Red Hill Fuel Storage Facility

Status Update for HBWS –June 27, 2016

Implementation of Administrative Order on Consent between the Navy and Defense Logistics Agency with Hawaii Department of Health and the US EPA Region 9

[DateTime]

Background on AOC

- Why an AOC
- Roles and Responsibilities
- AOC Decision Process
- Stakeholder Involvement
- Work to be Performed

External Subject Matter Expert Involvement

- AOC States ". . intent of the Parties to seek the advice of subject matter experts, such as . . . for scoping and review of key deliverables. The Parties shall take actions that facilitate sharing of information with subject matter experts . . ."

External Subject Matter Experts

- Three External Parties with Subject Matter Expertise Engaged in the AOC Implementation Process
  - Hawaii Department of Land and Natural Resources (DLNR)
  - United States Geologic Service (USGS)
  - Honolulu Board of Water Supply (BWS)

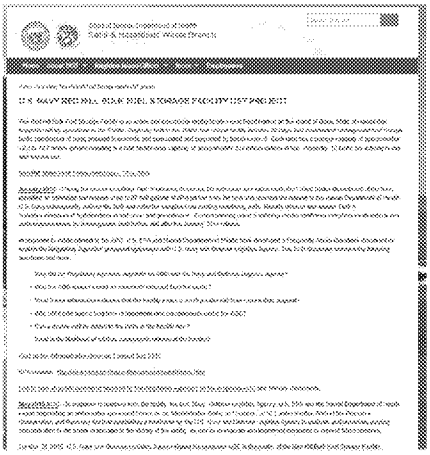
Recent External Subject Matter Expert Involvement

- Agencies Facilitated Meetings in May with Parties and External Subject Matter Experts to Discuss Comments on Key Deliverables.
- Agencies Have Facilitated the Sharing of Documents and Information with External Subject Matter Experts and the Public.

Information Available to the Public

DOH Website

health.hawaii.gov/shwb/ust-red-hill-project-main/



EPA Website

www.epa.gov/red-hill

Summary - Work to be Performed

- Section 2 - Tank Inspection, Repair, and Maintenance
- Section 3 - Tank Upgrade Alternatives
- Section 4 - Release Detection / Tank Tightness Testing
- Section 5 - Corrosion and Metal Fatigue Practices
- Section 6 – Investigation and Remediation of Releases
- Section 7 – Groundwater Protection and Evaluation
- Section 8 – Risk and Vulnerability Assessment

Section 2 – Tank Inspection, Repair and Maintenance (TIRM)

Specific Task	AOC Deadline	Current Status
Scoping Meetings (2.1)	Start within 30 Days from effective date of AOC	Scoping Completed
TIRM Procedures Report (2.2)	Within 120 days from final scoping meeting	Revised Draft Outline for TIRM Procedures Report received from Navy March 23, 2016
Decision Meeting (2.3)	Within 60 days of TIRM Procedures Report	

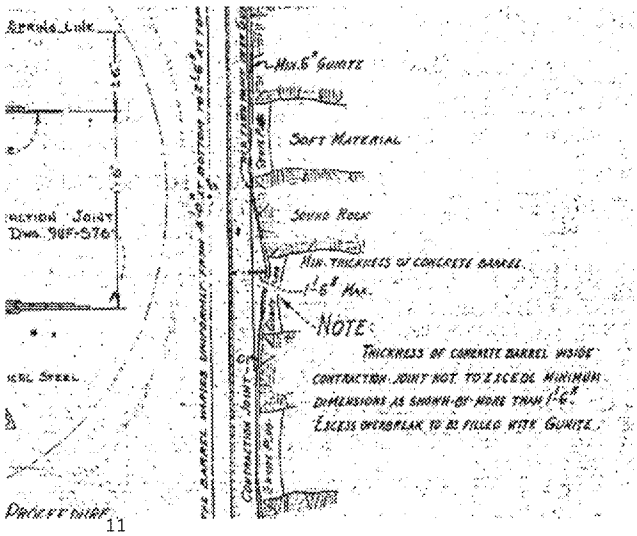
Key Findings to Date Related to TIRM

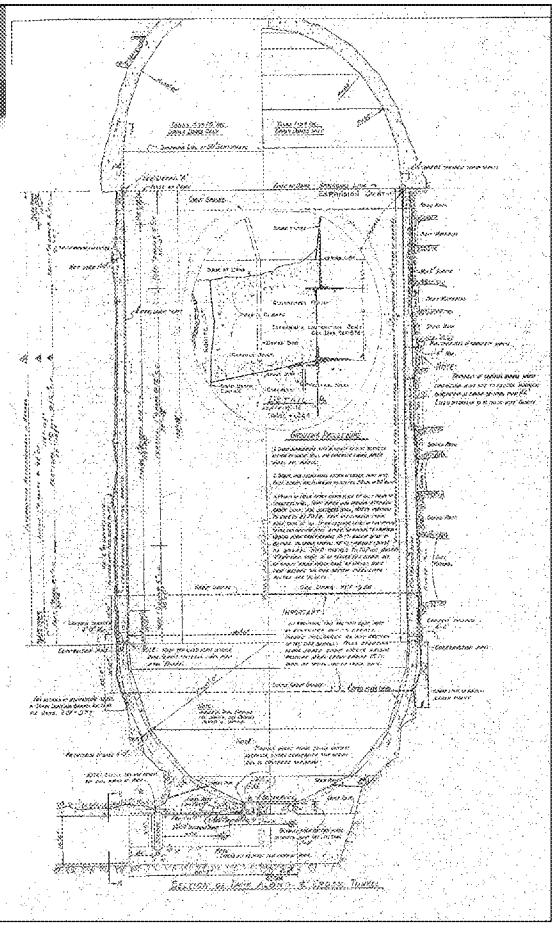
- Tank 5 Inspection, Repair and Maintenance was Done by a Different Contractor than Prior Tanks
- Quality Assurance and Quality Control Procedures Very Critical
- Clear Opportunities for Improvement in Contracting and Procedures

Section 3 – Tank Upgrade Alternatives

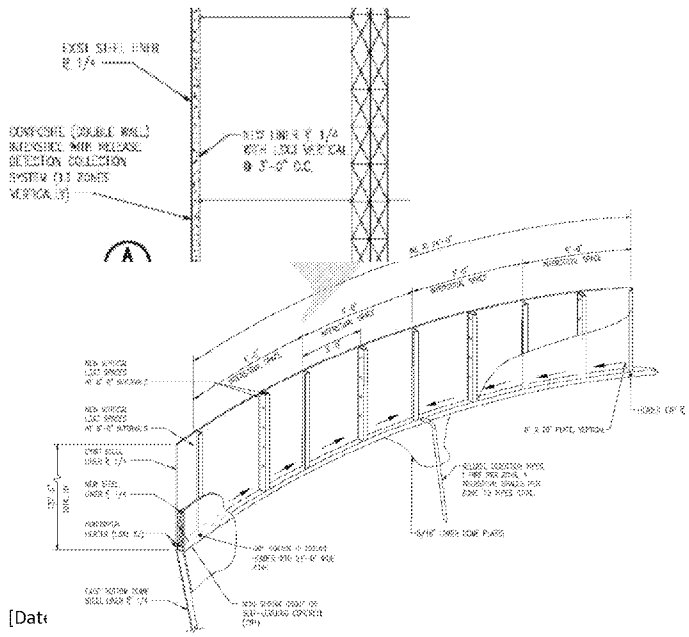
Specific Task	AOC Deadline	Current Status
Scoping Meeting (3.1)	Start within 30 days from effective date of AOC	Scoping Completed
Scope of Work (3.2)	Within 90 days from final Scoping Meeting	Draft SOW Outline submitted Jan 29, 2016
TUA Report (3.3)	Within 12 months of SOW Approval	

Tank Upgrade Alternatives Available Given Original Design





Primary Tank Upgrade Alternatives to Be Considered



- Double Wall
  - Composite
  - Tank within Tank
- Single
  - Restoration of Existing Single Liner
  - Replacement of Liner with New Single Liner

Key Tank Upgrade Considerations

- Effective Containment of Fuel
- Condition of Existing Infrastructure
- Risk and Vulnerability
- Overall Engineered System vs. Focus on Single Components of System
- Ability to Repair and Maintain
- Cost vs. Benefit

Section 4 – Release Detection and Tightness Testing

Specific Task	AOC Deadline	Current Status
TTT Frequency Increase (4.1)	Within one year of effective date of AOC	
Outline RD Monitoring System Report (4.2)	Within 30 days of effective date of AOC	Approved by Agencies
RD Monitoring Systems Report (4.3)	Within 60 days of Outline Approval	Submitted April 4, 2016, Agency Approval Pending
Scoping Meetings for New RD Alternatives (4.4)	Within 60 days of Agencies' Approval of RD Monitoring Systems Report	

Release Detection and Tightness Testing Report - Key Issues

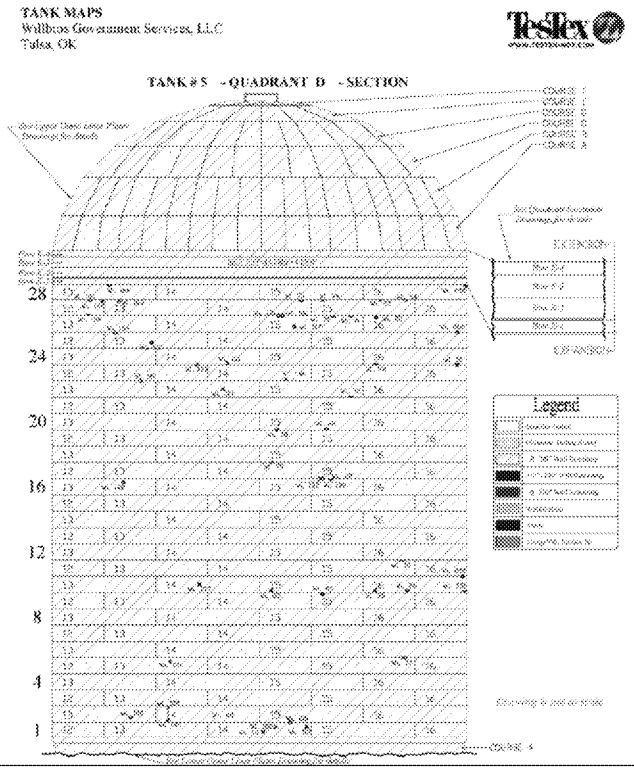
- Frequency
- Precision
- Impact of False Positives
- Opportunities for Improvements

Section 5 - Corrosion and Metal Fatigue Practices

Specific Task	AOC Deadline	Current Status
Report Outline (5.1)	Within 30 days of effective date of AOC	Approved by Agencies
Corrosion and Metal Fatigue Practices Report (5.2)	Within 60 days of Outline Approval	Submitted April 4, 2016, Agency Approval Pending
Scoping for Destructive Testing (5.3.1)	Within 90 days of Agencies' Approval of Corrosion and Metal Fatigue Practices Report	

Corrosion and Metal Fatigue Report – Key Issues

- Effectiveness of Non-Destructive Testing
- Corrosion Rate
- Construction Anomalies
- Opportunities for Improvements

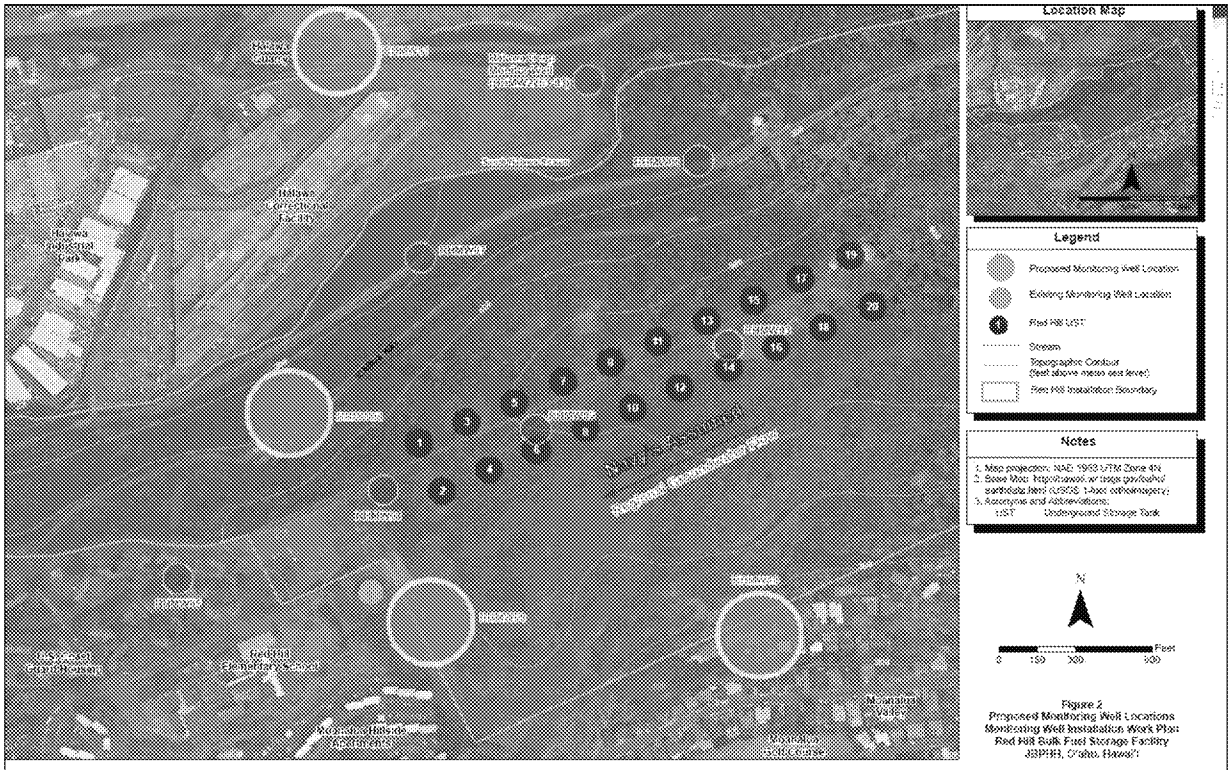


Section 6 – Investigation and Remediation of Releases

Specific Task	AOC Deadline	Current Status
Scoping Meetings (6.1)	Within 30 days of effective date of AOC	Complete
Scope of Work (6.2)	Within 60 days of Final Scoping Meeting	Submitted May 4, 2016, Agencies' Approval Pending
Investigation and Remediation of Releases Report 6.3)	Within 24 months of the Agencies' Approval of the SOW	

Section 7 – Groundwater Protection and Evaluation

Specific Task	AOC Deadline	Current Status
Scoping Meeting for Groundwater Flow and Fate & Transport Model Report (7.1.1, 7.2.1)	Within 30 days of effective date of AOC	Complete
Groundwater Flow and Fate & Transport Model SOW (7.1.2, 7.2.2)	Within 90 days of Final Scoping Meeting	Submitted May 4, 2016, Agencies' Approval Pending
Groundwater Flow Model Report (7.1.3)	Within 24 months of Agencies' Approval of SOW	
Fate & Transport Model Report (7.2.3)	Within 6 months of Agencies' Approval of the Groundwater Flow Model Report	
Scoping Meeting for Groundwater Monitoring Well Network (7.3.1)	Within 30 days of effective date of AOC	Complete
Groundwater Monitoring Well Network SOW (7.3.2)	Within 90 days of Final Scoping Meeting	Submitted May 4, 2016, Agencies' Approval Pending/ Monitoring Well Installation Workplan submitted April 26, 2016/Agencies' partial approval on June 17, 2016
Groundwater Monitoring Well Network (7,3.3)	Within 12 months of Agencies' Approval of Groundwater Flow Model Report	



Additionally Planned Monitoring Wells Pending Installation

Contaminants of Potential Concern (CoPC)

- Current list of Analytes includes 12 compounds:
  - Total Petroleum Hydrocarbons (TPH-d, TPH-o, TPH-g)
  - BTEX (Benzene, Toulene, Ethylbenzene, Xylenes)
  - Napthalenes (Napthalene, 1-Methylnapthalene, 2-Methylnapthalene)
  - Lead Scavengers (1,2 Dichloroethane, 1,2 Dibromoethane)

Contaminants of Potential Concern (CoPC)

- Since 2005, Navy has collected quarterly samples and analyzed them for 64 separate compounds
- 52 of these 64 compounds have generally not been detected in samples collected.
  - Some compounds have been detected but at levels significantly below State Environmental Action Levels

Contaminants of Potential Concern (CoPC)

- The 52 compounds that the Regulatory Agencies agreed to remove from the analyte list are not constituents of the fuel being stored at Red Hill.
- As per comments from the BWS, Navy will provide a list of all fuel additives currently in fuel used at Red Hill.
- Final COPC list may be revised based on our review of fuel additives.

Section 8 – Risk and Vulnerability Assessment

Specific Task	AOC Deadline	Current Status
Risk and Vulnerability Scoping Mtgs (8.1)	Begin within 30 days of effective date of AOC	In progress. Next scoping meeting needs scheduling
Risk/Vulnerability Assess SOW (8.2)	Within 90 days of final scoping mtg	

Risk and Vulnerability Assessment – Key Issues Discussed to Date

- Establishing Probability and Magnitude of Future Major Releases
- Identifying Vulnerabilities
- Interaction Between Section 8 Work and Work Being Done Under Other Sections of the AOC

Questions / Discussion