



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

April 12, 2019

U0416HM

Ms. Raelynn Kishaba  
Commander, Navy Region Hawaii  
Department of the Navy  
850 Ticonderoga St., Suite 110  
JBPHH, Hawaii 96860-5101

SUBJECT: Application for an Underground Storage Tank Permit  
Red Hill Bulk Fuel Storage Facility  
Facility ID No. 9-102271

Dear Ms. Kishaba:

Thank you for submitting the Application for an Underground Storage Tank (UST) Permit for the Red Hill Bulk Fuel Storage Facility (RHBFSF), Joint Base Pearl Harbor Hickam, Oahu, dated March 13, 2019, and received by the Hawaii Department of Health (DOH) on March 14, 2019, and the Red Hill Tunnel Fuel Storage Facility (RHTFSF) Response Plan dated December 15, 2016 and received by the DOH on April 2, 2019.

During our preliminary review of the application, we have discovered several items that should be revised and have concluded that additional information is necessary to complete our understanding of the RHBFSF UST system's design and operation. Until the corrections are made, and additional information provided, the DOH will refrain from taking any further action on the application [ §§11-280.1-324(c) and 11-280.1-327(a), Hawaii Administrative Rules].

A. Corrections to be made:

1. Please remove LCDR Blake Whittle from the Operator Name in the permit application Section IV. The Operator Name in this section should reflect the entity applying for the permit only.
2. Tanks F-1 to F-20 and F-ST1 to F-ST4 are comprised of field-constructed one quarter inch steel with reinforced concrete structural support. The primary

- containment material is steel. Please correct the application form Section XI.6.C. for tanks F-1 to F-20 and F-ST1 to F-ST4 and letter Sections 1 and 19.
3. The “corrosion expert determinations” referred to in the application are not corrosion expert determinations as this is defined in the UST regulations and should be removed [letter Sections 2, 5, 20, 23]. The phrase “corrosion expert determination” on the application form refers specifically to an option for meeting the corrosion protection requirements of §11-280.1-20(b) and (c). To meet the requirements, the tank or piping must be “installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life” [§11-280.1-20(b)(4)(A) and (c)(3)(A)].
    - a. Please uncheck the box for “corrosion expert determination” for tanks F-1 to F-20 and F-ST1 to F-ST4. The tanks meet the corrosion protection requirement in §11-280.1-20(b)(3) because the tanks are steel and clad or jacketed with a non-corrodible material (concrete). Therefore, none of the corrosion protection methods listed on the application form in Section XI.6. apply [application form Section XI.6.E. for tanks F-1 to F-20 and F-ST1 to F-ST4].
    - b. Please uncheck the box for “corrosion expert determination” for piping associated with tanks F-1 to F-20 and F-ST1 to F-ST4. Aboveground piping (including piping in the tunnel) and piping encased in concrete do not require corrosion protection under §11-280.1-20(c) because they are not in contact with the ground. For piping in the tunnel, none of the corrosion protection methods listed on the application form in Section XI.7.E. apply. However, note that segments of steel piping that are in contact with the ground do require corrosion protection (see #5) [application form Section XI.7.E. for tanks F-1 to F-20 and F-ST1 to F-ST4].
  4. Please delete the statement “Piping is aboveground” from the section of the application describing secondary containment. The placement of the statement “Piping is aboveground” in the box designated “other” makes it unclear whether some “other” form of secondary containment is being claimed. The piping in the tunnels is aboveground and does not have nor require secondary containment [application form Section XI.7.D. iv. for piping associated with tanks F-1 to F-20 and F-ST1 to F-ST4].
  5. Please remove all references to “other methods” and “other methods approved by the department” from the release detection sections of the application, since the DOH has not approved alternative methods of release detection [application

form Section XI.11.K. for tanks F-1 to F-20 and F-ST1 to F-ST4 and associated piping and letter Sections 18 and 34].

B. Additional information to be provided:

1. A complete facility drawing showing locations of red hill storage tanks, surge tanks, (Hickam) product recovery tanks, Hickam airfield piping and hydrant pits, all other fuel receipt and dispensing points (i.e. piers). A complete property boundary drawing showing location of inset facility drawings may be used.
2. A detailed tank and piping diagram showing how piping connects to each tank and which segments of piping are (a) in contact with the ground, (b) encased in concrete, and (c) aboveground. Piping in the tunnel that can be visually inspected is considered aboveground piping. The diagram should indicate which segments of piping have corrosion protection, whether piping is single- or double-walled, and the material of construction, and should also include all USTs and aboveground storage tanks (ASTs) that are part of the UST system.
3. A complete description of how fuel is dispensed, including which piping segments are pressurized for product dispensing. The letter portion of the permit application Section 6 indicates that dispensing is gravity only. However, Section XI.8.C. indicates pressure and piping between the ASTs and dispensing points at Hickam is pressurized. It is not clear whether fuel goes from tanks F-1 to F-20 through tanks F-ST1 to F-ST4 or through ASTs in the upper tank farm to dispensing points on the piers and whether there are underground piping segments involved. The concerns in this paragraph could be addressed by a detailed tank and piping diagram (see #2).
4. A description of release detection methods used for any underground segments of piping with enough detail to determine whether each method complies with the technical standards for that method and to demonstrate compliance with Section §11-280.1-41(b)(5). Please describe in the letter portion of the permit application which release detection method(s) is/are being used to meet the regulatory requirements for each piping segment.
  - a. The application does not provide enough detail to determine whether statistical inventory reconciliation for piping associated with tanks F-1 to F-20, F-ST1 to F-ST4, PRT-Diamond Head, and PRT-Ewa meets the requirements of §11-280.1-44(3) and §11-280.1-43(8) or §11-280.1-44(4)(C) [application form Section XI.11.H. and letter Sections 15 and 31].

- b. The application does not provide enough detail to determine whether tightness testing for piping associated with tanks F-1 to F-20, F-ST1 to F-ST4, PRT-Diamond Head, and PRT-Ewa meets the requirements of §11-280.1-44(2), §11-280.1-44(4)(A)(i) or (ii), or §11-280.1-44(4)(C)(i). The box for line tightness testing is not checked on the application form Section XI.11.J. for piping associated with tanks F-1 to F-20 and tanks F-ST1 to F-ST4 [application form Section XI.11.J. and letter Sections 17 and 33].
5. Detailed information about the corrosion protection provided for segments of piping that are in contact with the ground that demonstrates compliance with §11-280.1-20(c). See #6 for an example of the level of detail needed.
6. Additional information about the impressed current cathodic protection system for tanks PRT-Diamond Head and PRT-Ewa that will enable verification of compliance with §11-280.1-20(b): description of rectifier, system drawing, date of installation, location of anode beds, if any, and the last two (2) NACE-certified CP system surveys.
7. A description of all release detection methods used for tanks F-1 to F-20 and F-ST1 to F-ST4 with enough detail to determine whether each method complies with the technical standards for that method. Please describe in the letter portion of the permit application which release detection method(s) is/are being used to meet the regulatory requirements for these tanks. Release detection for each tank must include at least one (1) method that complies with the technical standards for that method listed in §11-280.1-43(4), (7), (8), (9), and (10) [see §11-280.1-41(a)(3)(A)].
  - a. Manual tank gauging is not an acceptable release detection method for tanks F-1 to F-20 and F-ST1 to F-ST4 to meet the requirements of §11-280.1-41(a)(3)(A) [application form Section XI.11.A. and letter Sections 9 and 27].
  - b. The application does not provide enough detail to determine whether tank tightness testing for tanks F-1 to F-20 and F-ST1 to F-ST4 meets the requirements of §11-280.1-43(10)(A), 11-280.1-43(10)(B), 11-280.1-43(10)(C), or 11-280.1-43(10)(E)(i) [application form Section XI.11.B. and letter Sections 10 and 28].
  - c. The application does not provide enough detail to determine whether inventory control for tanks F-1 to F-20 and F-ST1 to F-ST4 meets the requirements of §11-280.1-43(10)(E) [application form Section XI.11.C. and letter Sections 11 and 29].

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- d. The application does not provide enough detail to determine whether automatic tank gauging for tanks F-1 to F-20 and F-ST1 to F-ST4 meets the requirements of §11-280.1-43(4), 11-280.1-43(10)(B), or 11-280.1-43(10)(C) [application form Section XI.11.D. and letter Sections 12 and 30].
  - e. The application does not provide enough detail to determine whether vapor monitoring for tanks F-1 to F-20 meets the requirements of §11-280.1-43(10)(D) or 11-280.1-43(10)(E)(ii) [application form Section XI.11.E. and letter Section 13].
  - f. The application does not provide enough detail to determine whether groundwater monitoring for tanks F-1 to F-20 meets the requirements of §11-280.1-43(10)(E)(ii). Note that groundwater monitoring as a stand-alone release detection method is not an acceptable release detection method for these tanks to meet the requirements of §11-280.1-41(a)(3)(A) [application form Section XI.11.F. and letter Section 14].
  - g. The application does not provide enough detail to determine whether statistical inventory reconciliation for tanks F-1 to F-20 and F-ST1 to F-ST4 meets the requirements of §11-280.1-43(8) [application form Section XI.11.H. and letter Sections 15 and 31].
8. The cover letter heading above Sections 35 to 38 states "RHBFSF Pipeline not aligned against F-1 – F-4 and F-ST1 – F-ST4". Please clarify to what piping this refers. Please ensure that the information provided will be sufficient to determine compliance with §11-280.1-41(b)(5) for all piping segments.

If you have any questions, please contact Mr. Hugh Myers of our Underground Storage Tank Section at (808) 586-4226 or by email at: [hugh.myers@doh.hawaii.gov](mailto:hugh.myers@doh.hawaii.gov).

Sincerely,



LENE ICHINOTSUBO, P.E., ACTING CHIEF  
Solid Hazardous Waste Branch