Enclosure 3

STATEMENT OF WORK
RED HILL BULK FUEL STORAGE FACILITY PIPELINE CLEANING
JOINT BASE PEARL HARBOR HICKAM, PEARL HARBOR, HAWAII

1 OBJECTIVE

The objective of this project is to clean the pipelines associated with closure of the underground storage tanks at the Red Hill Bulk Fuel Storage Facility (RHBFSF), Joint Base Pearl Harbor-Hickam (JBPHH), Hawaii and verify pipelines are clean.

Additional objectives of the project are:

A. Non-piggable sections of pipeline shall also be cleaned.
B. Minimize risk of failed pig run or damaged pig.
C. Pigging shall be completed to the maximum extent practicable using a propellant (such as nitrogen) that minimizes the generation of waste.

2 LOCATION

FLC Pearl Harbor receives, stores, and issues capitalized JP-5, F-24, and F-76. Primary bulk storage is at the Red Hill tanks. Three main transfer pipelines carry fuel from bulk storage to the Underground Pumphouse (UGPH) inside the RHBFSF. This project will clean and decommission in place the 16-inch F-24, 18-inch JP-5 and 32-inch F-76 pipelines.

3 BACKGROUND

A. The 16-inch and 18-inch pipelines were placed into service in approximately 1946. Both pipelines were inspected in 2015. Repairs have been made in several locations over the years.
B. The 32-inch pipeline was placed into service in approximately 1946. This pipeline was last pigged and inspected in 2005.
C. For engineering purposes, assume the following:
    1. The pipeline will no longer be used for transporting fuel between the RHBFSF and JBPHH.
    2. The maximum operating pressure (MOP) of the pipelines is 275 psig.

3.1 Existing Pipelines and System Configuration

A. The 16-inch F-24, 18-inch JP-5, 32-inch F-76 pipelines are approximately three miles in length from UGPH to the Adit 3 wye.
B. Pipeline material is believed to be equivalent to ANSI Class 300, carbon steel.
C. There are several isolation valves, reduced bore sections, and miters along the pipelines.
D. The pipelines are not equipped to launch and receive inline inspection tools.
E. Portions of the pipeline exterior surfaces have been coated with a bituminous material and wrap on top of the original coating. The original coating is known to contain lead. The bituminous and/or wrap are known to be asbestos-containing material. Sections of the wrap material have deteriorated and disbanded from the pipeline surface. Sections of pipeline coating have deteriorated and corrosion is evident.
F. The State of Hawaii has been delegated enforcement responsibility for the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation under 40 CFR Part 61. Pursuant to this delegation, Title 11 Hawaii Administrative Rules regulates asbestos removal activities at JBPHH.

G. The pipelines are aligned inside and fastened to racks attached the wall of the Tunnel. The pipelines pass through concrete bulkheads but are visible for the majority of the alignment.
H. Groundwater intrudes into the tunnel at some locations and saturates pipeline surfaces. Metal shields have been installed at locations to prevent groundwater from dripping on the pipelines. The RHBFSF does not have fuel filtration capability.

3.2 Operations

A. The RHBFSF pipelines have the capability to transfer fuel between the RHBFSF and the underground pump house (UGPH) at JBPHH. The pipeline safety relief valve limits pressures to 275 psig.
B. There is a narrow gauge railway inside the tunnel to support maintenance and repairs between Adit 2 and the RHBFSF. An existing freight and personnel elevator are also available to assist the Contractor with ingress and egress at the RHBFSF.
C. Government personnel will perform any pump operations and valve alignment in support of Contractor. At no time shall Contractor operate the pipelines, unless given prior training and approval from the FLC Fuels Director.
D. It is possible Government operational requirements change. Government will notify Contractor as soon as possible should operational requirements change.
E. Schedule resources and material in a manner which minimize impacts to JBPHH and ongoing fueling operations. See SOW Section 5, Specification Sections 01 14 00 Work Restrictions, 01 35 26.05 20 Government Safety Requirements, and 01 32 17.00 20 Network Analysis Schedules for specific requirements.

4 REFERENCES

The work performed shall comply with all federal, state, and local regulations. In addition, codes applicable to, but not limited to, the work shall include the SOW Specifications and the most recent editions of the following standards, codes, and specifications:

4.1 American Petroleum Institute (API)

A. API 570, Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems, Third Edition, Nov 2009
B. API STD 1163, In-line Inspection Systems Qualification Standard, Second Edition, Apr 2013

4.2 American Society of Mechanical Engineers (ASME)

A. ASME B31.3, Process Piping, 2010
B. ASME B31G-2012, Manual for Determining the Remaining Strength of Corroded Pipelines, Oct 2012
C. ASME B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids, 2012

4.3 Pipeline Operators Forum

Specifications and Requirements for Intelligent Pig Inspection of Pipelines, Version 2009 (SRIP)

4.4 Code of Federal Regulations (CFR)

A. 29 CFR 1926.407, Hazardous (Classified) Locations
B. 40 CFR 61, National Emission Standards For Hazardous Air Pollutants
C. 40 CFR 112, Oil Pollution Prevention
D. 46 CFR 176, Inspection and Testing Prior to Hotwork
E. 49 CFR 195, Transportation of Hazardous Liquids by Pipeline

4.5 Safety

A. ANSI Z117.1-2009, Safety Requirements for Confined Spaces
B. EM 385-1-1, U.S. Army Corps of Engineers Safety and Health Requirements Manual (2008, including Errata and Changes 2010-2012)
C. NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work (2014 Edition)
D. NFPA 70 National Electrical Code, (2014)
E. NFPA 70E, Standard for Electrical Safety in the Workplace (2012; Errata 2012)

4.6 Unified Facilities Criteria (UFC)

A. 3-460-01, Design: Petroleum Fuel Facilities, Change 1, 1 Nov 2013
B. 3-460-03, Operations and Maintenance of Petroleum Systems, Jan 2003

4.7 Unified Facilities Guide Specification (UFGS)

A. 01 11 00, Summary of Work
B. 01 14 00, Work Restrictions
C. 01 20 00.00 20, Price and Payment Procedures
D. 01 30 00, Administrative Requirements
E. 01 32 17.00 20, Network Analysis Schedules
F. 01 33 00.05 20, Construction Submittal Procedures
G. 01 35 26.05 20, Government Safety Requirements for Design Build
H. 01 35 29.13, Health, Safety, and Emergency Response Procedures for Contaminated Sites
I. 01 45 00.05 20, Design and Construction Quality Control
J. 01 50 00.05 20, Temporary Facilities and Controls
K. 01 57 19.00 20. Temporary Environmental Controls
L. 02 82 16.00 20, Engineering Control of Asbestos Containing Materials
M. 02 82 33.13 20, Removal/Control and Disposal of Paint with Lead
N. 09 97 13.27, Exterior Coating of Steel Structures
O. 33 08 55, Commissioning of Fuel Facility Systems
P. 33 52 43.13, Aviation Fuel Piping

5 CONTRACT REQUIREMENTS

5.1 General

Contractor shall provide all necessary equipment, material and qualified personnel to safely perform cleaning and decommissioning of the 16-inch, 18-inch, and 32-inch pipelines at the RHBFSF, JBPHH, Pearl Harbor, Hawaii. Perform required work in accordance with this SOW, and the approved Work Plan. Means and methods required to accomplish the work shall be determined by Contractor as constrained

by the requirements in this SOW. Work will take place in a humid tropical environment. Provide materials, construction techniques, and equipment appropriate for use in this environment. Provide first-class construction workmanship and top-quality materials.

5.2 Pre–Construction Work Documentation

5.2.1 Project Pigging Plan

Provide a Project Pigging Plan for Government approval. The document shall conform to the Plan to Assess Pipeline Integrity, this SOW, and Pigging Plan Requirements. Plan shall include data sheets of pigging tools which will be used. The data sheets shall clearly list requirements, limitations, and capability of the tools. Pigging operations shall not commence prior to review and approval by the Government of the Pigging Plan. Pigging Plan format shall comply with SOW Section 5.2 and be submitted for Government Review and Approval.

5.2.2 Pigging Schedule

Provide project pigging schedule which includes downtime for analysis of previous pig runs prior to mobilizing cleaning pigs, movement of fuel, and pipeline outage constraints in SOW Section 5. The Pigging Plan Requirements contains more pigging schedule requirements. Schedule shall include, at minimum, the following activities/milestones:

A. Mobilization
B. Meetings
C. Familiarization
D. Site work
E. Activities per pig type
F. Planned date to run each pig
G. Engineered inspection data analysis report
H. Pigging Completion Report delivery dates

5.2.3 Work Plan

Provide a Work Plan for use to perform the requested tasks which adheres to Work Plan Requirements. Work Plan shall comply with SOW Section 10, and be submitted for Government review and approval per Specification Section 01 33 00.05 20. Work Plan shall incorporate all Local, State, and Federal regulations. Work shall not start on-site prior to review and approval by the Government for the Work Plan. The approved Work Plan shall be a document intended to implement Government objectives in full and complete accordance with contract requirements.

5.2.4 Accident Prevention Plan

A. Prepare and submit a site-specific Accident Prevention Plan (APP) detailing such items as lines of authority, training, inspections, reporting, hazard control, general housekeeping, confined space entry, protective equipment, control of hazardous energy, etc.
B. Comply with EM 385-1-1 (including Errata and Revisions), OSHA 29 CFR 1926, Specification 01 35 26.05 20, and ANSI Z117.1-2009. APP format shall follow the outline provided in EM 385-1-1 Appendix A Minimum Basic Outline for Accident Prevention.

C. APP shall comply with SOW Section 5 and be submitted in accordance with Appendix 1 Attachment C for Government Review and Approval.
D. APP shall contain detailed procedures for classification and re-classification of work locations in accordance with OSHA 1926.407, EM385-1-1 26.B, and NFPA 70 Article 505.
E. Classifications shall be approved by the competent person of each employer with workers inside the Tunnel. SSHO shall obtain, review, and provide workplace classifications to the Navy Technical Representative (NTR).
F. Workplace classification of location shall be no less severe than Class I Zone 2 unless determined by the Competent Person(s) in writing to the Contracting Officer. Said determination shall be provided prior to start of work in the respective workplace.
G. APP shall incorporate site-specific safety plans and Activity Hazards Analyses from each subcontractor.
H. No work is to start on-site prior to review and approval by the Government for the APP.

5.2.5 Environmental Protection Plan

A. Prepare an Environmental Protection Plan (EPP) for Government approval pursuant to Specification 01 57 19.00 20. EPP shall be submitted for review and approval under separate cover than Work Plan but shall remain a part of the Work Plan as noted in Appendix A.
B. EPP shall include a spill prevention and response plan developed specifically for this evolution.

5.3 Work to be Performed

A. The scope of this project is to clean the pipelines between the RHBFSF and JBPHH. See Table 5.3 for details and approximate lengths.

Table 5.3 Work Scope

Diameter (inches)	Petroleum Product	Approx. Length (feet)	Description
16	F-24	15,840	UGPH to Adit 3 wye valves
18	JP-5	15,840	UGPH to Adit 3 wye valves
32	F-76	15,840	UGPH to Adit 3 wye valves
16	F-24	4,500	Adit 3 wye to Tank 20
18	JP-5	4,500	Adit 3 wye to Tank 20
32	F-76	4,500	Adit 3 wye to Tank 20

B. To accomplish project objectives, provide engineering services, project management, equipment, personnel, and material necessary to perform pipeline cleaning between RHBFSF and JBPHH.
C. Upon contract award visit site to obtain all information necessary to prepare Project Pigging Plan, EPP and APP. At minimum, site visit shall include:
    1) Visual inspection of pipelines to assess general characteristics such as reduced bore sections, isolation valves, routing, bulkheads, metal drip shield interference, locations suitable for pig launch and retrieval, and fuel supply and receipt stations.
    2) Verification of dimensions and quantities in this SOW. Report discrepancies to Contracting Officer immediately.

3) Familiarization with pipeline alignment including overhead configuration in tank gallery.
4) Assessment of working conditions inside Tunnel to include lighting, ventilation, noise, location classification, rail operations, and construction logistics.
5) Review of Tunnel to note locations with water intrusion onto the pipelines.

D. Classify (and re-classify as-needed) work locations inside tunnel in a manner compliant with OSHA 1926.407 and NFPA 70 Article 505.
E. Provide services from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems, welding/cutting on fuel pipes) or confined spaces which have the potential for flammable or explosive atmospheres.
F. Comply with NFPA 51B, Standard for Fire Prevention during Welding, Cutting, and Other Hot Work, 2014 Edition.
G. Do not impede or interrupt existing volumetric flow rate and/or velocity of ventilation in tunnel. Should impairment to ventilation be required, provide temporary means to restore flow rate and/or velocity downstream of impairment.
H. Provide as first tier subcontractor a private qualified person (PQP) to ensure compliance with the approved Work Plan and perform independent inspections, testing, and verification of the hazardous materials component of this Statement of Work. The hazardous material component shall include work which might involve asbestos, lead, lead-containing paint, cadmium-containing paint, and chromium-containing paint. Upon completion of hazardous material abatement, private qualified person shall issue written certification the area is clear of the hazardous material and can be safely re-occupied by Government personnel.
I. Comply with Specification 02 82 16.00 20 Engineering Control of Asbestos Containing Materials. Provide notification of planned asbestos disturbance activity to Hawaii Department of Health.
J. Provide temporary construction lighting and ventilation in tunnel adequate to conduct safe work of high quality. Means and methods shall be appropriate for location classifications.
K. Remove metal drip shields as-required to conduct work under this SOW without damage. Store and protect shields while not in use. Reinstall shields at completion of work. Replace or repair shields damaged during removal, storage, or reinstallation with like material.
L. Pipeline work shall be compliant with API 570, ASME B31.3/B31.4, and Specification 33 52 43.13. Welding performed shall be 100% inspected with radiography. Welds which cannot be inspected with radiography shall be tested with an appropriate Non-Destructive Testing (NDT) method approved by the NTR. Slip-on flanges are not allowed. Perform magnetic particle testing or liquid-penetrant testing on the butt weld root pass.
M. If radiography cannot be performed advise Contracting Officer.
N. Prior to demobilizing, provide a statement certifying each pipeline has been cleaned IAW this SOW and references conducted under this SOW.
O. Contractor shall be responsible for damage caused during work conducted under this SOW.
P. Perform work per the criteria of this SOW, Specifications, manufacturer’s recommendations, and the latest version of all applicable UFC, NFPA, API, and DoD standards.
Q. Where the word “should” is used or intended in manufacturer recommendations, substitute with the word “shall”.

R. Verify field conditions, measurements, dimensions, and quantities of work to be performed in this SOW. Verification shall take place prior to commencement of field activities.

5.3.1 Pipeline Inspection: 16-inch F-24, 18-inch JP-5 and 32-inch F-76

Conduct a piggability assessment to determine suitability of pipeline sections for pigging. The results of the assessment shall be used in the selection of tools in the plan for pigging.

A. Provide program to clean internal pipeline surfaces. The objective of the program is to remove any remaining fuel and all debris from the pipe wall. Perform assessment of all cleaning pigs and retrieved material immediately after the run. More than one cleaning pig run may be required. Monitor cleaning program effectiveness in a continuous manner.
B. Provide all equipment, personnel and material necessary to perform the inspection program per plans developed in compliance with SOW Section 5 and Specification 33 52 43.13 Aviation Fuel Piping.
C. Evaluate piggability assessment, cleaning program results, and any other data which are obtained.
D. Provide professional engineering analysis of inspection data independent of pig tool operator.
E. Inspect pipe-to-support contact, pipe, fittings, and valves for evidence of corrosion, substandard components, and other areas of concern.
F. Test for the presence of hazardous materials in pipeline coating to be removed. Produce brief report for Government approval. Report shall detail locations and extents of coating to be replaced, as well as hazardous materials abatement methods.
G. Remove, abate, and control hazardous materials as-required to remove coating where necessary to install pigging launch and retrieval pits. Comply with Specifications 02 82 33.13 20 Removal/Control and Disposal of Paint With Lead and 02 82 16.00 20 Engineering Control of Asbestos Containing Materials. Expect existing coating to contain lead and wrap to be asbestos-containing material. Handle and dispose of hazardous materials in an appropriate manner. Remove existing coating and prepare surface for recoating.
H. Project Pigging Plan format shall comply with SOW Section 5.2 and be submitted for Government Review and Approval.

5.3.2 Pipeline Cleaning

A. Provide robust planning and management for cleaning in order to achieve first run inspection success.
B. Conduct pigging operations in compliance with Specification 33 52 43.13 Aviation Fuel Piping. Unless notified otherwise, pigging industry terms shall be as defined in SRIP.
Provide method, equipment, personnel, and material required to remove water and debris generated during pigging in accordance with Specification 33 08 55.
C. Provide all equipment and personnel required to drain the launcher and receiver after each pig run. Provide temporary storage and containment to contain contents of pipeline when loading or receiving pig tool and flushing line. Fuel is able to be received into Fuel Oil Recovery Facility (FORFAC). Collect, transport, and place fuel within appropriate storage at FORFAC in a manner

coordinated with site. Disposal of waste, unsuitable fuel, sediment, and sludge is Contractor responsibility per waste disposal requirements in this SOW.

D. Pig traps shall be used for pig launch and retrieval.
E. Load pigs into launcher with care. The method of loading and lodging the front pig cup into the launcher shall not involve the use of uncontrolled mechanical force.
F. Pigs shall be propelled by non-waste generating inert gas (i.e nitrogen or other) unless otherwise approved by NTR.
G. Tracking devices shall be used on all pigs. Contractor is responsible for tracking the location of all pigs.
H. Provide pipeline pig tools with cleaning capabilities.
I. Provide Pigging Completion report pursuant to SOW 5.4.
J. Any segments of pipeline that cannot be cleaned using a pig shall be exposed to force air ventilation until such time as discharge air meets requirements as identified in 46 CFR 176. These pipeline segments shall be considered clean once the discharge air meets requirements identified in 46 CFR 176.
K. Pipelines shall be cleaned with a pig to the maximum extent practicable.

5.4 Post-Construction Work Documentation

5.4.1 Pipeline Inspection Completion Report

A. Following the execution of pipeline inspection, provide a Pipeline Inspection Completion Report which describes events which occurred during the planning and execution of pigging, results from all pigging runs, results from other types of inspections, and detailed engineering analysis of the data as required by this SOW.
B. The Pipeline Inspection Completion Report format shall comply with SOW Section 10 and be submitted for Government Review.

5.4.2 Contract Report

A. Provide a written Contract Report, detailing the following: Plan to Assess Pipeline Cleanliness, Pipeline Inspection Completion Report, pipeline modification, coating maintenance, test records and reports (such as coating inspection and weld procedures, etc.), and list of all material incorporated into the work (with qualification records such as UL listing, FM approval, ASME certification, PQP certification, welder qualification, etc.).
B. The Contract report shall include all permits, notifications, reports, NDT results, vendor purchased equipment certification (to include serial and model number), and valve test certificates.
C. The Contract Report shall contain the as-built drawings indicating the locations and type of pipeline modifications made to complete pipeline cleaning.
D. This Contract Report shall be generated while work is being performed. The Contract Report format shall be in accordance with SOW Section 10 and submitted for Government Review.

5.5 Permits

A. Obtain all Federal, State, Local, and EPA permits required for all work.
B. Comply with State of Hawaii Abatement Notification Requirements pursuant to Hawaii Administrative Rules, Title 11, Chapters 11-501, 11-502, 11-503, and 11-504 (Asbestos

Regulations). Submit notification, pay appropriate fee, and utilize properly trained and certified individuals/subcontractors for NESHAP-regulated activities. See Hawaii Abatement Notification Requirements Summary included as GFI.

C. Obtain Dig Permits where required. Locate underground utilities as-needed to support the dig permit request. For this SOW, digging shall include disturbance of tunnel floor and wall. The Contractor shall prepare the dig permit request after accurately locating all utilities, and submit for approval. No ground or tunnel wall disturbance activities are allowed without an approved dig permit.
D. Obtain a Hot Work Permit from the Installation Fire Department for all Hot Work performed under this SOW.
E. Provide services from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems, welding/cutting on fuel pipes) or confined spaces which have the potential for flammable or explosive atmospheres.
F. A significant amount of project work will take place within the Tunnel which encloses the pipelines. Utilize qualified personnel to evaluate the workspace in a manner compliant with EM385-1-1. Should the Qualified Person make the determination work within the Tunnel is a confined space or a permit required confined space, follow appropriate permit procedures. Notify Base Safety in advance of all confined space entry operations.

5.6 Contractor / SubContractor Installation Access

A. Comply with Installation access requirements and NAVSUP Fuels area access requirements.
B. Comply with Special Requirements for FLCPH Fuel Complex R3, NAVSUP Security Requirements for Unclassified Contracts Utilizing NCACS, and JB2 Form 0-180 NCACS 14-Day Pass. Work will take place within a restricted area. Workers shall be vetted and are required to acquire unescorted access credentials to the restricted area. Government will not provide site escorts.
C. Positions requiring unescorted work in the restricted area are considered Public Trust positions. All personnel requiring routine or frequent access to these areas must obtain a favorable public trust suitability determination based upon completion of a National Agency Check Inquires (NACI) personal security investigation or a security clearance. Provide complete and accurate information pursuant to NAVSUP security requirements.
D. Only United States citizens, required to conduct official Government business, will be granted access to the Red Hill Fuels Complex. Foreign nationals are not allowed unescorted or escorted access.
E. Provide a list of Contractor vehicles requiring restricted area access. Use format in Contractor Red Hill Vehicle Access List. As changes occur and additional information becomes available, update the information contained in the list and provide to the Government.
F. Vehicles entering the Base shall have proof of current registration and insurance. All vehicles entering the Base are subject to inspection.
G. Furnish a contact list of Contractor and subcontractor personnel for use in the event of an emergency. As changes occur and additional information becomes available, update the information contained in the list.
H. Understand the process to vet individuals for access, badges, or identification cards is not within the purview of NAVFAC. Expect the process to be lengthy and require longer than sixty (60) calendar days, depending on Installation requirements and/or the complexity of an individual's vetting investigation.

I. The Privacy Act of 1974 requires personally identifiable information (PII) to be disclosed only to those with a need to know. Contents of a completed vetting form are protected under the Privacy Act of 1974.
J. Adhere to the following:
    1) Do not disclose SSN (or last four numbers of SSN) to individuals without a need to know.
    2) Do not send e-mails containing PII to NTR.
    3) Do not send vetting forms to NTR.
K. Anyone arriving at the Base without approved access will not be allowed onboard.
L. Plan for worker access well in advance of need to be onsite.

5.7 Contractor Use of Premises

5.7.1 Station Regulations

Ensure Contractor personnel employed on the Station become familiar with and obey Station regulations. Keep within the limits of the work and avenues of ingress and egress. Do not enter restricted areas unless required to do so and until cleared for such entry. Permission to interrupt any Station roads or utility services shall be requested in writing a minimum of thirty (30) calendar days prior to the desired date of interruption. Contractor equipment shall be conspicuously marked for identification and shall be secure at all time.

5.7.2 Work Hours

Regular working hours shall consist of a period established by the Contracting Officer between 7 a.m. and 5 p.m., Monday through Friday, excluding Government holidays.

5.7.3 Work Outside Regular Hours

Work outside regular working hours requires advance Contracting Officer approval. Provide written requests ten work days prior to the work date requested to allow arrangements to be made by the Government for inspecting the work in progress. During periods of darkness, the work shall be lighted in a manner approved by the Contracting Officer.

5.8 Anticipated Problems

A. Schedule resources and material in a manner which minimize impact to facility operations.
B. Sections of pipeline have compressed air lines attached. Detach, protect in place during work, and re-attach air lines at the completion of work.
C. Abrasive blasting inside Tunnel is prohibited unless performed within secure containment.
D. Lighting inside Tunnel is poor and inadequate for inspection and construction activities.
E. Work spaces within the Tunnel shall be classified by each Contractor and subcontractor employer in accordance with NFPA 70 Article 505.5. Equipment and materials shall be appropriate for use with the location classification. See SOW 5.2.
F. Access to the work space is limited. Ongoing Government operations might interfere with Contractor activities. Operations include train movements inside tunnel.
G. The Tunnel is ventilated with forced air means. Ventilation cannot be interrupted in its entirety for work under this SOW.

H. Work will be conducted in a congested area with ongoing Government operations. Space inside the Tunnel is limited. Contractor is not permitted to disrupt Government operation activities and will be required to conduct work in a congested, industrial environment.
I. Expect project delays based on workspace configuration and logistics.
J. Distance from Tunnel entrance to actual work space might be lengthy. Contractor shall provide adequate logistical support with regard to all labor, material, and equipment required to execute work under this SOW in a timely manner. Lack of logistical support shall not be considered an excusable schedule delay.
K. Government will not provide train support to Contractor. See SOW Section 7 for train support requirements.
L. Expect pipeline exterior surfaces to be coated with a bituminous coating material, a coating wrap material, and/or heavy deposits of scale. See GFI Enclosure 3.2 for further details.
M. As required to support work in this project, Government will drain product lines. Expect residual product to be present, wick from pipeline, and/or bypass isolation valves. Quantities are noted in Table 7.1 Government Services Available to Contractor. Be prepared for this event, provide temporary containment, collect the fuel, transport, and place within appropriate storage at FORFAC.
N. Disposal of waste, unsuitable fuel, sediment, and sludge is the Contractor's responsibility per waste disposal requirements in this SOW.
O. Areas with elevated levels of external coating degradation and corrosion are expected at pipeline locations which have been exposed to water intrusion into the Tunnel.
P. Installation drawings, site maps, or subsurface utility alignment data might not be accurate or up to date with respect to current conditions.

5.9 Equipment and Material

5.9.1 List of Equipment and Materials

A. The Contractor shall provide all equipment and material required to complete cleaning. This shall include temporary lighting and ventilation.
B. Construction material shall be of US manufacture and compliant with the Buy American Act in accordance with FAR 52.225-9. NO FOREIGN material is acceptable without prior notice to and approval from the Contracting Officer.
C. Pipeline fittings on the Red Hill Pipelines shall be minimum American National Standards Institute (ANSI) 300 class, meeting specifications of ASME B16.5.

5.9.2 Shipment of Equipment and Materials

The Contractor shall be responsible for shipping equipment to the worksite. The Contractor shall provide necessary land transportation to/from the shipping office, the on-site equipment storage area, and the workspace within the Tunnel. The Contractor shall arrange all equipment, personnel and material to be delivered when the Contractor is on-site. No equipment or material delivery will be accepted by the Government.

5.10 Construction Safety

5.10.1 Guidance

A. Provide and maintain a Construction Safety Program during the execution of this project pursuant to Specification 01 35 26.05 20 Government Safety Requirements.
B. Identify and address all construction hazards such as the potential for hazardous explosive atmosphere, fall protection, control of hazardous energy, and confined space entry.
C. Attention shall be directed to compliance with EM385-1-1 Section 26. Provide air monitoring and ventilation for Tunnel work pursuant to EM385-1-1 26.C.
D. Any potential for serious hazard in a confined space requires a permit system be used.
E. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the Qualified Person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and all potential hazards are controlled or eliminated and documented. See Section 34 of EM385-1-1 for entry procedures.
F. Review all hazards pertaining to the space with each employee during AHA process.
G. During radiography operation, maintain 2 mrem/hr boundary at all times. No member of the public shall receive a dose of ionizing radiation exceeding 2 mrem (20 µSv) in any one hour.
H. Comply with Specification 01 35 26.05 20.

5.10.2 Site Safety and Health Officer

A. Provide a safety oversight team which includes at minimum one Competent Person to function as the Safety and Health Officer (SSHO).
B. A dedicated SSHO shall be at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor.
C. SSHO training, experience, and qualifications shall be as required by EM385-1-1 and Specification 01 35 26.05 20. Nomination of a SSHO does not relieve Contractor from regulatory requirements governing safety responsibility.
D. The SSHO cannot be the Construction Quality Control Manager or the Site Superintendent (Site Manager) on this project.
E. Provide Competent Person(s) for each of the hazards identified in the Contractor Safety and Health Program in accordance with the accepted APP. Respective competent person shall be onsite at all times when work which presents the hazard associated with their professional expertise is being performed.

5.10.3 Documentation

A. SSHO shall maintain current and complete records of site safety.
B. Provide written APP per SOW 5.2.5.
C. SSHO shall provide robust oversight of safety program. Any safety deficiency found shall be corrected immediately and documented in the remarks section of the daily quality control report.
D. Hazardous work location classifications as required in SOW 5.2.5e shall be provided daily.
E. For recordable injury, DART case, illness, near miss (which could have resulted in serious injury, serious property damage, or fatality), or property damage incident resulting in at least $2,000 in damage, Contractor shall:
    1) Provide initial mishap notification by telephone or email as soon as possible.
    2) Provide initial Contractor Incident Reporting System (CIRS) report within four hours of mishap.

3) Conduct an accident investigation to establish the root cause(s) of the mishap.
4) Provide final CIRS report within five calendar days of mishap.

5.11 Construction Quality Control

5.11.1 Guidance

A. Establish and maintain a Construction Quality Control Program during the execution of this project as described in Specification 01 45 00.05 20.
B. A formal Design Quality Control plan is not required.

5.11.2 Construction Quality Control Manager

A. In addition to implementing and managing the QC Program, the QC Manager (QCM) may perform the duties of the project superintendent.
B. QCM and Alternative QCM minimum qualifications:
   1) Complete the course entitled "Construction Quality Management for Contractors" and shall maintain a current certificate.
   2) Five years experience as a QCM on similar size and type construction contracts.
   3) Familiar with NAVFAC construction quality control management procedures and level of expectations.
   4) Familiar with requirements of USACE EM 385-1-1, and experience in the areas of hazard identification and safety compliance.
   5) Quality control management experience in pipeline inspection, pigging, and pipeline cleaning.

5.11.3 Documentation

A. The QC Manager shall maintain current and comprehensive records of on-site and off-site QC program operations and activities. Minimum records requirements are stated in Specification 01 45 00.05 20.
B. Provide daily reports to NTR. Daily report requirements are included in Appendix 1 Attachments C and D

5.12 Other Controls

See Table 7.1 for Government Services Available to Contractor.

5.12.1 Utilities

Provide all utilities, including power, compressed air, potable water, and forced air ventilation as required to execute work under this SOW.

5.12.2 Temporary Sanitary Facilities

A. Provide adequate sanitary conveniences of a type approved for the use of persons employed on the work, appropriate for use in tunnel spaces, properly secluded from public observation, and maintained in such a manner as required and approved by the Contracting Officer. Maintain these conveniences at all times without nuisance. Upon completion of the work, remove the conveniences from the premises, leaving the premises clean and free from nuisance. Dispose of

sewage through connection to a municipal, district, or station sanitary sewage system. Where such systems are not available, use chemical toilets or comparably effective units, and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility.

B. Include provisions for pest control and elimination of odors.

5.12.3 Storage Areas

The Contractor shall be responsible for the security of his property. Any hazmat satellite accumulation sites proposed to be used shall comply with State and Installation regulations regarding storage of hazardous waste. No 90-day hazardous waste accumulation sites are allowed.

5.12.4 Waste Disposal

A. The Contractor shall be responsible for disposing of all debris generated during the execution of this project. Hazardous material collected shall be disposed off-Base. No hazardous waste shall leave the site without a manifest signed by an authorized Navy representative. Provide a Hazardous Waste Manifest or Waste Shipment Record as part of project documentation.
B. Navy Region Hawaii is designated a large quantity generator. Complete all hazardous waste manifests, waste certification forms, and waste profile forms. Submit to NAVFAC HI for review.
C. Treatment of hazardous waste on Government property is prohibited.

5.12.5 Restriction

All requests for pigging runs, require at least ten (10) workdays advance notice to the Contracting Officer.

5.12.6 Interruption to Vehicular Traffic

If during the performance of work, it becomes necessary to interrupt vehicular traffic patterns at any location, request the service interruption from the Contracting Officer at least 15 calendar days prior and provide a detailed Traffic Control Plan detailing the proposed controls to traffic movement for approval. The plan shall be in accordance with State and Local jurisdiction. Vehicular traffic shall include rail facilities on the Installation.

5.12.7 Tunnel Logistics

Electric carts are allowed in the Upper and Lower Tunnels. Ensure the electric carts meet all applicable safety requirements. Do not block train access through Tunnel without prior authorization of NTR. See SOW Section 7 for train support.

5.13 Meetings

5.13.1 General

Schedule and conduct the following meetings for the purpose of transferring information between the Contractor and Government personnel. These meetings will be at an agreed upon time between the Government and the Contractor. Submit minutes of these meetings in accordance with Appendix 1 Attachment C.

5.13.2 Site Visit /Work Plan /QC Plan

Conduct a site visit during the development of the Work Plan to obtain information required to complete the Work Plan. The QC Plan Meeting shall be included during this meeting.

5.13.3 Pre Construction Conference/QC Coordination/Mutual Understanding Meeting

Prior to commencement of contract work, a meeting with the Contracting Officer, FLC Fuel Manager, NTR, and pertinent Government representatives is required. The purpose of the meeting is to develop a mutual understanding of the QC Plans, including documentation, administration, requirements & procedures, the Contractor safety program, coordination of activities to be performed, and the coordination of the Contractor's management, production and QC personnel. Other agenda items are schedule of prices, drawings, execution of the work, and production schedules. In addition, the QC Manager is required to meet with the Government technical leads to present the QC program required by this Contract. Major subcontractors shall also attend.

5.13.4 Progress/QC Meetings

The QC Manager shall meet with the Navy Technical Representative (NTR) and the FLC Fuel Manager on a regular (weekly) basis to discuss the progress and any other requirements during the on-site implementation phase of this Contract. The Contractor shall also meet with the NTR and Fuel Manager at the conclusion of the work for the final QA walk-thru.

5.13.5 Pre-Pigging and Survey Inspection Meetings

The QC Manager and/or Project Manager shall provide project status meetings to the Contracting Officer, FLC Fuel Manager, NTR, and the COR at the beginning of and during the execution of pigging operations while the Contractor is on site.

5.13.6 Post Inspection Meeting

The QC Manager shall provide summary cleaning results briefings to Contracting Officer, FLC Fuels Director, NTR, and the COR at the completion of the pipeline survey inspection. The purpose of these meetings is to inform the Government of the level of success of the last completed pipeline cleaning. Provide a preliminary assessment on the level of cleanliness of each pipeline as soon as it becomes available.

5.14 Proposals

5.14.1 Work Classification Cost

A. Provide a Cost Proposal for the entire project with a summary breakdown of burdened costs apportioned to each diameter and product type of pipeline.
B. The summary breakdown will be used for Government information only and the project shall not be de-scoped based on this information.

5.14.2 Detailed Cost

Provide a Cost Proposal for the entire project with a detailed breakdown of burdened costs. The detailed cost breakdown will be used for Government information only and the project shall not be de-scoped based on this information. Cost Proposal shall include the following:

A. SOW-Specific Bid Summary Sheet

B. NAVFAC Form 4330/43
C. Cost Summary backup, in Contractor's preferred format, which shall include the following summary / subtotal lines:
D. Labor, burdened with fringe and overhead
E. Travel, including per diem, lodging, and vehicle expenses
F. Subcontract
G. Material, Equipment, and ODC
H. G&A
I. Profit
J. Bonding, if applicable
K. State General Excise Tax

5.14.3 Technical

Provide with proposal:

A. Succinct technical detail adequate to evaluate the principal means and methods by which Contractor proposes to execute work to be performed.
B. Data sheets of pigging tools proposed to be used. Data sheets shall clearly list limitations of the tool.

5.14.4 Assumptions and Deviations

A. Proposal shall include a list of assumptions and deviations, if any, from the SOW. Identify in the proposal if assumptions and/or deviations are not required.
B. Excepting where Contractor has specifically claimed in their proposal a deviation from or exception to this SOW, whenever there is a conflict between this SOW and Contractor's proposal, this SOW shall govern.

6 GOVERNMENT FURNISHED INFORMATION (GFI)

A. Pipeline Inspection Completion Report Requirements
B. Hawaii Abatement Notification Requirements
C. Latest Pigging Completion Report
D. Latest Integrity Management Plan
E. Special Requirements for FLCPH Fuel Complex R3
F. Contractor Red Hill Vehicle Access List
G. NAVSUP Security requirements for Unclassified Contract Utilizing NCACS
H. JB2 Form 0-180 NCACS 14-Day Pass 31 Oct 13 rev

7 GOVERNMENT FURNISHED RESOURCES

7.1 Government Services Available to Contractor

Table 7.1 Government Services Available to Contractor

Service	Provided?	Limitations
Government will defuel pipelines	Yes	Government will drain the fuel to the maximum extent practicable. Contractor shall assume 200 gallons of

		residual fuel (non-hazardous) will be present per product.
Government will accept residual fuel	Yes	Government will accept residual fuel delivered to FORFAC per SOW Section 5.3.
Government will accept waste/sludge	No	
Government will provide electricity	Yes	As panelboard space is available
Government will provide compressed air	No	
Government will provide LOTO of electrical power and product lines	Yes	Government/Contractor will jointly provide lockout/tagout (LOTO). Contractor shall blank product lines. Contractor shall be ultimately responsible for LOTO.
Government will provide sanitary services	No	

7.2 Staging Area

The Government will provide a staging area within the fuel farm for equipment and materials. The Government will not provide field office, restroom facilities, Government vehicles, or access to copy machines.

7.3 Train Support

A. Train support will not be provided. Contractor shall be responsible for all train operations IAW Government requirements. Contractor shall provide written support request to the Government no less than one business day in advance of need.
B. Request shall clearly identify the time, location, and duration of train support. Expect delays once the request for train support is made due to personnel unavailability and/or rail line outage. If support is provided, it will be limited to a maximum of four hours on any work day in the Lower Access Tunnel only, and during the hours of 8 am to 3 pm, Monday thru Friday. All loading, unloading and securing of material onto flat beds shall be Contractor's responsibility. Contractor remains responsible for all items during Government transport.

7.4 Tunnel Electrical Power

Existing electrical power at the Red Hill fuel facility is provided solely at the discretion of NAVSUP FLC Pearl Harbor. Contractor shall provide a written request to the Government no less than five business days in advance of the time the Contractor requires power. Request shall clearly identify electrical characteristics (voltage, current draw, phase), proposed point of connection, proposed overcurrent protection and disconnecting means, and proposed means to bond equipment to ground.

8 PLACE OF PERFORMANCE

The place of performance for this project is JBPHH, Pearl Harbor, Hawaii. Work will take place within an area of restricted access.

8.1 Travel

Anticipated travel to JBPHH Pearl Harbor, Hawaii shall depend on the inspections approach and repair schedule. Contractor shall include proposed approach including required personal and travel in their proposal.

9 PERIOD OF PERFORMANCE

The anticipated period of performance shall be approximately 365 calendar days from award.

10 DELIVERABLE REQUIREMENTS

10.1 Contract Data Requirements List (CDRL)

Technical deliverables are listed below. Schedule and distribution is in Attachment C.

CDRL DESCRIPTION SOW

A. A001 Plan to Assess Pipeline for Pigging 5.2.1
B. A002 Project Pigging Plan 5.2.2
C. A003 Pigging Schedule 5.2.3
D. A004 Work Plan 5.2.4
E. A005 Environmental Protection Plan 5.2.6
F. A006 Accident Prevention Plan 5.2.5
G. A007 Pigging Completion Report 5.4.2
H. A008 Project Completion Report 5.4.1

10.2 Contract Reporting

Provide a production and quality control report for each day work is performed and pursuant to Attachment C and Attachment D.

10.3 Schedule of Prices

Provide Schedule of Prices for invoicing use on NAVFAC Form 4330/4 pursuant to Specification 01 20 00.00 20. Include a detailed breakdown of contract price with quantities for definable features of work.

Include burdened costs such as General Conditions, profit, and overhead in the unit prices. Break down into design and each construction category as-appropriate. Request for payment will not be processed without an approved Schedule of Prices.

10.4 Schedule

A. The calendar window to perform on site service is anticipated to start in July 2023.
B. For bidding purposes, assume pipelines will be available to perform the required pigging operations in a single mobilization and demobilization phase.
C. Provide updated progress schedule with each request for payment. Furnish as specified in FAR 52.236-15, Schedules for Construction Contracts.

10.5 Contract Completion Report Format

10.5.1 Content

Reports shall provide a comprehensive description of the modifications and pigging. Drawings, charts, illustrations, and other material needed to clarify the design shall be included. Calculations and computer output, if applicable, shall be included as appendices to the report.

10.5.2 Quality

Reports describing the work shall be comprehensive, clearly written, adequately detailed, well-edited with no errors, and acceptable for release as a quality document. Draft reports shall be finished products requiring only technical changes after Government review.

END STATEMENT OF WORK