Administrative Order on Consent
In the Matter of Red Hill Bulk Fuel Storage Facility
EPA Docket No: RCRA 7003-R9-2015-01
DOH Docket No: 15-UST-EA-01

Attachment A
Statement of Work

Contents

Introduction 1
Overall Project Management 2
1.1 Subject Matter Experts Involvement 2
1.2 Community Involvement 2
1.3 Meetings 2
1.4 Regulatory Agencies Written Responses 3
1.5 Communications Between Parties 3
1.6 Quality Assurance 3
1.7 Definitions 3
1.8 Compliance with Underground Storage Tank Regulations 3
2. Tank Inspection, Repair, and Maintenance 3
2.1 Scoping Meeting(s) for TIRM Procedures Report 4
2.2 TIRM Procedures Report 4
2.3 TIRM Procedures Decision Meeting 4
2.4 TIRM Procedures Decision Document and Implementation 4
3. Tank Upgrade Alternatives 5
3.1 Scoping Meeting(s) for TUA Report 5
3.2 TUA Scope of Work 5
3.3 TUA Report 5
3.4 TUA Decision Meeting 6
3.5 TUA Decision Document and Implementation 6
3.6 Pilot Programs 7
3.7 TUA Re-evaluation 7
4. Release Detection / Tank Tightness Testing 9
4.1 Tank Tightness Testing Frequency 9
4.2 Outline of Current Fuel Release Monitoring Systems Report 9
4.3 Current Fuel Release Monitoring Systems Report 9
4.4 Scoping Meeting(s) for New Release Detection Alternatives 9
4.5 New Release Detection Alternatives Scope of Work 10
4.6 New Release Detection Alternatives Report 10
4.7 New Release Detection Alternatives Decision Meeting 10

ED_000878_00000211-00002

4.8 New Release Detection Alternatives Decision Document and Implementation 10
5. Corrosion and Metal Fatigue Practices 10
5.1 Outline of Corrosion and Metal Fatigue Practices Report 11
5.2 Corrosion and Metal Fatigue Practices Report 11
5.3 Destructive Testing 11
5.3.1 Scoping Meeting(s) for Destructive Testing 11
5.3.2 Destructive Testing Scope of Work 11
5.3.3 Destructive Testing Results Report 11
5.4 Decision on Need for and Scope of Modified Corrosion and Metal Fatigue Practices 12
6. Investigation and Remediation of Releases 12
6.1 Scoping Meeting(s) for Investigation and Remediation of Releases 12
6.2 Investigation and Remediation of Releases Scope of Work 12
6.3 Investigation and Remediation of Releases Report 12
6.4 Investigation and Remediation of Releases Decision Meeting 13
6.5 Investigation and Remediation of Releases Decision Document and Implementation 13
7. Groundwater Protection and Evaluation 13
7.1 Groundwater Flow Model Report 13
7.1.1 Scoping Meeting(s) for Groundwater Flow Model Report 13
7.1.2 Groundwater Flow Model Report Scope of Work 13
7.1.3 Groundwater Flow Model Report 14
7.2 Contaminant Fate and Transport Model Report 14
7.2.1 Scoping Meeting(s) for Contaminant Fate and Transport Model Report 14
7.2.2 Contaminant Fate and Transport Model Report Scope of Work 14
7.2.3 Contaminant Fate and Transport Model Report 14
7.3 Groundwater Monitoring Well Network 14
7.3.1 Scoping Meeting for Groundwater Monitoring Well Network 14
7.3.2 Groundwater Monitoring Well Network Scope of Work 15
7.3.3 Groundwater Monitoring Well Network Report 15
7.3.4 Groundwater Monitoring Well Network Decision Meeting 15
7.3.5 Groundwater Monitoring Well Network Decision Document and Implementation 15
8. Risk/Vulnerability Assessment 15
8.1 Scoping Meeting(s) for Risk/Vulnerability Assessment 16

ED_000878_00000211-00003

8.2 Risk/Vulnerability Assessment Scope of Work 16
8.3 Risk/Vulnerability Assessment Report 16
9. Work Table 17
10. Acronyms and Abbreviations 19

ED_000878_00000211-00004

Introduction

This Statement of Work ("SOW") sets forth the tasks and requirements to be undertaken by the United States Department of Navy ("Navy") and the Defense Logistics Agency ("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. Unless otherwise specified, the underground storage tanks ("USTs") covered by the AOC and this SOW are the twenty (20) field-constructed steel underground bulk fuel storage tanks ("Tanks") at the Facility. The Tanks are constructed of steel, encased by an estimated minimum of 2.5 to 4 feet of concrete surrounded and supported by basalt bedrock. The primary objectives of the AOC and this SOW are to take steps to ensure that the groundwater resource in the vicinity of the Facility is protected and to ensure that the Facility is operated and maintained in an environmentally protective manner. Navy, DLA, the Hawaii Department of Health ("DOH") and the United States Environmental Protection Agency ("EPA"), collectively referred to as "the Parties" in the AOC and this SOW, agree that these objectives can best be accomplished by ensuring that the Tanks and other infrastructure at the Facility deploy the best available practicable technology ("BAPT") (as defined in Section 3) to prevent fuel releases, developing a better understanding of the hydrogeology of the area surrounding the Facility, and conducting an assessment of the risk to the groundwater resources that may be posed by the Facility.

The major components of the Work under this SOW are summarized below.

(1) Navy and DLA will improve upon their existing tank inspection and repair process to ensure that the tank infrastructure prevents releases of fuel to the maximum extent practicable.

(2) Navy and DLA will undertake a comprehensive study to investigate the feasibility of upgrading the tank structures including, but not limited to, installing secondary containment. This study will evaluate several technologies, building on similar efforts conducted by Navy in 1998 and 2008. After completing the study, a technology or technologies will be approved by DOH and EPA ("the Regulatory Agencies") and implemented by Navy and DLA. Implementation will occur in phases so that all Tanks in operation will deploy BAPT, as approved by the Regulatory Agencies, within twenty-two (22) years of the effective date of the AOC or as otherwise provided for in the AOC or this SOW.

(3) Navy and DLA will, as an interim measure, double the frequency of their tank tightness testing from biennial to annual and continue to continuously monitor the inventory of fuel in the Tanks. Navy and DLA shall conduct the next round of tank tightness testing no later than one year from the effective date of the AOC. As set forth below, Navy and DLA will also conduct a study to evaluate improvements to the tank tightness and release detection

ED_000878_00000211-00005

technologies deployed at the Facility and, pending the outcome of the study and approval by the Regulatory Agencies, implement improvements.

(4) Navy and DLA will further develop models to better understand groundwater flow in the areas around the Facility and evaluate the fate and transport of contaminants in the subsurface around the Facility. As set forth below, based on the modeling effort, as approved by the Regulatory Agencies, Navy and DLA will develop and improve the existing groundwater monitoring network to the extent determined necessary.

(5) Navy and DLA will develop a risk/vulnerability assessment, subject to approval by the Regulatory Agencies, in an effort to further understand the potential for and potential impacts of fuel releases from the Facility on the island's drinking and groundwater supplies and to inform the Parties in development of subsequent BAPT decisions.

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 Honolulu Board of Water Supply and the Hawaii Department of Land and Natural Resources, as needed, for scoping and review of key deliverables. The Parties shall take actions that facilitate sharing of information with subject matter experts such as establishing confidentiality agreements and/or providing redacted versions of documents as necessary to address procurement integrity and security concerns.

1.2 Community Involvement

The Parties shall update the public jointly based on public interest and at the request of one of the Parties. Navy and DLA shall submit a synopsis of each final report developed under the AOC, and this SOW, to the Regulatory Agencies who may make that synopsis available to the public. The Regulatory Agencies will make the final deliverables available to the public to the extent such documents are not protected from public disclosure. The Parties shall also host public meetings at least annually to allow for the public to be provided progress updates by the Navy, DLA, and the Regulatory Agencies, and to ask questions about the Red Hill facility.

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, Navy and DLA shall circulate a summary of the meeting to the Regulatory Agencies for concurrence. The Parties may request additional meetings beyond the meetings outlined in this SOW, as needed. During each meeting, the Parties will identify applicable guidance, policies and procedures for the future Work to be performed that follows from such meeting.

ED_000878_00000211-00006

1.4 Regulatory Agencies Written Responses

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

1.5 Communications Between Parties

All Parties shall make best efforts to maintain effective and timely communications with the other Parties to facilitate implementation of the AOC and this SOW.

1.6 Quality Assurance

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. The QA/QC procedures shall be used to ensure that environmental or other data generated meets standards established by the Parties.

Navy and DLA shall use laboratories that have a documented quality system that complies with the "Uniform Federal Policy for Quality Assurance Project Plans" (Intergovernmental Data Quality Task Force, March 2005), and the "EPA Requirements for Quality Management Plans for Environmental Data Operations (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA.

1.7 Definitions

Unless otherwise specified, the terms used in this document shall have the meaning defined in the Resource Conservation and Recovery Act (42 U.S.C. §6901 *et seq.*) and 40 Code of Federal Regulations Part 280 - *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks*.

1.8 Compliance with Underground Storage Tank Regulations

On June 22, 2015, EPA promulgated new regulations that apply to field-constructed underground storage tank systems. These new regulations will not become legally enforceable in states with federally-approved programs, such as the State of Hawaii, until the state's rules are updated, and the state successfully receives federal approval of their revised regulations. Notwithstanding this schedule, Navy and DLA shall begin coordinating with the Regulatory Agencies in order to comply with the new federal UST regulations (see 80 Fed. Reg. 41623-41683) applicable to the Facility as soon as possible.

2. Tank Inspection, Repair, and Maintenance

The purpose of the deliverables to be developed and the work to be performed under this Section is to identify and evaluate tank inspection, repair, and maintenance ("TIRM") procedures to ensure the continued integrity of the Tanks at the Facility and to develop and implement improvements to these procedures to prevent releases to the environment.

ED_000878_00000211-00007

2.1 Scoping Meeting(s) for TIRM Procedures Report

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 TIRM Procedures Report. During the meeting, criteria for decision making will be discussed, and a decision will be made as to whether additional Scoping Meetings are needed.

2.2 TIRM Procedures Report

Within 120 days from the final Scoping Meeting, Navy and DLA shall submit a TIRM Procedures Report to the Regulatory Agencies. The TIRM Procedures Report shall describe the current procedures and evaluate options for improvements to the procedures.

At a minimum, the TIRM Procedures Report will identify and evaluate the following:

a. Current TIRM procedures, including
    1. Non-destructive testing
    2. Destructive testing
    3. Quality control
    4. Welding inspections
    5. Tank inspections
    6. Pipeline inspections
    7. Alarm operation and testing
    8. Recommissioning (after maintenance or repair of tanks taken temporarily out of service);
b. Lessons learned from Tank 5 and related modifications to current procedures;
c. Quality Control and Assurance of TIRM;
d. Options for improving the TIRM procedures,
e. Schedule/frequency of modified American Petroleum Institute ("API") 653 tank inspections, repairs, and maintenance; and
f. Actions that can be taken throughout the facility, as soon as practicable, to reduce risk of release that can be implemented independent of tank upgrades.

2.3 TIRM Procedures Decision Meeting

Within sixty (60) days from the receipt by the Regulatory Agencies of the TIRM Procedures Report, 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 a plan for implementing improved TIRM procedures and propose a schedule for TIRM at the Facility. The Regulatory Agencies will not make final decisions on the TIRM procedures until the TIRM Procedures Decision Document is submitted under Section 2.4.

2.4 TIRM Procedures Decision Document and Implementation

Within sixty (60) days from the Decision Meeting, Navy and DLA shall submit a TIRM Procedures Decision Document to the Regulatory Agencies for approval. The TIRM Procedures Decision Document shall explain the procedures to be used, and set forth a schedule of

implementation for TIRM procedures. Once approved by the Regulatory Agencies, Navy and DLA shall implement the TIRM Procedures Decision Document in accordance with the schedule and shall adhere to it unless modified under Sections 3.5 and 3.7.

3. Tank Upgrade Alternatives

The purpose of the deliverables to be developed and work to be performed under this Section is to identify and evaluate the various tank upgrade alternatives ("TUA") and then select and implement the BAPT and TIRM procedures that can be applied to the in-service Tanks at the Facility to prevent releases into the environment.

As used in this SOW, BAPT shall mean the release prevention methods, equipment, repair, maintenance, new construction, and procedures, or any combination thereof, that offers the best available protection to the environment and that is feasible and cost-effective for the Tanks at the Facility. The selection and approval of BAPT shall be based on, but not be limited to, consideration of the following factors: (1) the risks and benefits of the particular technology; (2) the capabilities, feasibility, and requirements of the technology and facilities involved; (3) the anticipated operational life of the technology; and (4) the cost of implementing and maintaining the technology. Reliance on any one of these factors to the exclusion of other factors is inappropriate.

3.1 Scoping Meeting(s) for TUA Report

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 will be to detail the contents of the Scope of Work for the TUA Report. During the meeting, criteria for decision making will be discussed, and a decision will be made as to whether additional Scoping Meetings are needed.

3.2 TUA Scope of Work

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

3.3 TUA Report

Within twelve (12) months from the Regulatory Agencies' approval of the Scope of Work, Navy and DLA shall submit a TUA Report to the Regulatory Agencies for approval. The purpose of the TUA Report is to identify and evaluate the various tank upgrade alternatives that can be applied to the Tanks at the Facility.

The TUA Report shall evaluate the following:

a. Current tank upgrade procedures;
b. Secondary containment alternatives;
c. Coatings;
d. Liners/Bladders;

e. Associated release detection systems; and
f. Any other alternatives deemed promising.

3.4 TUA Decision Meeting

Within sixty (60) days from the Regulatory Agencies' approval of the TUA Report, Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to discuss BAPT, the TIRM procedures, and subsequent actions for maintaining, repairing, and upgrading the Tanks at the Facility. Any proposed pilot program may also be discussed. The Regulatory Agencies will not make final decisions on the TUA until the TUA Decision Document is submitted under Section 3.5.

3.5 TUA Decision Document and Implementation

Within sixty (60) days from the Decision Meeting, Navy and DLA shall submit a TUA Decision Document to the Regulatory Agencies for approval that identifies the BAPT and the manner in which BAPT will be implemented in all in-service Tanks used to store fuel at the Facility. The TUA Decision Document shall define and specify the: (1) overall operational design of BAPT; (2) technology to be applied; (3) procedural aspects to be implemented; (4) plan and schedule for implementation of BAPT setting forth the order and schedule that Tanks shall receive BAPT, including a schedule for the start of each tank's budget planning cycle; and (5) performance criteria for successful application of BAPT. The TUA Decision Document shall either incorporate the TIRM Procedures Decision Document approved by the Regulatory Agencies in Section 2 above, or, consistent with the BAPT identified, incorporate a modified TIRM Procedures Decision Document.

Once approved by the Regulatory Agencies, Navy and DLA shall implement the TUA Decision Document for all in-service Tanks in accordance with the approved schedule. The TUA Decision Document shall be revised as necessary to incorporate changes to BAPT and its plan and schedule for implementation, as well as any modifications to the TIRM Procedures Decision Document that may occur under Section 3.7. Tanks that have already begun their budget planning cycle for a previously approved BAPT, but have not completed installation of that BAPT, shall continue with installation of the previously approved BAPT unless all parties agree to a revised schedule for installing the new BAPT on those Tanks.

Tanks to which BAPT has not been successfully applied in accordance with a TUA Decision Document shall be taken out of use, temporarily closed, and emptied of all regulated substances no later than twenty-two (22) years from the Effective Date of this AOC unless an extension of time to implement BAPT has been granted pursuant to this Section. Navy and DLA shall use their best efforts to install BAPT as soon as reasonably practicable while maintaining quality and performance requirements. 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. Upon the expiration of

ED_000878_00000211-00010

the twenty-two (22) year deadline and any extension(s) granted pursuant to this section, all Tanks to which BAPT has not been successfully applied shall be taken out of use, temporarily closed, and emptied of all regulated substances or permanently closed pursuant to applicable regulations or as approved by the Regulatory Agencies. The provisions of the AOC shall not be deemed by the Regulatory Agencies to have been fully satisfied until Navy and DLA have successfully applied BAPT to all Tanks which have not been permanently closed pursuant to applicable regulation or as approved by the Regulatory Agencies.

3.6 Pilot Programs

At any time, Navy and DLA may propose pilot programs to evaluate technologies and use data and conclusions drawn from such pilot programs in the development and evaluation of TUA. A pilot program may only be deployed in a Tank with approval from the Regulatory Agencies.

Prior to the installation of a proposed pilot program, Navy and DLA shall submit a Pilot Program Decision Document to the Regulatory Agencies for approval. The Pilot Program Decision Document can be combined as part of the TUA Decision Document in Section 3.5, if appropriate. The Pilot Program Decision Document shall define and specify: (1) the overall operational design of the pilot program; (2) the technology to be applied; (3) the procedural aspects to be implemented; (4) the Tank(s) to which the pilot program will be introduced; (5) the performance criteria and method of evaluating the success of the pilot program; and (6) a plan for terminating the pilot program. Any proposed pilot program shall at least be designed to provide environmental protection substantially equivalent to that of the currently approved BAPT at the time of the pilot program approval.

A pilot program, once approved by the Regulatory Agencies, if successfully installed and performing as expected, may continue to be used in a tank in accordance with the Pilot Program Decision Document. At the conclusion of the pilot program, or sooner if the operational performance measures suggest that the pilot program is at least providing environmental protection substantially equivalent to the BAPT that was current at the time of the pilot program approval, Navy and DLA shall submit a TUA Re-Evaluation Report in accordance with Section 3.7 proposing either that the pilot program be approved by the Regulatory Agencies as BAPT for the piloted tank(s) only, or as BAPT for all in-service Tanks that have not received BAPT. If the Regulatory Agencies determine that the pilot program has met its performance measures as defined in the Pilot Program Decision Document, the Regulatory Agencies will approve the piloted tank(s) as having received BAPT.

3.7 TUA Re-evaluation

At least once every five (5) years from the approval of the initial TUA Decision Document, Navy and DLA shall complete a re-evaluation of new technologies to determine if either BAPT or the TIRM procedures, or both, should be modified. Navy and DLA shall propose a scope and process (i.e., TUA Re-evaluation Scope of Work) to the Regulatory Agencies for

ED_000878_00000211-00011

approval for each re-evaluation period no later than one (1) year prior to the expiration of that five (5) year interval between re-evaluation periods.

Navy and DLA shall submit to the Regulatory Agencies a TUA Re-evaluation Report for approval prior to the expiration of that five (5) year interval between re-evaluation periods. The TUA Re-evaluation Report shall identify appropriate tank upgrade alternatives and recommendations, including modifications, if any, to BAPT or the TIRM procedures, or both. Within sixty (60) days of the approval of any TUA Re-evaluation Report by the Regulatory Agencies, Navy and DLA shall hold a TUA Re-evaluation Decision Meeting to be attended by the Parties to discuss the alternatives and recommendations contained in the TUA Re-evaluation Report. Within sixty (60) days of the TUA Re-evaluation Report Decision Meeting, the Navy and DLA shall submit to the Regulatory Agencies for approval, any modified TUA Decision Document or modified TIRM Procedures Decision Document, or both. After approval by the Regulatory Agencies, Navy and DLA shall implement the modified TUA Decision Document, or the modified TIRM Procedures Decision Document, or both, in accordance with the approved schedule.

Navy and DLA may determine that military construction ("MILCON") funding is required in order to implement the new BAPT identified in a modified TUA Decision Document. Such a determination shall be made consistent with federal law, policy, and regulation (see, e.g., 10 U.S.C. §§ 2801 – 2805; OPNAVINST 11010.20H), and if so made, Navy and DLA may upgrade up to four (4) Tanks using the most recent previously-approved BAPT under the following circumstances: (1) Navy and DLA have started the MILCON planning process, and are continuing to use best efforts to obtain funds for the new BAPT, but funds have not yet been authorized and appropriated by Congress; and (2) Navy and DLA have issued a solicitation ("Request for Proposals") for the most recent previously-approved BAPT no later than five (5) years after the approval of the most recent modified TUA Decision Document. Thereafter, if MILCON funding becomes available for the new BAPT prior to award of a contract for implementation of the most recent previously-approved BAPT under this paragraph, Navy and DLA shall, within ninety (90) days after the MILCON appropriation becomes law, submit to the Regulatory Agencies for approval a proposal to either: (1) continue with the implementation of the most recent previously-approved BAPT; or (2) implement the new BAPT, along with a request for an appropriate extension of time as provided in Section 3.5. Navy and DLA's efforts to start the MILCON planning process shall be demonstrated to the Regulatory Agencies by providing a copy of an appropriate two (2)-page draft Military Construction Project Data form ("DD Form 1391") or its equivalent no later than one (1) year after approval by the Regulatory Agencies of the modified TUA Decision Document. Navy and DLA shall use their best efforts to install the new BAPT in any Tanks that have not already received BAPT as soon as reasonably practicable.

4. Release Detection / Tank Tightness Testing

The purpose of the deliverables to be developed and work to be performed under this Section is to document the current release detection system and tank tightness testing procedures used at the Facility, evaluate these procedures, and implement any approved modifications.

4.1 Tank Tightness Testing Frequency

Until the approval of the New Release Detection Alternatives Decision Document as described in Sections 4.6 and 4.8 below, Navy and DLA shall increase their tank tightness testing from a biennial test to an annual test no later than one year from the effective date of the AOC, continue to use an inventory control monitoring system, and conduct vapor monitoring for all in-service Tanks as per the DOH-approved "Red Hill Bulk Fuel Storage Facility, Final Groundwater Protection Plan" (Dec 2009), or DOH-approved successor plan.

4.2 Outline of Current Fuel Release Monitoring Systems Report

Within thirty (30) days from the Effective Date of the AOC, Navy and DLA shall submit a document outlining the contents of the pending Current Fuel Release Monitoring Systems Report ("Outline of 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 the Regulatory Agencies' approval of the Outline of Current Fuel Release Monitoring Systems Report, 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:

a. Recordkeeping procedures;
b. Dynamic re-filling procedures for tank re-commissioning;
c. Dynamic filling procedures for daily operations;
d. Static and dynamic release detection systems;
e. Release detection sensitivity; and
f. The previously completed 2008 Market Survey of Leak Detection Systems for the Red Hill Fuel Storage Facility, Fleet Industrial Center, Pearl Harbor, and the 2014 Addendum I to the 2008 Market Survey.

4.4 Scoping Meeting(s) for New Release Detection Alternatives

Within sixty (60) days from the Regulatory Agencies' approval of the Current Fuel Release Monitoring Systems Report, 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 Scope of Work for the study to evaluate possible new or improved release detection alternatives. During the meeting, criteria for decision making will be discussed, and a decision will be made as to whether additional Scoping Meetings are needed.

ED_000878_00000211-00013

4.5 New Release Detection Alternatives Scope of Work

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

4.6 New Release Detection Alternatives Report

Within twelve (12) months from approval of the New Release Detection Alternatives Scope of Work, Navy and DLA shall submit a New Release Detection Alternatives Report to the Regulatory Agencies for approval.

The New Release Detection Alternatives Report shall include:

a. A description of existing practices;
b. Static and dynamic release detection system alternatives;
c. Tank tightness alternatives;
d. Comparison of the effectiveness of existing and alternative technologies; and
e. A decision matrix.

4.7 New Release Detection Alternatives Decision Meeting

Within sixty (60) days from the Regulatory Agencies' approval of the New Release Detection Alternatives Report, 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 release detection alternatives as appropriate. The Regulatory Agencies will not make final decisions on the New Release Detection Alternatives until the New Release Detection Alternatives Decision Document is submitted under Section 4.8.

4.8 New Release Detection Alternatives Decision Document and Implementation

Within sixty (60) days after the Decision Meeting, Navy and DLA shall submit a Release Detection Alternatives Decision Document, including an implementation plan and schedule, to the Regulatory Agencies for approval. Once approved by the Regulatory Agencies, Navy and DLA shall implement the Release Alternatives Decision Document in accordance with the approved schedule.

5. Corrosion and Metal Fatigue Practices

The purpose of the deliverables to be developed and work to be performed under this Section is to evaluate the possibility and extent of corrosion and metal fatigue as well as practices to control corrosion and metal fatigue at the Facility. Based on this evaluation, procedures under Sections 2 or 3 of this SOW may be modified to improve control of corrosion and metal fatigue.

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.

ED_000878_00000211-00014

5.1 Outline of Corrosion and Metal Fatigue Practices Report

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.

5.2 Corrosion and Metal Fatigue Practices Report

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. The Corrosion and Metal Fatigue Practices Report shall include, among other things, an explanation of the current practices for assessing the condition of the Tanks and associated fuel containment infrastructure, including details on the non-destructive testing procedures. Additionally, the report will describe any recordkeeping relating to corrosion and metal fatigue practices at the Facility.

5.3 Destructive Testing

The purpose of the deliverables to be developed and work to be performed under this Section is to verify the findings of the Corrosion and Metal Fatigue Practices Report through the use of destructive testing on at least one tank at the Facility.

5.3.1 Scoping Meeting(s) for Destructive Testing

Within ninety (90) days from the Regulatory Agencies' approval of the Corrosion and Metal Fatigue Practices Report, 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 Destructive Testing Scope of Work, and a decision will be made as to whether additional Scoping Meetings are needed.

5.3.2 Destructive Testing Scope of Work

Within ninety (90) days from the final Destructive Testing Scoping Meeting, Navy and DLA shall submit a Destructive Testing Scope of Work, including a plan for implementation and a proposed schedule, to the Regulatory Agencies for approval. The Scope of Work shall detail planned destructive testing to be conducted on at least one (1) tank at the Facility. Once approved by the Regulatory Agencies, Navy and DLA shall implement the Scope of Work in accordance with the approved schedule.

5.3.3 Destructive Testing Results Report

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

ED_000878_00000211-00015

5.4 Decision on Need for and Scope of Modified Corrosion and Metal Fatigue Practices

If the Parties determine that the results of the previous deliverables in this Section indicate the need for evaluation and implementation of potential changes in practices to control corrosion or metal fatigue, Navy and DLA shall, within sixty (60) days from the Regulatory Agencies' approval of the Destructive Testing Results Report, schedule and hold a Scoping Meeting to be attended by the Parties for the purpose of developing appropriate modifications to the scopes of work and timelines in Section 2 and/or Section 3. Additional scoping meetings shall be conducted, and deliverables shall be modified or added using appropriate procedures in Section 2 and/or Section 3, as determined necessary by the Parties, to address any needs for further evaluation, development, or implementation of practices to control corrosion or metal fatigue. Once approved by the Regulatory Agencies, Navy and DLA shall implement the approved modifications in accordance with the approved schedule.

6. Investigation and Remediation of Releases

The purpose of the deliverables to be developed and the work to be performed under this Section is to determine the feasibility of alternatives for investigating and remediating releases from the Facility.

The deliverables shall include:

a. The response to the January 2014 release from Tank #5; and
b. An evaluation and discussion of potential remediation methods for the January 2014 Tank #5 release and any future releases

6.1 Scoping Meeting(s) for Investigation and Remediation of Releases

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 Investigation and Remediation Releases Scope of Work. During the meeting, the criteria for decision making will be discussed, and a decision will be made as to whether additional Scoping Meetings are needed.

6.2 Investigation and Remediation of Releases Scope of Work

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

ED_000878_00000211-00016

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, Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to evaluate the feasibility to investigate and remediate potential releases from the Facility to the maximum extent practicable. The Regulatory Agencies will not make final decisions on the Investigation and Remediation of Releases until the Investigation and Remediation Releases Decision Document is submitted under Section 6.5.

6.5 Investigation and Remediation of Releases Decision Document and Implementation

Within sixty (60) days from the Decision Meeting, Navy and DLA shall submit a Decision Document for the Investigation and Remediation of Releases, including a proposed plan and schedule for implementation, to the Regulatory Agencies. Once approved by the Regulatory Agencies, Navy shall implement the Investigation and Remediation of Releases Decision Document in accordance with the approved schedule.

7. Groundwater Protection and Evaluation

The purpose of the deliverables to be developed and work to be performed under this Section is to monitor and characterize the flow of groundwater around the Facility. Navy and DLA shall update the existing 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. The collective work done in this Section shall be used to inform subsequent changes to the Groundwater Protection Plan. The deliverables and work to be performed under this Section 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 Facility.

7.1.1 Scoping Meeting(s) for Groundwater Flow Model Report

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.

7.1.2 Groundwater Flow Model Report Scope of Work

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. The Groundwater Flow Model Scope of Work shall consider interim deliverables to refine the

ED_000878_00000211-00017

groundwater flow modeling and related data requirements prior to completion of the Groundwater Flow Model Report. At a minimum, progress reports shall be provided to the Regulatory Agencies every four (4) months after approval of the Groundwater Flow Model Report Scope of Work.

7.1.3 Groundwater Flow Model Report

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.

7.2 Contaminant Fate and Transport Model Report

The purpose of the Contaminant Fate and Transport Model Report is to utilize the Groundwater Flow Model to 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 Scoping Meeting(s) for Contaminant Fate and Transport Model Report

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 Contaminant Fate and Transport Model, and a decision will be made as to whether additional Scoping Meetings are needed.

7.2.2 Contaminant Fate and Transport Model Report Scope of Work

Within ninety (90) days from the final Scoping Meeting, 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 Report

Within one-hundred and eighty (180) days from the Regulatory Agencies' approval of the Groundwater Flow Model Report, 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 this 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 Scoping Meeting for Groundwater Monitoring Well Network

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 Monitoring Well Network. During the Scoping Meeting, the criteria for decision making will be discussed, and a decision will be made as to whether additional Scoping Meetings are needed.

7.3.2 Groundwater Monitoring Well Network Scope of Work

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. The Groundwater Monitoring Well Network Scope of Work shall consider whether interim deliverables for developing a groundwater monitoring well network are needed for the development of the groundwater flow modeling and related data requirements. 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.

7.3.3 Groundwater Monitoring Well Network Report

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. This report shall 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 the Regulatory Agencies' approval of the Groundwater Monitoring Well Network Report, Navy and DLA shall schedule and hold a Decision Meeting to be attended by the Parties. The purpose of the Decision Meeting is to evaluate subsequent actions for implementing the Groundwater Monitoring Well Network. The Regulatory Agencies will not make final decisions on the Groundwater Monitoring Well Network until the Groundwater Monitoring Well Network Decision Document is submitted under Section 7.3.5.

7.3.5 Groundwater Monitoring Well Network Decision Document and Implementation

Within sixty (60) days from the Decision Meeting, Navy and DLA shall submit a Decision Document for the Groundwater Modeling Well Network, including a proposed implementation plan and schedule, to the Regulatory Agencies for approval. Once approved by the Regulatory Agencies, Navy shall implement the Decision Document for the Groundwater Modeling Well Network in accordance with the approved schedule.

8. Risk/Vulnerability Assessment

The purpose of the deliverables to be developed and work to be performed under this Section is to assess the level of risk the Facility may pose to the groundwater and drinking water aquifers and to inform the Parties in subsequent development of BAPT decisions.

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.

8.1 Scoping Meeting(s) for Risk/Vulnerability Assessment

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 Risk/Vulnerability Assessment, and a decision will be made as to whether additional Scoping Meetings are needed.

8.2 Risk/Vulnerability Assessment Scope of Work

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

8.3 Risk/Vulnerability Assessment Report

Within eighteen (18) months from the Regulatory Agencies' approval of the Risk/Vulnerability Assessment Scope of Work, Navy and DLA shall submit a Risk/Vulnerability Assessment Report to the Regulatory Agencies for approval. The Risk/Vulnerability Assessment Report may be revised as new information becomes available. All revisions to the Risk/Vulnerability Assessment Report shall be submitted to the Regulatory Agencies for approval.

ED_000878_00000211-00020

9. Work Table

Subject	Work	Dates
Section 2 **Tank Inspection, Repair, and Maintenance** ("TIRM")		
	2.1 - Scoping Meeting	Within 30 days from effective date of AOC
	2.2 - TIRM Procedures Report	Within 120 days from final Scoping Meeting
	2.3 - Decision Meeting	Within 60 days from Report Receipt
	2.4 - Decision Document/Implementation	Within 60 days from Decision Meeting
Section 3 **Tank Upgrade Alternatives ("TUA")**		
	3.1 - Scoping Meeting	Within 30 days from effective date of AOC
	3.2 - Scope of Work	Within 90 days from final Scoping Meeting
	3.3 - TUA Report	Within 12 months from Scope of Work Approval
	3.4 - Decision Meeting	Within 60 days from TUA Report Approval
	3.5 - Decision Document/Implementation	Within 60 days from Decision Meeting
	3.7 - TUA Re-evaluation Report Scope of Work	No later than 1 year prior to expiration of 5-year re-evaluation period
	3.7 – TUA Re-evaluation Report	At least once every five (5) years from approval of initial TUA Decision Document
	3.7– TUA Re-evaluation Decision Meeting	Within 60 days from approval of TUA Re-evaluation Report
	3.7 – Modified TUA Decision Document (if required)	Within 60 days from TUA Re-evaluation Decision Meeting
	3.7 – Modified TIRM Decision Document (if required)	Within 60 days from TUA Re-evaluation Decision Meeting
	3.7 – Military Construction Project Date form (DD Form 1391) or equivalent (if required)	Within 1 year from modified TUA Decision Document approval
	3.7 – Proposal to continue with old BAPT or implement new BAPT (if required)	Within 90 days after military construction funds are appropriated
Section 4 **Release Detection / Tank Tightness Testing**		
	4.1 Tank Tightness Testing Frequency	Within 1 year from effective date of AOC
	4.2 - Outline of Current Fuel Release Monitoring Systems Report	Within 30 days from effective date of AOC
	4.3 - Current Fuel Release Monitoring Systems Report	Within 60 days from Outline of Current Fuel Release Monitoring Systems Report Approval
	4.4 - Scoping Meeting	Within 60 days from Current Fuel Release Monitoring Systems Report Approval
	4.5 - Scope of Work	Within 90 days from final Scoping Meeting
	4.6 - New Release Detection Alternatives Report	Within 12 months from Scope of Work Approval
	4.7 - Decision Meeting	Within 60 days from New Release Detection Alternatives Report Approval
	4.8 - Decision Document/Implementation	Within 60 days from Decision Meeting
Section 5 **Corrosion and Metal Fatigue Practices**		
	5.1 - Outline of Corrosion and Metal Fatigue Practices Report	Within 30 days from effective date of AOC
	5.2 - Corrosion and Metal Fatigue Practices Report	Within 60 days from Outline of Corrosion and Metal Fatigue Practices Report Approval
	5.3.1 - Scoping Meeting for Destructive Testing	Within 90 days from Report Approval
	5.3.2 - Scope of Work for Destructive Testing	Within 90 days from final Scoping Meeting
	5.3.3 - Destructive Testing Results Report	Within 24 months from Scope of Work Approval
	5.4 - Scoping Meeting for Modified Corrosion and Metal Fatigue Practices (if required)	Within 60 days from Destructive Testing Results Report Approval
Section 6 **Investigation and Remediation of Releases**		
	6.1 - Scoping Meeting	Within 30 days from effective date of AOC
	6.2 - Scope of Work	Within 60 days from final Scoping Meeting
	6.3 - Investigation and Remediation of Releases Report	Within 24 months from Scope of Work Approval
	6.4 - Decision Meeting	Within 60 days from - Investigation and Remediation of Releases Report Approval

ED_000878_00000211-00021

	6.5 - Decision Document/Implementation	Within 60 days from Decision Meeting
Section 7 **Groundwater Protection and Evaluation**		
Section 7.1 *Groundwater Flow Model Report*	7.1.1 - Scoping Meeting	Within 30 days from effective date of AOC
	7.1.2 - Scope of Work	Within 90 days from final Scoping Meeting
	7.1.3 - Groundwater Flow Model Report	Within 24 months from Scope of Work Approval
Section 7.2 *Contaminant Fate and Transport Model Report*	7.2.1 - Scoping Meeting	Within 30 days from effective date of AOC
	7.2.2 - Scope of Work	Within 90 days from final Scoping Meeting
	7.2.3 - Contaminant Fate and Transport Model Report	Within 180 days from Groundwater Flow Model Report Approval
Section 7.3 *Groundwater Monitoring Well Network*	7.3.1 - Scoping Meeting	Within 30 days from effective date of AOC
	7.3.2 - Scope of Work	Within 90 days from final Scoping Meeting
	7.3.3 - Groundwater Monitoring Well Network Report	Within 12 months from Groundwater Flow Model Report Approval
	7.3.4 - Decision Meeting	Within 60 days from Groundwater Monitoring Well Network Report Approval
	7.3.5 - Decision Document/Implementation	Within 60 days from Decision Meeting
Section 8 **Risk/Vulnerability Assessment**		
	8.1 - Scoping Meeting	Within 30 days from effective date of AOC
	8.2 - Scope of Work	Within 90 days from final Scoping Meeting
	8.3 - Risk/Vulnerability Assessment Report	Within 18 months from Scope of Work Approval

10. Acronyms and Abbreviations

AOC	Administrative Order on Consent
API	American Petroleum Institute
BAPT	Best Available Practicable Technology
DLA	Defense Logistics Agency
DOH	Hawaii Department of Health
EPA	United States Environmental Protection Agency
Navy	United States Department of Navy
QA/QC	Quality Assurance and Quality Control
SOW	Statement of Work
TIRM	Tank Inspection, Repair, and Maintenance
TUA	Tank Upgrade Alternatives
USTs	Underground Storage Tanks

ED_000878_00000211-00023