ATTACHMENT A

STATEMENT OF WORK

DEPARTMENT OF THE NAVY

RED HILL BULK FUEL STORAGE FACILITY

OAHU, HAWAII

[DATE \@ "M/d/yyyy h:mm am/pm"]

Statement of Work

Contents

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Introduction

This Statement of Work ("SOW") sets forth the tasks and requirements to be undertaken by the Navy and DLA, in compliance with the Administrative Order on Consent ("AOC") in the Matter of Red Hill Bulk Fuel Storage Facility (Facility), located near Pearl Harbor, on the island of Oahu in the State of Hawaii. The primary objective of the AOC and SOW is to take steps to ensure that the groundwater resource under the Facility is protected. The Navy, DLA, DOH and EPA, collectively referred to as "the Parties" in this SOW, agree that this objective can best be accomplished by ensuring that the tanks and other infrastructure at the Facility deploy the best technology to the maximum extent practicable to prevent fuel releases and by developing a better understanding of the hydrogeology of the area surrounding the Facility and an assessment of the risk to the groundwater resources posed by the Facility.

The major components of the Work are summarized below:

(1) The Navy and DLA will improve upon an existing schedule of tank inspections and repairs to ensure that the tank infrastructure prevents releases of fuel to the maximum extent practicable;

(2) The Navy and DLA will undertake a comprehensive study to investigate the feasibility of upgrading the tank structures including, but not limited to, secondary containment. This study will evaluate several technologies, building on similar efforts conducted by the Navy in 1998 and 2008. After completing the study, a technology or technologies will be selected and implemented. Implementation will occur in 3-5 year phases so that all tanks in operation will be improved no later than 20 years from the selection of a technology to upgrade the tanks.

(3) The Navy and DLA will double the frequency of their tank tightness testing from biennial to annual and continue to continuously monitor inventory. The Navy and DLA will also conduct a study to evaluate improvements to the tank tightness and leak detection technologies deployed at the Facility and, pending the outcome of the study, implement improvements.

(4) The Navy and DLA will develop models to understand groundwater flow in the areas around the Facility and evaluate the fate and transport of contaminants in the subsurface. Based on the modeling effort, a groundwater monitoring network will be improved and developed.

(5) The Navy and DLA will develop a risk/vulnerability assessment in an effort to further understand the potential impacts of fuel releases on the island's drinking and groundwater supplies.

1. Overall Project Management

1.1 Subject Matter Experts Involvement

It is the intent of the Parties to seek the technical advice of subject matter experts, such as the Board of Water Supply and the Hawaii Department Land of Natural Resources, as needed, for scoping and review of key deliverables.

1.2 Community Involvement

The Parties will update the public jointly based on public interest and at the request of one of the stakeholders. The Navy and DLA shall submit a synopsis of each final report to the Regulatory Agencies that will be available to the public.

1.3 Meetings

Meetings may consist of in-person, telephone, or video-conferences, the form of which will be based on budget constraints, schedules, and other considerations. Within ten (10) business days of a meeting, the Navy and DLA shall circulate a summary of the meeting to the Parties for concurrence. The Parties may request additional meetings beyond the meetings outlined in this SOW, as needed.

1.4 Regulatory Agency Written Responses

The Regulatory Agencies will provide joint, written responses for all responses to the Navy and DLA under Section 7 of the AOC (Regulatory Agencies' Approval of Deliverables).

1.5 Quality Assurance

The Navy and DLA shall include a discussion of quality assurance and quality control (QA/QC) procedures in each Scope of Work submitted to the Regulatory Agencies for approval as required in this SOW. The QA/QC procedures shall be used to ensure that environmental or other data generated meets standards established by the Parties.

When appropriate, QA/QC procedures shall follow EPA's Quality Systems for Environment and Technology which are available at [HYPERLINK "http://www.epa.gov/quality/"].

2. Tank Inspection and Repair Procedures

The purpose of these deliverables is to evaluate and document tank inspection and repair procedures to ensure the continued integrity of the underground storage tank (UST) system at the Facility. At a minimum, this deliverable will evaluate and document the following:

- Current tank inspection and repair procedures;
- Lessons learned from Tank 5 and related modifications to current procedures;
- Quality Control and Assurance of tank inspection and repair;
- Improvement opportunities;
- Schedule/frequency of modified API 653 tank inspections and repairs; and
- Tank re-commissioning procedures up to and including the re-filling process.

2.1 Scoping Meeting for Tank Inspection and Repair Procedures Report

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the Tank Inspection and Repair Procedures Report.

2.2 Tank Inspection and Repair Procedures Report

Within 120 days from the Scoping Meeting, the Navy and DLA shall submit a Tank Inspection and Repair Procedures Report to the Regulatory Agencies for approval.

2.3 Tank Inspection and Repair Procedures Decision Meeting

Within sixty (60) days from the approval of the Tank Inspection and Repair Procedures Report the Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to outline the Tank Inspection and Repair Procedures Implementation Plan for improvements to future tank inspection and repair.

2.4 Tank Inspection and Repair Procedures Decision Document/Implementation Plan

Within sixty (60) days from the Decision Meeting, the Navy and DLA shall submit a Tank Inspection and Repair Procedures Implementation Plan and schedule to the Regulatory Agencies for approval.

3. Tank Upgrade Alternatives

The purpose of these deliverables will be to determine the best available practicable technologies (BAPT) that can be applied to the USTs at the Facility to prevent releases. After the approval of BAPT, it shall be applied to all in-service tanks as part of their respective maintenance and repair cycles in accordance with schedules established in the Tank Upgrade Alternatives Decision Document/Implementation Plan ("TUA Decision Document"). The BAPT will likely change, as new technologies become available.

All in-service tanks, actively storing fuel or other product, shall have the BAPT incorporated no later than twenty-two (22) years from the Effective Date of the AOC.

At a minimum, the deliverable will evaluate the following:

- Tank Upgrades;
- Secondary Containment Alternatives;
- Coatings;
- Liners/Bladders;
- Associated Leak Detection Systems; and
- Other Alternatives.

3.1 Initial Scoping Meeting for Tank Upgrade Alternatives Report

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the Scoping Meeting will be to detail the contents of the Scope of Work for this section.

3.2 Tank Upgrade Alternatives Scope of Work

Within ninety (90) days from the final Scoping Meeting, the Navy and DLA shall submit the Scope of Work for Tank Upgrade Alternatives to the Regulatory Agencies for approval.

3.3 Tank Upgrade Alternatives Report

Within twelve (12) months from when the Scope of Work is approved, the Navy and DLA shall submit a Tank Upgrade Alternatives Report to the Regulatory Agencies for approval.

3.4 Tank Upgrade Alternatives Decision Meeting

Within sixty (60) days from the Regulatory Agencies' approval of the Tank Upgrade Alternatives Report, the Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to determine subsequent actions for maintaining, repairing, and upgrading the USTs at the Facility.

3.5 Tank Upgrade Alternatives Decision Document/Implementation Plan

Within sixty (60) days from the Decision Meeting, the Navy and DLA shall submit a TUA Decision Document to the Regulatory Agencies for approval. The TUA Decision Document shall recommend the BAPT to be applied to the in-service tanks at the Facility at the beginning of their inspection and repair cycle. The beginning of the inspection and repair cycle shall be defined in the TUA Decision Document. The TUA Decision Document will incorporate, as appropriate, the decisions made under sections 2 and 4 of this SOW. .

3.6 Tank Upgrade Alternatives Re-evaluation

At least once every five (5) years from the approval of the TUA Decision Document, the Navy and DLA shall evaluate new technologies to determine if new technologies may be available and practicable to implement in the Facility.

4. Leak Detection Systems (LDS) and Tank Tightness Testing

The purpose of these deliverables is to document the current LDS and tank tightness systems used at the Facility and to evaluate modifications to the leak detection and tank tightness systems which could be applied to the Facility.

4.1 Tank Tightness Testing Frequency

Until the approval of the LDS and Tank Tightness Testing Decision Document/Implementation plan as described in Sections 4.6 and 4.8 below, the Navy and DLA shall increase their tank tightness testing from a biennial test to an annual test, continue to use an inventory control monitoring system, and conduct monthly vapor monitoring for all tanks in service.

4.2 Outline for Current Fuel Release Monitoring Systems Report

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall submit a document detailing the contents of the Current Fuel Release Monitoring Systems Report to the Regulatory Agencies for approval.

4.3 Current Fuel Release Monitoring Systems Report

Within sixty (60) days from approval of the Current Fuel Release Monitoring Systems Report Outline, the Navy and DLA shall submit a Current Fuel Release Monitoring Systems Report to the Regulatory Agencies for approval. At a minimum, the Report shall include:

- Recordkeeping procedures;
- Dynamic filling procedures for re-commissioning and daily operations;
- Static and Dynamic Leak Detection Systems;
- Leak detection sensitivity; and
- Provide the 2008 LDS Study and 2014 Market Survey Update.

4.4 Initial Scoping Meeting for New LDS and Tank Tightness Systems Testing

Within sixty (60) days from Regulatory approval of the Current Fuel Release Monitoring Systems Report, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the Scope of Work for the study to evaluate possible new LDS and Tank Tightness systems.

4.5 New LDS and Tank Tightness Systems Testing Scope of Work

Within ninety (90) days from the Final Scoping Meeting, the Navy and DLA shall submit the New Leak Detection and Tank Tightness Systems Scope of Work to the Regulatory Agencies for approval.

4.6 New LDS and Tank Tightness Testing Report

Within twelve (12) months from approval of the Tank Tightness Systems Scope of Work, the Navy and DLA shall submit a New Leak Detection and Tank Tightness Systems Technology Report to the Regulatory Agencies for approval. The New LDS and Tight Testing Report shall include:

- A description of existing practices;
- Static and Dynamic Leak Detection System Alternatives;
- Tank tightness system alternatives;
- Comparison of existing and alternative technologies effectiveness; and
- Decision Matrix.

4.7 New LDS and Tank Tightness Testing Decision Meeting

Within sixty (60) days from the Regulatory Agencies' approval of the New Leak Detection and Tank Tightness Systems Report, the Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to determine subsequent actions for implementing the new LDS and tank tightness systems as appropriate.

4.8 New LDS and Tank Tightness Testing Decision Document/Implementation Plan

Within sixty (60) days after the Decision Meeting, the Navy and DLA shall submit a Tank Tightness Decision Document/Implementation Plan including an implementation schedule to the Regulatory Agencies for approval.

5. Corrosion and Metal Fatigue Assessment

The purpose of these deliverables is to understand the possibility and extent of corrosion and metal fatigue at the Facility.

The Navy and DLA shall maintain records of and continue efforts to complete internal cleaning and inspection of the aboveground pipelines in the tunnels within the Facility.

5.1 Outline of Corrosion and Metal Fatigue Assessment Report

Within thirty (30) days of the Effective Date of the AOC, the Navy and DLA shall submit an outline detailing the contents of the pending Corrosion and Metal Fatigue Assessment Report to the Regulatory Agencies for approval.

5.2 Corrosion and Metal Fatigue Assessment Report

Within sixty (60) days from approval of the Outline of Corrosion and Metal Fatigue Assessment Report, the Navy and DLA shall submit a Corrosion and Metal Fatigue Assessment Report to the Regulatory Agencies for approval. The Report shall include, among other things, an explanation of the recordkeeping procedures for corrosion and metal fatigue.

5.3 Scoping Meeting

Within ninety (90) days from the approval of the Corrosion and Metal Fatigue Assessment Report, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the Destructive Testing Scope of Work.

5.4 Destructive Testing

The purpose of these deliverables is to verify the results of nondestructive corrosion testing for the USTs at the Facility.

5.4.1. Destructive Testing Scope of Work

Within ninety (90) days from the Scoping Meeting, the Navy and DLA shall submit a Destructive Testing Scope of Work to the Regulatory Agencies for approval. The Scope of Work shall detail proposed destructive testing to be conducted on at least one (1) UST at the Facility to the Regulatory Agencies.

5.4.2. Destructive Testing Results Report

Within twenty-four (24) months from the approval of the Destructive Testing Scope of Work, the Navy and DLA shall submit the Destructive Testing Results Report to the Regulatory Agencies for approval

6. Investigation and Remediation of Releases

The purpose of these deliverables is to determine the feasibility of alternatives for investigating and remediating releases from the Facility. The deliverables shall include:

- The response to the January 2014 release from Tank # 5
- A discussion of potential remediation methods for the January 2014 release [and past releases].

6.1 Initial Scoping Meeting for Investigation and Remediation of Releases

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the Scoping Meeting will be to detail the contents of the Investigation and Remediation Releases Scope of Work.

6.2 Investigation and Remediation of Releases Scope of Work

Within sixty (60) days of the final Scoping Meeting, the Navy and DLA shall submit the Investigation and Remediation of Releases Scope of Work to the Regulatory Agencies for approval.

6.3 Investigation and Remediation of Releases Report

Within twenty-four (24) months from the approval of the the Investigation and Remediation of Releases Scope of Work, the Navy and DLA shall submit the Investigation and Remediation Releases Report to the Regulatory Agencies for approval.

6.4 Investigation and Remediation of Releases Decision Meeting

Within sixty (60) days from the Regulatory Agencies' approval of the Investigation and Remediation of Releases Report, the Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to determine the feasibility to investigate and remediate potential releases from the Facility to the maximum extent practicable.

6.5 Investigation and Remediation of Releases Decision Document/Implementation Plan

Within sixty (60) days from the Decision Meeting, the Navy and DLA shall submit a implementation plan and schedule to the Regulatory Agencies.

7. Groundwater Protection and Evaluation

The purpose of these deliverables is to monitor and characterize the flow of groundwater around the Facility. The Navy and DLA shall update the Groundwater Protection Plan to include response procedures and trigger points in the event that contamination from the Facility shows movement toward any drinking water well. This task may include the installation of additional monitoring wells as needed.

7.1 Groundwater Flow Model Report

The purpose of this deliverable is to refine the existing groundwater flow model and improve the understanding of the direction and rate of groundwater flow within the aquifers around the Red Hill Facility.

7.1.1 Initial Scoping Meeting for Groundwater Flow Modeling Report

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the draft Scope of Work for the Groundwater Flow Model Report.

7.1.2. Groundwater Flow Modeling Report Scope of Work

Within ninety (90) days from the Final Scoping Meeting, the Navy and DLA shall submit the Groundwater Flow Model Scope of Work to the Regulatory Agencies for approval. The Groundwater Flow Model Scope of Work shall consider interim deliverables to refine the groundwater flow modeling and related data requirements prior to completion of the Groundwater Flow Modeling Report. At a minimum, progress reports shall be provided to the Regulatory Agencies every four (4) months after approval of the Groundwater Flow Modeling Report.

7.1.3. Groundwater Flow Monitoring Report

Within twenty-four (24) months from the approval of the Groundwater Flow Model Report Scope of Work, the Navy and DLA shall submit a Groundwater Flow Model Report to the Regulatory Agencies for approval.

7.2 Contaminant Fate and Transport Model Report

The purpose of the Contaminant Fate and Transport Report is to refine the existing groundwater model and improve the understanding of the potential fate and transport, degradation, and transformation of contaminants that have been and could be released from the Facility.

7.2.1 Initial Scoping Meeting for Contaminant Fate and Transport Model Report

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the draft Scope of Work for the Contaminant Fate and Transport Model.

7.2.2. Contaminant Fate and Transport Model Report Scope of Work

Within ninety (90) days from the Final Scoping Meeting, the Navy and DLA shall submit the Contaminant Fate and Transport Model Scope of Work to the Regulatory Agencies for approval.

7.2.3. Contaminant Fate and Transport Model Draft Final Report

Within one-hundred and eighty (180) days from the Groundwater Flow Model Report Approval, the Navy and DLA shall submit a Contaminant Fate and Transport Model Report to the Regulatory Agencies for approval.

7.3 Groundwater Monitoring Well Network

The primary purpose of the deliverable is to evaluate the number and placement of groundwater monitoring wells required to adequately identify possible contaminant migration. The secondary purpose of this deliverable is to obtain additional data for the Groundwater Flow Model and Contaminant Fate and Transport Model Report.

7.3.1 Initial Scoping Meeting for Groundwater Monitoring Well Network

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the draft Scope of Work for the Groundwater Monitoring Well Network.

7.3.2 Sentinel Wells Network Scope of Work

Within ninety (90) days from the Final Scoping Meeting, the Navy and DLA shall submit the Groundwater Monitoring Well Network Scope of Work to the Regulatory Agencies for approval. The Groundwater Monitoring Well Network Scope of work shall consider interim deliverables for developing a groundwater monitoring well network based activities to develop the groundwater flow modeling and related data requirements.

7.3.3 Groundwater Monitoring Well Network Draft Final Report

Within twelve (12) months from approval of the Groundwater Flow Model Report, the Navy and DLA shall submit a Groundwater Monitoring Well Network Report. This 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.

7.3.4 Groundwater Monitoring Well Network Decision Meeting

Within sixty (60) days from approval of the Groundwater Monitoring Well Network Final Report, the Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to determine subsequent actions for implementing the new Groundwater Monitoring Well Network.

7.3.5 Groundwater Monitoring Well Network Decision Document/Implementation Plan

Within sixty (60) days from the Decision Meeting, the Navy and DLA shall submit a Decision Document including an implementation schedule to the Regulatory Agencies for approval.

8. Risk/Vulnerability Assessment

The purpose of this deliverable is to assess the level of risk the Facility poses to the groundwater and drinking water aquifers.

The Risk/Vulnerability Assessment Report may include:

- A risk matrix;
- Probability of the catastrophic events (seismic events, leaks);
- Hydrology studies, as completed;
- Probability of mechanical and human errors; and
- Effectiveness of risk mitigation measures.

8.1 Initial Scoping Meeting for Risk/Vulnerability Assessment

Within thirty (30) days from the Effective Date of the AOC, the Navy and DLA shall schedule and hold a Scoping Meeting to be attended by the Parties. The purpose of the scoping meeting will be to detail the contents of the draft Scope of Work for Risk/Vulnerability Assessment.

8.2 Risk/Vulnerability Assessment Scope of Work

Within ninety (90) days from the Final Scoping Meeting, the Navy and DLA shall submit the Risk/Vulnerability Assessment Scope of Work to the Regulatory Agencies for approval.

8.3 Initial Risk/Vulnerability Assessment Report

Within eighteen (18) months from the Scope of Work is approved, the Navy and DLA shall submit an Initial Risk/Vulnerability Assessment Report to the Regulatory Agencies for approval.

DELIVERABLES TABLE

Subject	Deliverables	Dates
Section 2		
Tank Inspection and Repair Procedures	2.1 - Scoping Meeting	Within 30 days from AOC
	2.2 - Tank Inspection and Repair Procedures Report	Within 120 days from Scoping Meeting
	2.3 - Decsion Meeting	Within 60 days from Report Approval
	2.4 - Decsion Document/Implementation Plan	Within 60 days from Decision Meeting
Section 3		
Tank Maintenance, Repair, Upgrades,	3.1 - Scoping Meeting	Within 30 days from AOC
and Secondary Containment -	3.2 - Scope of Work Submittal	Within 90 days from final Scoping Meeting
Maintenance, repair, and upgrade all	3.3 - Tank Upgrade Alternatives Report	Within 12 months from SOW Approval
in-service tanks within 22 years.	3.4 - Decision Meeting	Within 60 days from Report Approval
	3.5 - Decision Document/Implementation Plan	Within 60 days from Decision Meeting
	3.6 - Tank Upgrade Alternatives Re-evaluation	At least once every 5 years from Decision Document Approval
Section 4		
Leak Detection and Tank Tightness	4.1 - Initial Annual Tank Tightness Testing	Upon Effective Date of AOC
	4.2 - Outline of Current Fuel Release Monitoring Systems Report	Within 30 days from AOC
	4.3 - Current Fuel Release Monitoring Systems Report	Within 60 days from Approval of Outline
	4.4 - Scoping Meeting for New Technology	Within 60 days from Report Approval
	4.5 - Scope of Work Submittal for New Technology	Within 90 days from final Scoping Meeting
	4.6 - Final Report of New Technology	Within 12 months from Scope Approval
	4.7 - Decision Meeting	Within 60 days from Report Approval
	4.8 - Decision Document/Implementation Plan	Within 60 days from Decision Meeting
Section 5		
Corrosion and Metal Fatigue	5.1 - Outline of Corrosion and Metal Fatigue Report	Within 30 days from AOC
	5.2 - Corrosion and Metal Fatigue Assessment Report	Within 60 days from Outline Approval
	5.3 - Scoping Meeting for Destructive Testing	Within 90 days from Report Approval
	5.4.1 - Scope of Work Submittal for Destructive Testing	Within 90 days from Scoping Meeting
	5.4.2 - Destructive Testing Results Report	Within 24 months from Scope Approval
Section 6		
Investigation and Remediation of Releases	6.1 - Scoping Meeting	Within 30 days from AOC
	6.2 - Scope of Work Submittal	Within 60 days from final Scoping Meeting
	6.3 - Investigation and Remediation of Releases Report	Within 24 months from Scope Approval
	6.4 - Decision Meeting	Within 60 days from Report Approval
	6.5 - Decsion Document/Implementation Plan	Within 60 days from Decision Meeting
Section 7		
Groundwater Protection and Evaluation	7.1.1 - Scoping Meeting	Within 30 days from AOC
Section 7.1	7.1.2 - Scope of Work Submittal	Within 90 days from final Scoping Meeting
Groundwater Flow Model Report	7.1.3 - Groundwater Flow Modeling Report	Within 24 months from Scope Approval
Section 7.2	7.2.1 - Scoping Meeting	Within 30 days from AOC
Contaminant Fate and Transport Model	7.2.2 - Scope of Work Submittal	Within 90 days from Scoping Meeting
	7.2.3 - Contaminant Fate and Transport Model Report	Within 180 days from GW Flow Model Report Approval
Section 7.3	7.3.1 - Initial Scoping Meeting	Within 30 days from AOC
Groundwater Monitoring Well Network	7.3.2 - Scope of Work Submittal	Within 90 days from Scoping Meeting
	7.3.3 - Final Groundwater Monitoring Well Report	Within 12 months from GW Flow Report Approval
	7.3.4 - Decision Meeting	Within 60 days from GW Monitoring Well Report
	7.3.5 - Implementation Plan/Decision Document	Within 60 days from Decsion Meeting
Section 8		
Risk/Vunerability Assessment	8.1 - Scoping Meeting	Within 30 days from AOC
	8.2 - Scope of Work Submittal	Within 90 days from final Scoping Meeting
	8.3 - InitialRisk/Vulnerability Assessment Report	Within 18 months of Scope Approval