

Enclosure: EPA's Comments on the Unpacking Plan (September 7, 2022)

This enclosure contains the DoD's response to the September 21, 2022, EPA comments on the Unpacking Plan submitted by the Navy on September 7, 2022.

1. The Unpacking Plan does not specify community engagement activities that will take place before, during, and after movement of fuel from the pipelines. The Critical Path Method network diagram, submitted as Enclosure 5b to the Defueling Plan Supplement 1A, contains two tasks related to public engagement surrounding the unpacking actions: a press release prior to unpacking, and a "Placeholder" for public engagement on October 26th, 2022, presumably after the completion of unpacking. Please describe all public engagement activities that will take place before and after the unpacking work, including a description of when, relative to fuel movement, public engagement will occur, what information will be shared, and whether the public will have an opportunity to ask questions and submit comments.

Response: DoD Public Affairs is developing a comprehensive engagement plan to address community and DOH concerns, and will be coordinated with the EPA.

2. Provide a redacted version of the final Unpacking Plan that can be posted to EPA's website no later than two weeks prior to the start of unpacking.

Response: DoD provided a redacted version of the unpacking plan on September 21, 2022. DoD will continue to provide redacted documents within 10 business days after submission to regulators.

3. The process of transferring fuel via the vacuum truck station is subject to the SPCC Rule's general containment and/or drainage control requirements (See, 40 CFR 112.7(c)). Please describe how the Navy will meet these requirements, including a description of the containment system to be installed and how it will be operated and monitored during all fuel transfers taking place during this process.

Response: DoD provided a revised Unpacking Plan to DOH and EPA on September 27, 2022, that reflects the use of a pump to remove the remaining fuel from the pipelines after gravity drain rather than using a vacuum truck. This was discussed during the meeting on September 23, 2022, between the DoD and DOH and EPA. DoD has opted to utilize a Transfer Pump in place of the vacuum truck to transfer fuel from the low point drain to the Tank (b) (3) (B). The Transfer Pump mitigates the containment risks associated with the vacuum truck and requires less handling and fewer start-ups/shutdowns. The Transfer Pump located inside (b) (3) (B) secondary containment also has tertiary containment.

4. EPA identified factors that may generate significant uncertainty in fuel volume calculations. Please address the following:

a. Pipe material can have significant variations in "nominal wall thickness" especially for older vintage piping. What method was used to estimate wall thickness of each pipeline? EPA suggests a process involving multiple direct measurements to produce a statistically sound average internal diameter for the pipe.

Response: Multiple ultrasonic thickness measurements were utilized to determine an average nominal wall thickness of each pipeline.

b. What method was used to confirm the total length of the pipelines? How was error in assuming pipe length avoided?

Response: The length was measured using a measuring wheel. The majority of the piping is above ground and was confirmed utilizing the detailed as-built drawings compared against the measuring wheel results.

5. How much fuel is estimated to be contained within the branches of connected fittings, lines, or piping connected to the pipelines, and has the Navy determined whether this fuel will drain during gravity-driven or pumping operations? State whether special actions for branch line drainage is required.

Response: Fuel contained within laterals between tanks is included in the total fuel calculation provided in the unpacking CONOPS and will be removed during gravity draining.

6. Please provide elevations for each valve and skillet identified on pages 3-11 of the Unpacking Plan. Be specific in reference to location (i.e. elevation to the bottom of tank, bottom or top of pipe, centerline of valve, centerline of hose connection, etc.).

Response: Elevations are provided in the attached diagram.

7. Confirm vacuum truck operations will comply with best practices provided in API Recommended Practice 2219. In particular, address practices established to address risks related to fire from static discharge, ullage overfill, and inadequate containment.

Response: DoD will comply with AP RP 2219 including grounding and bonding requirements and other vacuum truck best practices. Vacuum trucks will be used for emergency response purposes.

8. Please describe where and when hazardous atmospheric testing is required during the unpacking process.

Response: No hazardous atmospheres have been identified that require testing during the unpacking process. If a spill occurs during unpacking, Fed Fire Hazardous Materials will test and clear the tunnel per the Facility Response Plan as demonstrated during the September 22, 2022, Spill Exercise.

9. Please address the following requirements for clarity related to tank capacities:

a. How will liquid level and ullage be determined?

Response: Calibrated electronic tank gauges with meters are used to determine tank level and ullage. All electronic gauges are followed up by a manual gauge and strapping chart comparison.

b. At which points in time during fill/drainage will liquid level and ullage be determined?

Response: Before, during, and after the gravity transfer, DoD will determine and document liquid levels.

c. Specify how these measurements are validated. This might be calibration, redundancy in instrumentation, etc.

Response: Electronic gauges are calibrated and confirmed using manual gauging with a certified NIST gauging tape.

10. Please state whether a Hazard and Operability Analysis (HAZOP) has been conducted on the following systems:

- a. Phase III gravity drain down for each line*
- b. Vacuum truck operations for each line*
- c. Piping and pumps connected to each receiving tank*
- d. Each marine loading operation*

Response: These were conducted. See response below to Item 11.

11. Please provide the documented HAZOP for each of the above listed items.

Response: The SGH Final Assessment Report, Assessment of Red Hill Underground Fuel Storage Facility, dated April 29, 2022, contains Process Hazard Analyses (PHAs) for Marine Loading Operations and Piping and Pumps connected to each receiving tank in the Upper Tank Farm. These are found in Appendix B under:

Node 4 (Transferring from Red Hill Storage to Marine Piers/Docks or Hickam),
Node 6 (Transferring from Storage to Storage in PRL and RHL),
Node 9 (Vessel to Vessel Transfer), and
Node 12 (Defueling Red Hill, includes transfer to other locations and/or loading ships/barges).

As part of the Gravity Drain PHA, DoD reviewed these previously conducted PHAs. Additionally, the attached PHA for the Gravity Drain addresses Vacuum Truck operations.

12. Where and how will new pressure sensors be installed? Describe the function and intent of each sensor.

Response: DoD provided a schematic showing pressure sensor locations in the Defueling Plan Supplement 1.a, (see PDF pages 21 and 22 of 39) on September 7, 2022. The sensors are installed on the top of the pipeline. The function and intent of each sensor is to measure and record the local pressure in the line and provide pressure indication at that specific point in the pipeline where the PIT is installed to provide a more complete understanding of the pressure in the pipelines to prevent a future surge event.

13. Please specify flow direction for each check valve in the schematic provided on page 155 of the Unpacking Plan, and whether any HAZOP has considered use of check valves in the unpacking processes.

Response: DoD updated diagrams to include flow arrows and these were provided on September 27, 2022. Check valves are used at Tank (b) (3) (B) and at discharge side of every pump including the (b) (3) (B) and the (b) (3) (B). Reverse flow or misdirected flow due to faulty check valves was considered in the HAZOPs but was not considered to be a significant risk.