**Cold Regions Research and Engineering Laboratory**

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

**September 18 2024, 1600 HRS**

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

**Attending:**

Chris Kane (USACE-NAE)

Dan Groher (USACE-NAE)

Amy Rosenstein (USACE-NAE) (virtual)

Scott Calkin (WSP)

Jack Besse (WSP)

Amy Quintin (WSP)

Wolfgang Calicchio (WSP)

Whitney Sauve (USACE-NAE)

Bryan Connolly (WSP)

Terry Harwood (CRREL)

Rene Nahlik (NHDES)

Kristine McDevitt (Community Member)

Jennifer Appell (USACE-NAE) (virtual)

Michael Gilbert (Hanover FD)

Tod Briggio (Weston and Sampson Consultant for NHDES) (virtual)

Laurie Haines-Eklund (USAEC) (virtual)

Richard Spiese (VTDEC) (virtual)

Roberto Rivera (USAEC) (virtual)

Kathryn Sarsfield (WSP) Roelof Versteeg (Community Member)

Presentation file: 2024\_09\_18 CRREL\_RAB\_Meeting\_Final.pdf

Mr. Kane of the United States Army Corps of Engineers-New England District (USACE-NAE) called the meeting to order at 1600 hours on September 18th, 2024. He welcomed everyone to the RAB for the Cold Regions Research and Engineering Laboratory (CRREL) Remedial Investigation/Feasibility Study project.

Mr. Kane motioned to approve the May. 15th, 2024, RAB meeting minutes, the motion was seconded by Roelof Versteeg and approved by Terry Harwood.

Mr. Kane indicated addition of VaporSafe system to provide baseline data at CRREL.

Mr. Kane summarized the focus of meeting will be the indoor air (IA) data to date, documents added to the administrative record, review upcoming work for this year, and indicated addition of the VaporSafe system to provide baseline data at CRREL. He also stated that the recent focus was on completing other building and office space air sampling. Last year completed limited air sampling in some of the other buildings of CRREL. This year we completed comprehensive air sampling in all the buildings and occupied spaces to create a baseline for sampling going forward over the next two years.

Mr. Kane stated that the current contract with WSP expires end of September 2024, there is a new contract for next year with additional scope and options.

Mr. Kane introduced supporting staff online and in the room. Introduced Whitney Sauve (a new NAE) engineer to the project and will be taking over Dan Groher’s responsibilities for the CRREL project.

Mr. Kane then turned over the meeting presentation to Jack Besse from WSP.

Mr. Besse first discussed history/background, primarily AOCs 2 and 9 and described them and what occurred at each. Then the conceptual site model (CSM) and described how the soil gas plume generates the groundwater plume, diffusing through soil vapor and moving mass transfer to the water table primarily underneath those high concentration areas. In response to that, soil vapor extraction (SVE) pilot testing performed across different locations removing upwards of 3600 kilograms of TCE (600 to 700 gallons of TCE). Onsite feasibility study (FS) was finalized in December 2020, however, based on more recent NHDES comments, an addendum may be needed before moving onto the next steps. Awaiting resolution of NHDES FS comments before we can move forward with the proposed plan. When we get to the proposed plan/remedy phase, we want to engage with the RAB members to get input on the path forward and encourage public involvement. Mr. Besse encouraged the RAB to reach out to spread info out for public engagement.

Mr. Besse presented the Connecticut (CT) River Remedial Investigation (RI) report overview/description to the RAB. This report was in Draft Final form as of July 2022. Additional NHDES comments were received and need to be resolved. Mr. Besse restated the CSM to the RAB. Mr. Besse indicated that several calls occurred in last quarter with NHDES and their contractors to try to come to consensus with them to continue forward movement in the CERCLA process. Mr. Besse stated that we had advanced ahead since last RAB in communication with NHDES. The Feasibility Study (FS) for CT River was already drafted and presented to USACE, anticipate addending/modifying that upon completion of discussions with NHDES.

Mr. Besse then stated there is groundwater additional good news, have not had TCE exceedances in last year and a half at the boundary wells that had exceeded in 2022.

Mr. Besse then stated no new updates in the Groundwater Treatment Plant (GWTP) design. Planning to complete efforts of the GWTP design in order to design the GW extraction well pilot going forward. The pilot test will provide information to understand flow rates in the extraction wells and improve the design.

Mr. Besse stated that there was activity this summer, in efforts to Hapsite sample every occupied office/shared area on campus. Concentrations ranged from non-detect (ND) to 76 µ/m3. Limited exceedances occurred and were due to either the presence of TCE-containing materials or rooms where the HealthMates were turned off. Mr. Besse presented summary table of buildings and number of sample locations within each building that were sampled.

Mr. Besse listed the exceedances. Exceedances that were found in the process were resolved by turning on a HealthMate (HM) or adding a HM to the room. At one location, a product known as Weld-On 3 was identified as containing a TCE exceedance. Air sampling of other buildings is planned to occur twice yearly for two years. The data will be used in part to optimize indoor air sampling and to direct a targeted approach to get effective indoor air sampling coverage with the Hapsite daily sampling.

Mr. Besse then stated that we anticipate restarting the SVE pilot testing. Goals are primarily to identify direct connection to the soil vapor and concentrations observed currently within the IA of the building. Another goal is to identify vapor intrusion pathways. Additional soil vapor sampling onsite and within the neighboring properties, hopefully early this fall or next year is anticipated.

We will continue to changeout HM filters as needed, perform sub-slab depressurization system O&M, and will conduct daily Hapsite indoor air sampling. Mr. Besse indicated that VaporSafe (VS) monitoring has not been mentioned up to this point. VS is another analytical instrument that can be used in similar fashion as the Hapsite that has been installed on the second floor of the Main Laboratory. VS is a benchtop gas chromatograph that can monitor up to 15 locations. The VS was evaluated a couple of years ago at the Site. Mr. Besse stated that it was brought onsite this summer to free up the Hapsite to expand onsite investigations, he also stated that the VS allowed the Hapsite operator to perform sampling in other CRREL buildings. The HAPSITE and the VS are two distinct instrument systems with different strengths to allow us to monitor and get better understanding of indoor air.

Mr. Versteeg asked a question about the use of the SVE pilot, was there an experiment where we monitor in areas in SV to understand where VI may still be occurring. Mr. Besse stated that the SVE pilot is listed as being restarted with a different goal in 2025, essentially a pre-remedy pilot test with the goal to see if connections exist between remaining IA and plenum TCE concentrations, and the sub-slab and soil vapor. Essentially trying to answer: “Is there really a connection that we missed or really is it TCE-containing building material.”

Mr. Versteeg then asked how we are to do this. Mr. Besse stated that we have not arrived to that phase nor written the work plan and we are still developing the how.

Mr. Calkin stated that there are multi-objectives with the SVE pilot:

* Is there a migration pathway to the plenum that we missed.
* Is there a signal from running the SVE going forward that would indicate a connection.
* Is data present that suggest contaminated building material, Tideflex valves on roof drains, even though the facility has tried to plug up penetrations in plenum.

Mr. Calkin stated that we are still evaluating the data from this summer as a baseline VI to evaluate what the impacts will be going forward with the proposed SVE. Our footprint for the initial SVE design covered a large portion of the facility, lot of SVE wells, re-evaluation of how big the SVE footprint extraction wells will be and hopefully reduce costs going forward.

Mr. Groher stated that he thinks Mr. Besse represented this government authorized work does not have a workplan developed before they (Government) authorized the work. Mr. Groher stated that WSP will have a well-developed workplan before initiating the SVE pilot, and that WSP will be authorized to develop the workplan, state what we are going to do, provide good faith cost, and what we will be doing.

Mr. Calkin stated that we will not be working in a vacuum.

Ms. McDevitt asked whether authorization is in the works.

Mr. Kane stated authorization is in the works going forward for the next contract. There is a time crunch associated with next contract but we (Corps) are working on issuing a new contract and is a function of funding.

Mr. Besse stated that the updated administrative record is available for review onsite at CRREL and at the Howe Library in Hanover.

Mr. Besse stated that a lot of work is in play, mostly due to the new upcoming contract, plenum issues previously discussed, plan to get all the data needed and evaluate it. Future VaporSafe activities, future plenum study to understand and target areas within the plenum. Groundwater monitoring continuing in accordance with the permit, Treatment Plant and extraction well design/pilot will be continuing going forward. Review of older work. Hoping to push forward on the CERCLA documentation for the Site and the CT River, hoping to have some new news to share when we meet again in 4 months.

Mr. Besse opened the floor to comments and questions at 1637 hours. No questions/comments in house and no questions online. Mr. Kane stated if there are follow up questions please email to him.

Mr. Kane adjourned the meeting at 1639 hours and thanked the group for taking time out to come to the RAB.