BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
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December 3, 2015

Mr. Jared Blumenfeld
Region IX Administrator
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

and

Dr. Virginia Pressler
Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: September 28, 2015 United States Environmental Protection Agency (EPA) and Hawaii Department of Health (DOH) Response to Comments (RtC)

Dear Mr. Blumenfeld and Dr. Pressler:

The Board of Water Supply (BWS) has reviewed the EPA and DOH response dated September 28, 2015 to the over 140 written comments and 29 oral comments submitted on the proposed Administrative Order on Consent (AOC) and Attachment A: Statement of Work (SOW) between the EPA and DOH with the United States Department of Navy (Navy) and the Defense Logistics Agency (DLA) (the "parties") released on June 1, 2015. Our review found inconsistencies with the final signed AOC and SOW and several issues needing clarification.

The bullet points below describe the major findings from our review. Please note that we have added bold face to quoted text to highlight important differences between the final AOC SOW and your September 28 response herein referred to as RtC.

Transparency

- The RtC document cites in several places that the regulatory agencies received input from "industry experts". In the spirit of transparency, the Regulatory Agencies should identity their industry experts as well as provide any written correspondence/reports that these companies and/or individuals have prepared with regard to the Red Hill Bulk Fuel Storage facility.

Delays and Scheduling

- With respect to response actions for the January 2014 release, the RtC document states that "*the AOC outlines a careful and thoughtful approach to investigate remedial alternatives that are feasible in this unique setting. Section 6 of the SOW will require Navy and DLA to investigate and remediate potential releases from the Facility to the maximum extent practicable*". The Navy submitted a work plan to DOH and EPA to characterize the contamination below Tank 5 in July 2014. In a letter dated September 17, 2014, the DOH and EPA stated that they "*are concerned that the limited scope of work proposed in the Tank 5 Workplan may not satisfy the workplan's stated objectives or the Navy's regulatory requirements under Hawaii Administrative Rules (HAR) S 11-281-76. Nevertheless, the Navy may perform the work outlined in the Tank 5 Workplan in order to gain insights to the extent of contamination below Tank 5 after addressing the following comments*". Over one year has passed and it appears that work outlined in the work plan has not been initiated nor completed. The BWS understands that this work is now to be conducted under the AOC, but the initial limited scope of work and delay in initiating the limited scope of work does not reflect a "careful and thoughtful" approach as indicated in the RtC document.

- The RtC document states that "*The SOW, however, will require that all in-service Tanks include the Best Available Practicable Technology ("BAPT") within approximately twenty (20) years after a study period of less than two years*". The RtC document does not mention the allowable extensions that may be granted. The final SOW states "*The Regulatory Agencies may grant an extension, or series of extensions, of the twenty-two (22) year deadline, totaling no more than five (5) years, to allow additional time to apply BAPT during which time Navy and DLA may continue to store regulated substances in Tanks to which BAPT has not yet been applied*". As written, the final SOW allows approximately 27 years for the Navy and DLA to apply BAPT to the tanks. We request that the Regulatory Agencies revise the RtC document to match the final SOW.

- The RtC document states that "*EPA and DOH note that the SOW requires Navy and DLA to submit a report on corrosion and metal fatigue within 60 days of the effective date of the AOC*". This statement is not consistent with the final SOW. The final SOW states that "*within thirty (30) days of the Effective Date of the AOC, Navy and DLA shall submit an **outline** detailing the contents of the pending Corrosion and Metal Fatigue Practices Report ("Outline of Corrosion and Metal Fatigue Practices Report") to the Regulatory Agencies for approval*". Once the Regulatory Agencies have approved this outline, then "*within sixty (60) days from approval of the Outline of Corrosion and Metal Fatigue Practices Report, Navy and DLA shall submit a Corrosion and Metal Fatigue Practices Report to the Regulatory Agencies for approval*". It is important to note that this is not a report on corrosion and metal fatigue on the tanks but simply a description "*of the current practices for assessing the condition of the Tanks and associated fuel containment infrastructure*". Thus the shortest period for completion of this action item is 90 days of the effective date of the AOC, but requires assuming that the Regulatory Agencies will immediately approve the outline upon submission, which is highly unlikely because each Regulatory Agency will need to conduct an appropriately thorough review.

- With respect to corrosion and metal fatigue and risk and vulnerability assessment, the RtC document states that "*these existing deliverables reflect the importance and urgency of obtaining this information*". The timelines and details within the final SOW for deliverables associated with these topics, not including Scopes of Work or practice reports but actual testing and analysis, cannot be interpreted as reflecting the "importance and urgency" as stated in the RtC document. After the approval of the Corrosion and Metal Fatigue Practices Report, Destructive Testing on at least one tank will occur. The Destructive Testing Results Report will be submitted within 33 months of the effective date of the final SOW, assuming immediate approval by the Regulatory Agencies. The Risk and Vulnerability Assessment Report will be submitted within 22 months of the effective date of the final SOW, assuming immediate approval by the Regulatory Agencies. Deliverable deadlines like these that require two to three years do not reflect a need for urgency.

- The RtC document states "*the implementation of the AOC will result in an increase in groundwater monitoring locations*". As explained above, the final SOW actually states that "***IF** gaps in groundwater monitoring well data are identified and validated*" then additional monitoring wells will be installed (SOW Section 7.3.2). The installation of groundwater monitoring wells is not required under the final SOW, and thus may not occur. Therefore, an increase in

groundwater monitoring locations may not occur. We ask that the Regulatory Agencies revise the RtC document to resolve this inconsistency.

Groundwater Wells and Flow Model Section of RtC/SOW Needs Clarification

- The RtC document states "*EPA and DOH are making efforts to increase our understanding of groundwater flow in the area and* ***will require*** *Navy and DLA to install additional monitoring wells around the Facility as described in Section 7.3 of the SOW*". The final SOW does not state that installation of additional monitoring wells will be required. Instead, it states that "***IF*** *gaps in groundwater monitoring well data are identified and validated*" then additional monitoring wells will be installed (SOW Section 7.3.2). Which of these statements is factually correct? We respectfully ask the EPA and DOH to revise the final SOW or the RtC to resolve this important inconsistency.

- The RtC document states "*within approximately twenty-four (24) months of the effective date of the AOC, a groundwater flow model report (Section 7.1 of AOC) … will be completed*". This contradicts text in the final SOW, which appears (see below) to require a minimum of 28 months in the unlikely event that the Regulatory Agencies were to immediately approve the Groundwater Flow Model Report Scope of Work upon submission, but will more likely allow a far longer period. We respectfully ask the Regulatory Agencies to publicly resolve this important inconsistency so that the public is correctly informed about this action item.

- The final SOW does not state that a groundwater flow model report will be completed within 24 months of the effective date of the AOC. The final SOW states that 1) "*within thirty (30) days from the Effective Date of the AOC, Navy and DLA shall schedule and hold an initial Scoping Meeting to be attended by the Parties. The purpose of the Scoping Meeting is to detail the contents of the draft Scope of Work for the Groundwater Flow Model Report, and a decision will be made as to whether additional Scoping Meetings are needed.*", 2) "*Within ninety (90) days from the final Scoping Meeting, Navy and DLA shall submit the Groundwater Flow Model Scope of Work to the Regulatory Agencies for approval*", and 3) "*within twenty-four (24) months from the approval of the Groundwater Flow Model Report Scope of Work, Navy and DLA shall submit a Groundwater Flow Model Report to the Regulatory Agencies for approval*". The final SOW does not indicate the length of time the Regulatory Agencies will take to approve the Scope of Work. If the Regulatory Agencies approve the Scope of Work immediately upon submission, which seems highly unlikely, the groundwater flow model report will be completed in 28 months of the effective

date of the final AOC, but it is much more likely that completing this action item will take longer than 28 months.

- Additionally, the RtC document states that "*within approximately twenty-four (24) months of the effective date of the AOC, additions to the groundwater monitoring well network (Section 7.3 of the AOC) will be completed*". The final SOW does not state that additions to the groundwater monitoring well network be completed within 24 months of the effective date of the AOC, but it actually states that "*IF gaps in groundwater monitoring well data are identified and validated*" then additional monitoring wells will be installed (SOW Section 7.3.2). As described below, the final SOW is unclear about the timing of monitoring well installation, but it does not guarantee new monitoring wells within the 24-month period. Given the importance of this action item to the BWS, we respectfully request that the Regulatory Agencies publicly resolve this inconsistency and clarify the time frame and conditions for installation of new monitoring wells.

  The schedule for the installation of monitoring wells, if monitoring wells are indeed installed, is vague. The final SOW states that 1) "*within thirty (30) days from the Effective Date of the AOC, Navy and DLA shall schedule and hold an initial Scoping Meeting to be attended by the Parties*", 2) "*within ninety (90) days from the final Scoping Meeting, Navy and DLA shall submit the Groundwater Monitoring Well Network Scope of Work to the Regulatory Agencies for approval*", 3) "*if gaps in groundwater monitoring well data are identified and validated, Navy and DLA will begin installation of additional monitoring wells as soon as possible*", 4) "*within twelve (12) months from the Regulatory Agencies' approval of the Groundwater Flow Model Report, Navy and DLA shall submit a Groundwater Monitoring Well Network Report*". The Groundwater Monitoring Well Network Report will include "*a recommendation of the number and location of groundwater monitoring wells, including those already installed and potential new wells, to the Regulatory Agencies for approval*". The final SOW appears to be unclear about whether installation of monitoring wells needs to occur either immediately after data gaps are identified and validated or after issuance of the Groundwater Flow Model Report. Therefore, the final SOW contains no assurance that wells will be installed and if monitoring wells are installed this activity will occur within 24 months of the effective date of the AOC.

- The RtC document states "*under the AOC, Navy and DLA are* ***required*** *to perform a comprehensive risk and vulnerability assessment that evaluates the likelihood that catastrophic events such as earthquakes could cause a major fuel release*" furthermore "*the Risk/Vulnerability Analysis* ***required*** *under Section 8 of the SOW* ***requires*** *Navy and DLA to further examine and assess the risk of*

catastrophic release from seismic events as well as mechanical and human error. The analysis ***will also assess*** *the effectiveness of Navy and DLA's risk mitigation procedures and protective measures*". This text contradicts the final SOW, which does not require such actions to be included but instead states "*The Risk/Vulnerability Assessment Report* ***may*** *include:*

a. A risk matrix;
b. Probability of catastrophic events (seismic events, leaks);
c. Completed hydrology studies;
d. Probability of mechanical and human errors;
e. Effectiveness of risk mitigation and protective measures; and
f. A comparison of risks and benefits between the current Facility and alternative fuel storage facilities. "

Seismic Risk

- The RtC document includes two paragraphs related to seismic activity:

"*Seismic activity would appear to be the most likely natural event that could potentially cause a large scale release. While negotiating the AOC, the Regulatory Agencies reviewed earthquake risk information for Honolulu, and the Regulatory Agencies note that the seismic hazard is moderate. However, the risk of catastrophic release from seismic activity at the Facility from the Tank structures is comprised of both seismic hazard and the vulnerability of the Tank structures. The Regulatory Agencies have considered the potential for a catastrophic release as a result of seismic hazard and our preliminary assessment is that it does not present a significant threat of failure to the Tanks or piping within the Facility. (see Catastrophic Release Memo_PEMY_15SEP15.pdf in Administrative Record).*

The nature of the construction and location of the Facility would also likely minimize catastrophic threats to the aquifer. The Tanks consist of a welded steel containment vessel, encased in 2.5 to 4 feet of concrete, and surrounded by basalt rock. In the event of a release, the concrete surrounding the Tanks' shells could limit the flow paths of leaked fuel before it encounters the basalt. Additionally, each of the Tanks are supported by a 20 foot thick concrete foundation significantly limiting the vertical precipitation recharge directly beneath the Facility. Therefore, little recharge occurs through rock directly below the

Facility, minimizing the potential for dissolved-phase contamination migration to the aquifer below."

- At this point, very little is known of the seismic risk associated with the Red Hill underground storage tanks and related utilities (tunnels, piping, equipment, etc.), and based on the information provided to date it appears that the Navy has yet to conduct a formal seismic risk assessment. What is known is that in June of 1948 the still-new tanks experienced moderate ground shaking from a nearby earthquake and immediately afterward leaked thousands of gallons of fuel (Bechtel, 1949). We also know that the tanks and associated utilities have been structurally degraded through corrosion in the 65 years since, which has likely increased any seismic vulnerability that was initially present in the tanks and piping system. We are not aware of any documentation that describes seismic evaluation or seismic upgrades since that earthquake, and we do not know if the original tank and piping design considered earthquake loading. We also know that the USGS recognized that the seismic risk in Honolulu had been underestimated, and had therefore increased the mapped seismic hazard the 1990s (FEMA, 2010, pg. 14).

  Based on Exponent calculations, the earthquake shaking intensity experienced by the tanks in June of 1948 was likely lower than the current design earthquake loading for commercial construction in Honolulu (McDonald, 2015). Given these basic knowns and unknowns, we do not share the belief put forth in the RtC document that earthquake shaking does not pose a significant risk, and recommend that any such conclusions be justified through formal probabilistic risk assessment. Results from such an assessment can be combined with the risks associated with ongoing corrosion to help inform the EPA, DOH, Navy, and DLA decisions regarding the best course of action to reliably protect the aquifers. In the following section we address specific statements in the RtC that pertain to seismic risk.

- The RtC document states *"While negotiating the AOC, the Regulatory Agencies reviewed earthquake risk information for Honolulu, and the Regulatory Agencies note that the seismic hazard is moderate."* The seismic hazard in Honolulu is certainly not as high as other parts of the country or the Big Island. However, the seismic risk is not trivial and cannot be ignored. Per the 2012 International Building Code, buildings in Honolulu must be designed to resist earthquake ground accelerations (USGS, 2015). The current design earthquake accelerations are based on shaking intensities well above those experienced at the site in June of 1948, which ostensibly led to leakage from Tank 16. As such,

the "moderate" nature of seismic risk in Honolulu should not be used as a basis to dismiss seismic risk to the tanks.

- The RtC document states *"However, the risk of catastrophic release from seismic activity at the Facility from the Tank structures is comprised of both seismic hazard and the vulnerability of the Tank structures."* While true, this is only part of the story, because seismic risk assessment does not stop at the vulnerability of the tank structures. Seismic risk is measured as the probability of some unwanted consequence, which in this case is groundwater contamination. The acceptable risk level should be a function of the severity of the consequence; in this case contamination of a sole source aquifer implies a very low tolerance for acceptable risk. In addition, the seismic risk is not limited to the vulnerability of the tank structures, but also the tunnels, pipelines, connections, engineering systems, and supporting slopes and soils.

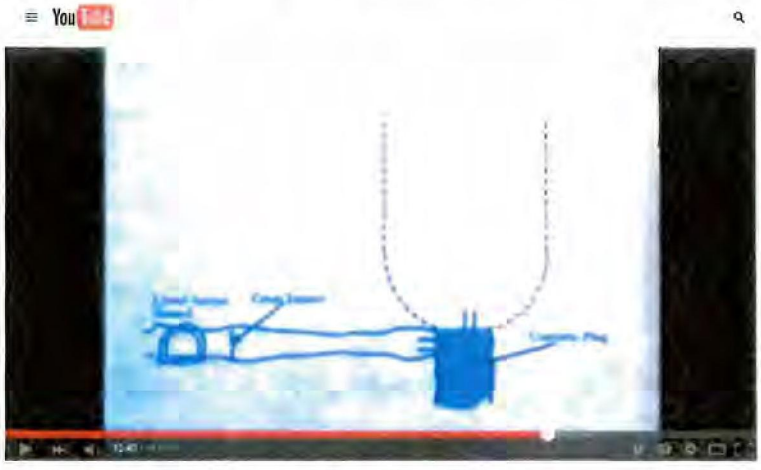
  We agree that seismic risk is calculated based two fundamental components – 1) the probability that earthquake shaking of given intensity will occur (seismic hazard), and 2) the probability that, given that shaking intensity, some tank component or associated piping or valve will fail (structural fragility), causing leakage and groundwater contamination (consequence). The total seismic risk is calculating by convolving the seismic hazard and the seismic fragility, and comprises a complex, engineering-intense undertaking. Formal seismic risk assessment is typically done by specialist firms. These results are then carefully and independently peer-reviewed.

- The RtC document states *"The Regulatory Agencies have considered the potential for a catastrophic release as a result of seismic hazard and our preliminary assessment is that it does not present a significant threat of failure to the Tanks or piping within the Facility. (see Catastrophic Release Memo_PEMY_15SEP15.pdf in Administrative Record)."* The referenced memo is reviewed more completely in the next section. However, in summary, that memo did not account for the apparent earthquake-induced leakage during the June 1948 event. Since that is the only measure of seismic vulnerability available, any seismic risk assessment, preliminary or not, that ignores it is incomplete and possibly misleading. The June 1948 earthquake demonstrated the potential vulnerability of the tanks to "moderate" ground shaking, and in light of that history the seismic risk cannot be dismissed.

- The RtC document states *"The nature of the construction and location of the Facility would also likely minimize catastrophic threats to the aquifer. ... In the event of a release, the concrete surrounding the Tanks' shells could limit the flow paths of leaked fuel before it encounters the basalt."* We find this argument to be

entirely speculative. Based on the information provided to date, nobody has a demonstrated understanding of the fate of previously leaked fuel from the tanks, or has shown that it was successfully captured by the concrete once it bypassed the steel liner. (The steel liner itself was presumably part of the design because of the inability of the concrete tanks to reliably contain fuel.) Moreover, previous work with the tell tale system indicates that there is communication from the tank-liner-to-concrete interface with the surrounding rock (Bechtel, 1949, pg. 126). Finally, the condition of the concrete tank is almost fully concealed from inspection; the degree of shrinkage or other cracking that would release fuel to the surrounding rock is entirely unknown. We do not have confidence that fuel leaked during earthquakes (or from any other cause) will be contained or arrested by the concrete tanks.

- The RtC document states *"Additionally, each of the Tanks are supported by a 20 foot thick concrete foundation significantly limiting the vertical precipitation recharge directly beneath the Facility. Therefore, little recharge occurs through rock directly below the Facility, minimizing the potential for dissolved-phase contamination migration to the aquifer below."* This statement is contradicted by the information available to us from the Navy (US Fleet Forces, 2011). The concrete foundation described and shown in the Navy's movie (see the image at time 10 minutes 40 seconds at https://www.youtube.com/watch?v=Ilz8IstwnWU and below) is very narrow relative to the tank diameter and so would not limit vertical migration of water through the vadose zone below the Red Hill tanks.



Seismic Risk as Outlined in Catastrophic Release Memorandum (PEMY, 2015) cited in RtC Document

- As part of their discussion of the seismic hazard in Honolulu, PEMY presents a history of ground shaking and associated damage. The following is an excerpt from the PEMY memorandum, Page 6: "*The last earthquake that damaged property on Oahu was the October 15, 2006 Hawaii earthquake on the Kona side of the Big Island. Almost all damaging earthquakes in Hawaii, in fact, occur on or near the Big Island. The 2006 event caused a 14--hour blackout on Oahu. Prior earthquakes have caused minor damage like broken windows. Attenuation with distance is the reason that damaging earthquakes on the Big Island do not cause problems on Oahu. The 2006 epicenter is more than 150 miles away from Red Hill. The risk at Red Hill is small because the seismogenic potential of the Big Island source is limited to magnitude 7 or 7.5 events, too small to damage the Facility located more than 150 miles away. There are no records of damaging earthquakes occurring close to the site. The largest earthquake recorded within 50 miles of the site was a Magnitude 4.48 event on May 25, 1969. The most recent event of Magnitude 4.0 or larger was on August 22, 2014. Neither caused damage on Oahu or at the Red Hill facility.*" We do not know why PEMY decided not to reference the June 28, 1948 earthquake in their list of seismic shaking in Honolulu. That earthquake had a magnitude of 4.6 but its epicenter was just a few miles south of Honolulu. Of the 113 historic seismic events with ground shaking felt in Honolulu in the 125 years ending in 1983, the June 28, 1948 earthquake produced the second highest earthquake shaking intensity in Honolulu (Cox, 1989). (The estimated shaking from an earthquake in February 1871 was higher intensity than in 1948, but was also omitted from the earthquake history in the PEMY Memo.) More importantly, the 1948 earthquake occurred while the tanks were still new, but in operation. While we are not aware of any references regarding the specifics of the damage mechanisms, a report by Bechtel (Bechtel, 1949) references the earthquake and describes leakage measured from Tank 16 starting the day of the earthquake and continuing for almost a month. Bechtel measured the leak to be 1100 barrels, or 46,000 gallons. Opinions regarding seismic risk cannot be based on a review of historic seismic activity in Honolulu that neglects the highest intensity shaking and reported damage (and leakage) at the subject facility.

- The PEMY Memo concludes that the earthquake ground shaking "*is not a credible source of catastrophic failure risk.*" This statement is supported by opinions regarding the fragility of the tank structures. An excerpt from Page 6 reads: "*The catastrophic release risk at Red Hill is comprised of both seismic hazard and also the vulnerability of the tank structures. The seismic hazard is moderate, so*

noticeable shaking has about a 2% chance of occurring in a 50-year period. The tank structures, though, are very tolerant of shaking because:

> *1. The tank walls are surrounded by and connected to bedrock. This type of shaking is very different from shaking that affects a building, for instance.*
> *2. The steel tank shells are flexible and able to accommodate any small-magnitude temporary deformations during shaking.*
> *3. The tanks are 2.5 times narrower than they are tall, significantly limiting the sloshing loads that can be generated in the stored liquid during shaking.*

Considering these factors, it is not feasible that moderate earthquake shaking from a distant source would breach the tank liners to cause a catastrophic release. While the additional detail in this report is probably appropriate, the result is the same: earthquake is not a credible source of catastrophic failure risk."

This section of the PEMY Memo is entirely speculative and should not be used as the basis for engineering decisions regarding the seismic vulnerability of the tanks and associated utilities. Based on the information provided to date, the response of the tanks, tunnels, equipment, pipelines and supporting soil to the design basis loads has not been systematically evaluated by anybody, including PEMY. We do not agree with the PEMY Memo presumptions that the tank walls, including welded connections, are not susceptible to earthquake-induced strains, nor do we presume that all of the equipment and piping connections are properly designed and have sufficient ductility to accommodate differential seismic displacements. Sloshing of (perhaps partially filled, which changes the aspect ratio) tanks remains a concern. In fact, absent any engineering analysis to date, the only measure of seismic performance available is the leakage of 46,000 gallons of fuel from Tank 16 that occurred in the month following the 1948 earthquake. Until further engineering analysis is available, it is prudent to assume similar future ground shaking could result in similar releases.

- Furthermore, the speculative nature of the dismissal of seismic risk in the PEMY Memo is made clear in their discussion of the limitations of their report. This is an excerpt from Page 1 of the PEMY Memo: *"Because detailed and complete information normally used in risk assessments is not currently available it is important to understand the limitations of statements made in this memo or conclusions reached resulting from this memo. PEMY does not have access to detailed facility information and operational procedures that are required to*

conduct a risk assessment. This memo is not a risk assessment even though it does discuss one limited aspect of risk at the Facility. Rather, this discussion should be considered an opinion subject to refinement as more details become available about the design, engineering, construction, maintenance, installation, and operation of not only the tank system but also the integral accessory facilities such as the piping, the terminal, the loading and unloading areas, the control systems, the emergency response systems, and other infrastructure and procedures."

Monitoring Fuel Levels

- The RtC document states that "*Navy currently uses a combination of three release detection methods, annual tank tightness testing, continuous tank gauging, and monthly vapor monitoring. The new regulations would require the Tanks at the Facility to only undergo annual tank tightness testing (see 80 Federal Register 41668, July 15, 2015), however Navy already exceeds this requirement by conducting tank tightness testing, and two additional release detection procedures.*" Although the Navy may exceed the requirements regarding release detection methodology mandated by the government, the tanks at Red Hill Fuel Depot represent a unique set of conditions that include: 1. Very large diameter tanks and 2. Tanks that are placed in close proximity to a sole source aquifer. The very large diameter makes it difficult to accurately and reliability detect all but large fuel release rates. The close proximity to the sole source aquifer makes accurate and reliable detection of leaks extremely important. We also note that annual tank tightness testing and monthly vapor monitoring are of a frequency that enormous amounts of fuel could be leaked within a month. We have not seen sufficient documentation regarding the accuracy and reliability testing of the continuous tank gauging system to be assured that it can reliability detect leak small leak rates or if all the tanks currently in use have the same leak detection system installed.

Corrosion Protection

- The RtC document states that "*The new UST regulations do not require corrosion protection requirements, including cathodic protection, for the Tanks at the Facility or similarly constructed tanks. Metal corrosion control known as cathodic protection is only required under certain circumstances. Because the Tanks at the Facility are encased in concrete, cathodic protection is not required or effective at reducing corrosion of the Red Hill tanks. (80 Federal Register 41595, July 15, 2015).*" As we have noted previously, we do not agree with the notion that these tank liners should be exempted from corrosion protection because they

are encased in concrete. Such an exemption would make sense if the steel liner was sufficiently protected from corrosion by the concrete encasement. This is clearly not the case at Red Hill, as there have been documented instances of external corrosion. That said, we understand the concerns regarding the application of cathodic protection on tanks such as the Red Hill tanks in their current condition; however, we feel that cathodic protection should be considered when considering upgrade options (for instance a tank within a tank).

Mitigation of Catastrophic Release

- The RtC document states that "*The most likely catastrophic release scenario would be a piping failure with a release into the lower access tunnel. This vulnerability is being addressed by Navy and DLA with the installation of oil tight doors in the tunnel system.*" We have not seen any information that would indicate that if there were a catastrophic release, from a pipe failure or other source, that it could be reliability contained within the tunnel behind oil tight doors. In fact, our tour of the facility indicated many places within the tunnel that oil may escape even if it were not leaking past the oil tight doors.

Overall, the inconsistencies between the RtC document and the AOC and SOW are concerning, specifically with regards to what is "required" by the final SOW and the schedules. The inconsistencies in the Regulatory Agencies' RtC document appear to indicate misinterpretation or misunderstanding of the final AOC and SOW. The final AOC and SOW language does not appear to be able to support the RtC apparent claim that significant improvements were made to the final AOC and SOW in response to the 140 written and 29 oral comments received at the June 18 public meeting. The BWS asks that these inconsistencies be immediately corrected by the issuance of a more accurate RtC document.

If you have any questions, please feel free to call me at 808-748-5061.

Very truly yours,

ERNEST Y.W. LAU, P.E.
Manager and Chief Engineer

References

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