Response to DOH Expectations for Reporting Pre-Pilot Study Data Collection – 03 February 2025

1. A detailed description of the sample collection methodologies used.

NCTF - RH Response – Detailed descriptions of the sample collection methodologies used are provided in Sections 6.3.1 (Soil Vapor Well Installation), 6.3.2 (Passive Soil Vapor Sampling), 6.3.3 (Active Soil Vapor Sampling), and 6.3.4 (Carbon Traps) of the attached report on the Draft Independent Data Collection in Support of Site Assessment Pilot Study (IDC Report).

2. Data tables and associated figures providing sample collection time, coordinates, and results of all data collected during the pre-pilot study data collection.

NCTF - RH Response – The following tables in the attached Draft IDC Report provide the sample collection date and time, sample locations and analytical results:

- Table 2, Passive Soil Vapor Sampler Analytical Results (United States Environmental Protection Agency [EPA] Method TO-17)
- Table 3, Active Sorbent Tube Analytical Results (EPA Method TO-17)
- Table 4, Active Soil Vapor Analytical Results (EPA Method TO-3)
- Table 5, Active Soil Vapor Analytical Results (EPA Method TO-15)
- Table 6, Active Soil Vapor Analytical Results (Massachusetts Department of Environmental Protection Air Phase Hydrocarbons [MADEP APH])
- Table 7, Biogenic Gases Field (Landfill Gas Meter) and Laboratory (ASTM D1946) Results
- Table 8, Carbon Traps Results and Analysis

The following figures in the attached Draft IDC Report provide the sample collection date and time, sample locations and analytical results for detections:

- Figure 6, Passive Soil Vapor Sampler Analytical Results (EPA Method TO-17)
- Figure 7, Active Sorbent Tube Analytical Results (EPA Method TO-17)
- Figure 8, Active Soil Vapor Analytical Results (EPA Methods TO-3 and TO-15)
- Figure 9, Active Soil Vapor Analytical Results (MADEP APH)
- Figure 10, Biogenic Gases Field (Landfill Gas Meter) and Laboratory (ASTM D1946) Results
- Figure 11, Carbon Traps Results and Analysis

3. Figures illustrating the locations and concentrations of analytes detected during the pre-pilot study data collection for the petroleum source areas identified. Include the soil, groundwater, and light non-aqueous phase liquid data (in data table call-outs on the figure) used to define the petroleum source areas, similar to Figures 6-1, 8-1 to 8-5, in the Site Characterization Report November 2021 JP-5 Release in Adit 3, Operable Unit 1 Red Hill Bulk Fuel Storage Facility, received May 19, 2023. Present the data visually both vertically and horizontally within the study area. Evaluate the pre-pilot study data collection results in the context of all existing data.

NCTF - RH Response – The source areas and the soil, groundwater, and light non-aqueous phase liquid (LNAPL) data used to define the source areas are shown on Figure 4 of the Draft IDC Report.

- Figure 16 of the Draft IDC Report illustrates the source areas, the soil, groundwater, and LNAPL data used to define the source areas, and the EPA method TO-17 data collected from the source areas during the IDC in plan view (horizontal visualization).
- Figure 17 of the Draft IDC Report illustrates the source areas, the soil, groundwater, and LNAPL data used to define the source areas, and the EPA method TO-17 data collected from the source areas during the IDC in cross-section (vertical visualization).
- Figure 18 of the Draft IDC Report illustrates the source areas, the soil, groundwater, and LNAPL data used to define the source areas, and the EPA method TO-3, EPA Method TO-15, and MADEP APH collected from the source areas during the IDC in plan view (horizontal visualization).
- Figure 19 of the Draft IDC Report illustrates the source areas, the soil, groundwater, and LNAPL data used to define the source areas, and the EPA method TO-3, EPA Method TO-15, and MADEP APH collected from the source areas during the IDC in cross-section (vertical visualization).

The IDC data are evaluated in the context of existing data in Section 10 of the IDC Report.

4. Evaluation of surrounding differential pressure measurements.

a. The location(s) where differential pressure measurements were collected in relation to the locations where soil vapor measurements were collected during the pre-pilot study data collection.

b. The frequency at which differential pressure measurements were collected.

c. Because air dilution/leakage was indicated in the data presented in the Draft Soil Vapor Extraction System, Step and Constant Rate Testing Technical Memorandum, dated July 2024, evaluate the relationship between differential pressure and vapor concentrations, as well as any other effects that differential pressure may have had.

i. This should include evaluating the closest differential pressure measurement(s) collected at the same time as each active soil vapor sample was collected.

NCTF - RH Response –

4a. The differential pressure measurement locations are described in Section 6.3 and shown on Figures 2, 4, and 6 through 17 of the attached Draft IDC Report.

4b. The frequency at which differential pressure measurements were collected (every minute) is discussed in Section 10.2 of the attached Draft IDC Report.

4c. The relationship between differential pressure and vapor concentrations, as well as the effects it has on the direction of air flow are discussed in Section 10.2 of the attached Draft IDC Report. It is unclear in what other ways differential pressure could affect the IDC or the upcoming Site Assessment.

i. As discussed in Section 10.3 of the attached Draft IDC Report was either consistently positive or consistently negative. As such, the differential pressure at the time of sample collection is not discussed.

5. Recommended changes to the pilot study design based on the pre-pilot study data collection results. The DOH anticipates that a revised Pilot Study WP will be submitted for our review and approval following submission of the pre-pilot study data collection results.

NCTF - RH Response:

The Navy's recommendations for next steps are discussed in Section 11 of the attached IDC Report.