2229 Main Street Concord MA (the Site) Oversight Committee (the Committee) Minutes March 05, 2019.

Members Present: Pam Rockwell Chair, Fred Seward, Ray Bruttomesso, Judy Zanubrecher, and Leonard Rappoli

Members received word that Paul Boehm resigned from the Committee.

The minutes from the February 05, 2019 meeting were reviewed and approved.

Discussion of the February 13, 2019, EPA Technical Group Meeting (Tech Group Meeting)

Chris Smith has replaced Elaine Stanley as the USEPA Remedial Project Manager.

de maximis is the consultant representing the potentially responsible parties (PRPs)

The Non Time Critical Removal Action to reduce Volatile Organic Compounds (VOCs) concentrations in groundwater.

Groundwater pumping started from an extraction well located on the west side of the Assabet River near the Acton/Concord Town Line. Influent groundwater is pumped from the extraction well into two granular activated carbon (GAC) filters housed in a rudimentary shed located a few feet from the extraction well. The purpose of the treatment system is twofold: 1) to remove chlorinated VOCs originating from the Nuclear Metals Site and possibly from the W.R Grace site from groundwater and 2) to hydraulically contain the 1,4-dioxane plume from reaching the Acton Well Field. The current system relies on GAC to accomplish this. The PRPs have recently upgraded their treatment system into a large indoor building. As part of the Tech Group Meeting, stakeholders were allowed to tour the upgraded treatment system. The proposed operation of this new system is discussed in detail below.

The new system is not yet operational but is expected to be shortly. Currently, groundwater treatment consists only of the GAC filters. According to de maximis GAC filtration began on May 23, 2017 at a pumping rate of 20 gallons per minute and has continued pumping 97.4 percent of the time. Through December 31, 2018, the extraction well has pumped 16, 934,000 gallons of groundwater and the GAC filters have removed approximately 787 grams of 1,4-dioxane. Influent concentrations of 1,4-dioxane have decreased from approximately 30 micrograms per liter (ug/l) to approximately 6.5 ug/l as of November 2018.

Consent Decree and Statement of Work

The USEPS has been negotiating with the PRPs to conduct Remedial Design and Remedial Action Activities. These activities are detailed in a Consent Decree and a Statement of Work. According to USEPA, the final draft of the Consent Decree and Statement of Work has been negotiated with the PRPs, and that the draft document is with the Department of Justice for review and approval. The Department of Justice review could take several months.

The Statement of Work contains the technical information needed to implement the Remedial Design and Remedial Action Activities. There are four components of remedial work as follows corresponding to the USEPA Record of Decision for the Site:

1) Offsite disposal of 82,500 cubic yards of Site-wide soils and sediments,
2) In-situ sequestration of depleted uranium in holding basin soils and overburden and bedrock groundwater,
3) Physical containment of holding basin soils, and
4) Ex-situ treatment of VOCs and 1,4-dioxane.

Each of these components has its own work plans including treatability work plans. Community participation involves four meetings, one per remedial component The Committee anticipates that there will opportunity for public comment as the process moves forward.

Operation of the Updated Groundwater Treatment System.

Persons who attended the Tech Group Meeting were given the opportunity to visit the aforementioned upgraded groundwater treatment plant. The following description is based on a site walk provided by de maximis subcontractor O & M, Inc. on February 13, 2019, while the system was still under construction. The Committee was provided with a system layout diagram of the operation but an as-built diagram is not yet available. O & M, Inc. indicated that the final design and actual operation will depend upon results of a system start-up period during which the system may be tweaked/modified.

Based on the Committee's understanding, the following process is used to treat groundwater to remove VOCs and 1,4-dioxane.

Raw groundwater influent from the extraction well is pumped into a poly feed tank in the southwest corner of the building. The raw influent is treated with sodium hypochlorite which raises the pH of the influent causing the metals (primarily iron) to precipitate onto Triplex Multimedia Filters connected in series. Periodically the Multimedia Filters are backwashed to purge out the metals. The metals settle out into a backwash waste collection tank so the backwash water can be used multiple times to purge the Multimedia Filters.

From the Multimedia Filters groundwater influent, now metal-free, is pumped through bag filters as a final filtering step to remove remaining residuals before the oxidation step.

In the southeast corner of the building, groundwater influent is subjected to The Vanox™ Advanced Oxidation (Vanox) Process in a series of six reaction chambers. The Vanox process uses ultraviolet light (UV) to chemically breakdown the 1,4-dioxane. This process has been approved by USEPA. At the time of UV treatment, the groundwater influent will also be treated with persulfate as a supplemental oxidizer.

Following the oxidation step the groundwater will be essentially VOC and 1,4-dioxane free. However, the groundwater will still need chemical treatment by sodium hydroxide added to the groundwater from a caustic feed tank. The purpose of the sodium hydroxide is to bring the groundwater pH into an

acceptable range for discharge to the Assabet River as specified by Massachusetts Surface Water Standards.

At the northeast corner of the treatment building just prior to being discharged to the Assabet River, the groundwater which is now free of VOCs, 1,4-dioxane, as is pH adjusted is filtered through an ion-exchange resin to removal perchlorate that could accumulate as a by-product. Perchlorate is toxic and although there is small chance of accumulation, the step is added as an extra safety factor.

The final step of treatment is to pump the groundwater through one additional GAC filter and then to release the treated groundwater to the Assabet River through an outfall pipe at the northeast corner of the building.

Minutes respectfully submitted,

Leonard V Rappoli