discussed the recent roof sampling event and the elevated concentrations of TCE in the plenum space in the main laboratory second floor. The roof sampling was conducted to determine the presence or absence of contaminated roof material. Results of the recent roof sampling determined that there is residual TCE in the tarred aggregate and the poly-Isocyanate foam layers of the roof.

Mr. Calkin informed the RAB members of the upcoming work which will include daily HAPSITE monitoring by Mr. Connolly and the third round of other occupied spaces sampling was recently completed. The next field sampling event will be the Plenum Study which will be used to determine if there is a migration pathway from the soil vapor coming up through the Main Laboratory basement and or Lab Addition subbasement to the plenum space with the use of a tracer gas, the Plenum study is to be completed in tandem with the vapor intrusion pathway study.

Mr. Calkin stated there will also be infrastructure work with the removal of contaminated piping by the USACE's operations and maintenance contractor.

Mr. Calkin stated that the VAPORSAFE system is intended to be implemented in the summer of 2026 to help alleviate some of the HAPSITE duties and states there will be more information on implementation to follow.

Mr. Calkin informed that the groundwater extraction well pilot tests are in the process of being finalized. The soil vapor extraction pilot was unable to be implemented during 2025 field season but has been funded for 2026. SVE pilot testing is scheduled to resume in May 2026.

Mr. Versteeg raised a question on the finalization of the TCE extraction well pilot. Mr. Calkin responded that the document is currently in draft final status and the field work will require a modification to the contract to implement. Other discussion included that refinements may be needed of the groundwater model. Ms. Plasket added that the pilot wells will be used to determine variables such as the amount of flow needed from the wells and groundwater capture.

Mr. Versteeg asked if the pilot extraction wells will be used in the final extraction well pilot? Mr. Calkin confirmed that the extraction wells will be used and there could be more wells needed as well. There

are discrepancies in the past with the lack of data and it may entail the need to revisit the Mod-Flow Model. Mr. Calkin further stated that the current wells are production wells, not extraction wells, and that they are screened in the esker and are completed in very permeable sediments that are hydraulically connected to the Connecticut River. Ms. Plasket added that the current production wells were not designed as remediation wells.

Mr. Calkin stated that under continuation of the CERCLA process the Connecticut River RI is being finalized. Mr. Calkin turned over the meeting presentation to Mr. Kane.

Mr. Kane stated that a tray stripper pilot was initiated at the groundwater treatment plant (GWTP) this year to determine the effectiveness of the tray stripper. This was due to the current towers coming to the end of their lives and being oversized for what is needed. The stripper tray has been experiencing issues with the effluent discharge pump failing due to site conditions. Mr. Kane further stated that the tray stripper has been meeting expectations with effluent concentration outputs. When the pump is down the water is redirected to Tower 1. Mr. Kane stated that the Main laboratory sub-slab depressurization system has also seen recent upgrades with new blowers and motors installed.

Mr. Kane further stated that the planned new GWTP will need redesign due to feedback from the extraction well pilot test.

Mr. Calkin reiterated the upcoming work, including the plenum and vapor intrusion studies scheduled to be conducted in November.

Mr. Calkin continued with the soil vapor plume model outputs of TCE in excess of  $100 \mu\text{g}/\text{m}^3$ . The soil vapor models show a decrease in the size of the footprint from 2019 to 2025, showing the effectiveness of the soil vapor extraction pilot test. Mr. Calkin continued discussing the model outputs of TCE to be in excess of  $10,000 \mu\text{g}/\text{m}^3$  showing a decrease in plume size between 2019 and 2025. Mr. Calkin stated that the vapor plume stayed relatively consistent from 2023 to 2025 and with the re-implementation of the SVE pilot, it is expected to result in a soil gas plume like that of the 2021 model.

Mr. Calkin stated that the recent soil vapor sampling results will be documented in an August 2025 Soil Vapor Monitoring Data Report. The report will be made available to stakeholders once reviewed and approved by USACE.

Mr. Wieck asked when to expect the August 2025 Soil Vapor Monitoring Data Report.

Mr. Calkin answered that the August 2025 Soil Vapor Monitoring Data Report, is expected within the next couple of months.

Ms. Plasket added that what matters is the vapor plume is not migrating into the buildings and noted that concentrations for the indoor air remaining below the indoor action limit of  $8.8 \mu\text{g}/\text{m}^3$ . Additionally, the SVE pilot testing work had a notable effect on reducing groundwater concentrations.

Mr. Kane thanked Ms. Plasket and asked if there were any questions or comments (general or online)

There were no further questions from the RAB members, the meeting was adjourned at 1637. Mr. Kane thanked the group for taking time to attend the RAB.