

Section C – Descriptions and Specifications

STATEMENT OF WORK

Statement of Work

Clean, Inspect, and Repair Storage Tanks

Project Title: Clean, Inspect, and Repair Storage Tanks 5 and 17 at FISC Pearl Harbor Red Hill Complex, HI

Location: FISC Pearl Harbor Red Hill Complex, HI

Project Number: P-035940-09

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Location: FISC Pearl Harbor Red Hill Complex, HI
Project: Clean, Inspect, and Repair Storage Tanks 5 and 17

Statement of Work
Clean, Inspect, and Repair Storage Tanks

1.0 GENERAL

1.1 Scope

This Statement of Work defines the scope for cleaning, inspecting and repairing military storage tanks worldwide. Depending on tank type and/or history a complete out-of-service API 653 inspection, an in-service API 653 inspection, a modified API 653, or Steel Tank Institute (STI) inspection will be performed. Tank repairs under this scope shall include installation of tank gauging tubes (stilling wells) for all tanks over 30,000 gal. The repairs of deficiencies found during the inspection shall be an option to the contract. Site specific information including the type of inspection, the need for stilling wells and other applicable information is located in Section 2.0.

1.2 Requirements

The following are requirements that shall be followed unless stated otherwise in Section 2.0. Latest editions of all codes shall be used.

1.2.1 All work shall be performed in a safe and professional manner in accordance to applicable federal, state and local regulations.

1.2.2 Inspections and repairs shall be carried out in accordance to American Petroleum Institute (API) Standard 653, *Tank Inspection, Repair, Alteration And Reconstruction*, Steel Tank Institute (STI) SP001-00 *Standard for the Inspection of Aboveground Storage Tanks SP001*, and all amendments as supplemented by this statement of work. Types of inspections to be performed are specified in Section 2.0.

1.2.3 All coating work shall be performed by SPCC QP-I certified contractors in accordance to UFGS 09970, 09971, and 09973.

1.2.4 The tank evaluation shall be performed by a qualified inspector or engineer, experienced in tank design, fabrication, repair, construction, inspection, operation and behavior. The inspection report shall be signed by the API 653 inspector and stamped and signed by a registered professional engineer familiar with the provisions of the API Standard 653.

2.0 SITE SPECIFIC INFORMATION

The following section is created for this specific location(s) for this proposal request. The rest of the scope of work shall be followed unless Section 2.0 states otherwise.

2.1 Tank Information

The facility identified above requires services for tanks 5 and 17. Relevant information for each tank can be found in Table 2.1 in Appendix A.

The Red Hill fuel storage tank complex is located on the Island of Oahu, Hawaii. The Red Hill fuel storage tank complex consists of multiple underground storage tanks constructed in 1942-1943. The Red Hill Tanks have a coated welded steel liner hacked up by concrete which bears against the solid rock from which the tanks were carved. Each tank's nominal capacity is 302,000 barrels of JP-5. The configuration of these vertical cylindrical tanks is 100 feet in diameter and 250 feet in height. The tank is domed on the lower and upper ends. Access to the tanks is provided by an upper access tunnel 190 feet above the tank bottom and a lower access tunnel just below the tank bottom.

2.2 Inspections Due

Tank 5 – Modified API 653 Out of Service Inspection
 Tank 17 – Modified API 653 Out of Service Inspection

2.3 Gauge Tubes (Stilling Wells)

No gauge tubes are required.

2.4 Anticipated Problems

None known at this time.

2.5 Government Furnished Information

Information is located in Appendix E.

- 2.5.1 History of Tank 5 & 17
- 2.5.2 Drawings of Tank 5 & 17.
- 2.5.3 Drawings of hydraulic boom and basket. This information is provided to the Contractor for the bidding purpose

2.6 Government Services Available to the Contractor

Table 2.2, lists the services, if any, the facility can provide to the contractor for purposes of completing the required tasks stated in this SOW.

Table 2.2. Government Services Available to the Contractor

	Yes/No	If Yes, limits on what the government can provide or accept.
Government will provide water for tank cleaning	Yes	
Government will accept residual fuel/ wash rinsates /sludge	Yes/No/No	
Government to provide electricity	Yes	Government can provide electricity inside the tunnel, but not outside for trailers.
Government will provide compressed air	No	
Government will install high legs for tanks with floating roofs	NA	
Other	The Government will provide train assistance in tunnel. See Section 2.10.7.	

2.7 Tank History

Tanks 5 & 17 were constructed in 1942 and 1943 respectively.

2.8 Base Access

In order for the contractor to gain access to the facility in a timely manner the following needs to be submitted.

2.8.1 Contractor Information

The information required to obtain base access shall be submitted to the NTR 14 calendar days prior to arrival:

- 2.8.1.1 Full Name with Middle Initial
- 2.8.1.2 SSN

- 2.8.1.3 Date of Birth
- 2.8.1.4 Citizenship
- 2.8.1.5 Driver's License with State of Issuance
- 2.8.1.6 Employer's Name, address, phone number
- 2.8.1.7 Planned arrival date and planned finish date for site personnel
- 2.8.1.8 Vehicle/Equipment make, model and year
- 2.8.1.9 Vehicle/Equipment type
- 2.8.1.10 Vehicle/Equipment tag number

If a rental car is used, the rental agreement shall be presented to Pass and Decal when access is required. A valid picture ID will need to be presented at the time of arrival.

2.8.2 Special Security Measures

Red Hill access will also need to be obtained. For this access the needed information is the same as 2.8.1, but a recent photo of each person is required. A digital photo is acceptable.

2.9 Scheduling

Initially the Contractor will be given one tank. (Tank 5) After the cleaning, inspection, recommendations and repairs have been made, the Contractor will be given the second tank. (Tank 5 must be returned to service prior to NOV 10) Contract modification negotiations and other contract administration will be done while the Contractor is working on the second tank.

2.10 Other

2.10.1 Hydrostatic pressure test the piping between the tanks' skin valves and the tank. These lines shall be tested to 1.5 MAWP for a minimum of four hours. There is approximately 20 ft of pipe per tank to test. Government will NOT accept inconclusive results. Contractor shall provide a pass or fail result.

2.10.2 Once the degassing of tank is completed, the Contractor shall notify the NTR to make arrangement with FISC to remove tank gauging and temperature sensing equipment from the tank. The Contractor shall maintain a vapor-free condition inside of the tank. The ventilation equipment shall be explosion proof and have an air rate of one tank volume change per hour.

2.10.3 Prior to any work inside of tank, replace any missing structural members to repair the tower and the access catwalk. The Contractor shall provide a separate cost estimate for any repair of the tower and the access catwalk. This shall be an option for Delivery Order modification. The Contractor shall provide structural integrity certification of the tower and the access walkway by a registered professional structural engineer.

2.10.4 The information of existing Government booms and baskets will be provided to the Contractor for their information only. The Government provided booms and baskets cannot be utilized for execution of the project.

2.10.5 Due to the unusual dimensions and configurations of the Red Hill Tanks and the requirement of cleaning and inspection of entire tank interior, the Contractor shall provide a detailed plan of engineering approach how to access all the steel plates of Tank 5 & 17. The plan shall be reviewed and approved by the Government as a part of the Work Plan. A brief discussion of this shall also be included in the bid proposals.

2.10.6 The Contractor shall thoroughly clean the tank including the center tower, catwalk structure, top & bottom domes, and the shell. All sludge, sediment, wash water and other deleterious material from the tank shall be removed and disposed of by the Contractor. For the bidding purposes, the Contractor shall estimate 20 barrels of sludge to be present in each tank. Assume minimal residual fuel is present.

2.10.7 The Government will provide train assistance to a maximum of four hours on any work day in the Lower Access Tunnel only. Train support shall only be provided during standard Government work hours of 8 am to 4 pm, Monday thru Friday. The Contractor shall notify the Government no less than one (1) day in advance of the time and location that the contractor requires the train support. All loading, unloading and securing of material onto flat beds shall be the Contractor's responsibility. Contractor retains responsibility for all items during Government transport.

2.10.8 The Contractor shall disconnect pipelines (two fuel lines and one slop line) connected to the tank bottom by removing double-block-and-bleed plug valves and/or ball valves and installing solid-plate blind flanges to prevent any flammable material entering from the tanks to the active pipelines. The skin valves to be removed are motor operated valves, and all electrical components shall be disengaged by a certified electrician before removing the valves from the pipelines. Upon completion of the inspection (post-repair inspection, if there is any repair done), the valves shall be installed back to the pipelines and the electrical components shall be restored for normal operating condition with new gaskets and bolts. The Contractor shall confirm the sizes of valves to remove at site-walk. Control system to be locked and tagged out by Government.

2.10.9 Inspection shall include assessments of upper dome, extension, under catwalk, entire course shells, lower dome, appurtenances, accessways, vents, and coatings. Upper & lower domes, shell, and all welds shall be 100% inspected. The Contractor shall propose type with recommendation why each inspection methods to be used in the inspection process. This shall be included in the bid proposals. Some example methods are Magnetic Flux Leakage (MFL), Low Frequency Electromagnetic Technique (LFET), Ultrasonic Thickness (UT) scanning, Eddie Current, Balance Field Electromagnetic Technique (BFET), etc. Contractor shall take every precaution not to damage the tank coating. The Contractor/inspector shall be responsible for any damage to interior tank coating during work.

2.10.10 Prior to starting work inside of the tanks, the Contractor shall install probe port covers of existing Mass Tank Gauging (MTG) system of Tank 5 & 17. These probe port covers shall be removed upon completion of post-repair inspection.

2.10.11 Inspection reports shall include detailed information about the recommend repairs and their locations. Each recommended repair shall be labeled and referenced in such a manner that the Government shall be capable of locating these deficiencies from the report. These locations shall also be identified and referenced on the actual tank.

2.10.12 Abrasive blasting is considered Hot Work.

2.11 Government Points of Contact (POC)

2.11.1 Contracting Officer

The Contracting Officer is:


 Naval Facilities Engineering Command Southwest
 Specialty Center Contracts Core, Code AQN00
 151 36th Avenue, Suite 2 Port Hueneme, CA 93043-4438

Telephone (805) 982-2479
[REDACTED]

2.11.2 Contracts Officer Representative

The Contracts Officer Representative for this contract is:

[REDACTED]
Naval Facilities Engineering Service Center (NFESC), Code ESC 232
1100 23rd Avenue Port Hueneme, CA 93043
Telephone (805) 982-3597
[REDACTED]

2.11.3 Naval Technical Representative (NTR)

The NTR for this contract is:

TBD
Naval Facilities Engineering Service Center (NFESC), Code ESC 232
1100 23rd Avenue Port Hueneme, CA 93043
Telephone (805) 982-3595

3.0 REFERENCES

The work performed shall comply with all federal, state, and local regulations. In addition applicable, but not limited to, codes for this work include:

3.1 American Petroleum Institute (API)

- 3.1.1 API Recommended Practice 574, *Inspection Practices for Piping System Components*, Latest Edition.
- 3.1.2 API Recommended Practice 575, *Inspection of Atmospheric and Low-Pressure Storage Tanks*, Latest Edition.
- 3.1.3 API Standard 650, *Welded Steel Tanks for Oil Storage*, Latest Edition.
- 3.1.4 API Recommended Practice 651, *Cathodic Protection of Aboveground Petroleum Storage Tanks*, Latest Edition.
- 3.1.5 API Recommended Practice 652, *Lining of Aboveground Petroleum Storage Tanks*, Latest Edition.
- 3.1.6 API Standard 653, *Tank Inspection, Repair, Alteration and Reconstruction*, Latest Edition.
- 3.1.7 API/ANSI Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*
- 3.1.8 API/ANSI RP 2016 *Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks*
- 3.1.9 API Standard 2550, *Measurement and Calibration of Upright Cylindrical Tanks*

3.2 American Society of Mechanical Engineers (ASME)

- 3.2.1 ASME B31.3, *Process Piping*, Latest Edition.
- 3.2.2 ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids*, Latest Edition.
- 3.2.3 ASME IX.

3.3 Code of Federal Regulations (CFR)

- 3.3.1 29 CFR 1910, *Permit-Required Confined Spaces for General Industry*.
- 3.3.2 40 CFR 112, *Oil Pollution Prevention*.

3.4 Military Handbooks (MIL-HDBK)

- 3.4.1 MIL-HDBK 1022A, *Department of Defense Handbook: Petroleum Fuel Facilities*, 01 November 1999.
- 3.4.2 MIL-HDBK 201E, *Military Standardization Handbook: Petroleum Operations*.

3.5 National Association of Corrosion Engineers (NACE)

- 3.5.1 NACE Recommended Practice, RP0184-97, *Repair of Lining Systems*.
- 3.5.2 NACE Recommended Practice, RP0193, *External Cathodic Protection of On-Grade Metallic Storage Tank Bottoms*.
- 3.5.3 NACE Recommended Practice, RP0288-94, *Inspection of Linings on Steel and Concrete*.

3.6 National Fire Protection Association (NFPA)

- 3.6.1 NFPA-30, *Flammable and Combustible Liquids Code*.

3.7 Steel Tank Institute (STI)

- 3.7.1 STI SP001, *Standard for the Inspection of Aboveground Storage Tanks*.

3.8 Safety

- 3.8.1 EM 385-1-1, *U.S. Army Corps of Engineers Safety and Health Requirement, Appendix A Minimum Basic Outline for Accident Prevention*, and paragraph 6.

3.9 Unified Facilities Criteria (UFC)

- 3.9.1 UFC 3-460-01, *Petroleum Fuel Facilities*.

3.10 Unified Facilities Guide Specification (UFGS)

- 3.10.1 UFGS 09970, *Epoxy/Fluoropolyurethane Interior Coating Of Welded Steel Petroleum Fuel Tank*
- 3.10.2 UFGS 09971, *Exterior Coating System for Welded Steel Petroleum Storage Tanks*
- 3.10.3 UFGS 09973, *Interior Coating System for Welded Steel Petroleum Storage Tanks*
- 3.10.4 UFGS 01351, *Safety, Health, and Emergency Response*
- 3.10.5 UFGS 13205, *Steel Tanks with Fixed Roofs*

4.0 WORK REQUIREMENTS

Work shall be performed in compliance with applicable federal, state and local codes and regulations. This includes adherence to all military service regulations concerning safety, work quality and security.

4.1 Tank Cleaning

The tank(s) shall be professionally cleaned for personnel entry. The tank cleaning contractor shall coordinate all site work with the base POC and the designated Navy Technical Representative (NTR). The Contractor shall provide adequately trained personnel, necessary personal protective equipment (PPE) and conduct safety meetings in accordance to API 2015, 2016 and UFGS 01351.

4.1.1 Tank Lockout/Tag-Out

The contractor shall be responsible for ensuring the tanks are properly locked and tagged out and procedures shall be discussed with onsite personnel. Items for lockout/tag-out include: valves, pumps, motor starters, etc. Lockout/tag-out and shall also consist of installing skillets or temporarily replacing valves with blinds to prevent unauthorized fuel transfer into the tank.

4.1.2 Residual Fuel, Sludge and Wash Rinsates

The contractor shall be responsible for proper disposal of any residual fuel, sludge and/or wash rinsates, encountered during the tank cleaning if the facility cannot accept as stated in Section 2.0.

4.1.3 Floating Roofs (if applicable)

Unless otherwise stated in Appendix A of this SOW the base shall be responsible for installing the high level legs on tanks with floating roofs prior to performing the inspection. The Contractor shall make their best attempt to clean the interface between the floating roof and the tank shell and remove all fuel from floating roof seals.

4.1.4 Safe for Entry/Inspection Certification

A certified Marine Chemist or a certified Industrial Hygienist is to issue a Safe for Entry Permit after cleaning and before inspection and repairs.

4.2 Inspections

The type of inspection to be performed is identified in Section 2.0 for each tank. The inspector shall coordinate all site work with the designated Navy Technical Representative (NTR) and the base POC. The inspector shall arrive at the site with all testing equipment necessary to perform a thorough inspection. The inspector shall verify that all testing equipment is calibrated and in good working order and shall include proof in the inspection report. Facility personnel will be briefed on all inspection results before the inspectors leave.

4.2.1 In-Service API 653 Inspection of Aboveground Storage Tanks

This inspection shall be performed while the tank is still in service. The following shall be performed:

4.2.1.1 Non-Destructive Testing

4.2.1.1.1 Visual Inspection

Visually inspect the overall condition of the tank. This includes plates, corrosion, coating, welds, appurtenances, gauging, presence of cathodic protection, foundation, secondary containment, stairways, nozzles, grounding, etc.

4.2.1.1.2 Ultrasonic Thickness (UT) Measurements and Recording

Perform UT measurements of the tank shell, roof, and nozzles. UT measurements shall be taken around the first course and on the upper courses accessible by stairways. The UT reading will be used for documentation, shell/roof thickness acceptability, and if applicable, remaining life calculations.

4.2.1.2 Color Photographs

Color photographs shall be taken to document tank condition, discrepancies and overall construction.

4.2.1.3 API 653 Checklist in Appendix C

The appropriate API 653 Checklist in Appendix C shall be performed.

4.2.1.4 Mapping

As-built mapping shall be performed of shell and roof plate orientation. Stairways, appurtenances, manways, vents and other significant tank details shall also be included.

4.2.1.5 Settlement Survey and Evaluation

A shell and floor edge settlement survey shall be performed to identify edge settlement, differential settlement, and/or planar tilt. The results of the evaluation shall be discussed in the body of the report and the acceptability of these results shall also be made. A graphical representation of the settlement shall be included in the report. The tank will be accessed for out-of-roundness as well.

4.2.1.6 Coating

A coating assessment shall be made by the persons inspecting. The inspectors shall be familiar with military coatings, but if significant or complex coating issues are present the contractor shall provide a NACE certified coating inspector. The NACE inspector shall only be included at the request of the Contracting Officer. Dry Film Thickness (DFT) reading shall be taken at assessable tank locations (as applicable) to determine the average thickness readings of the internal/external shell, floor, and roof.

4.2.1.7 Secondary Containment

Visually inspect containment and assess the general secondary containment condition. Note the presence of cracks, settlement, and deterioration. Record condition and need for repairs is needed.

4.2.1.8 Tank Appurtenances

The tank nozzles, manways and other appurtenances shall be examined for adequacy and applicable standard compliance of wall thickness, reinforcement, weld spacing, and corrosion allowance. Tank accessories such as relief valves and level gauges shall be examined for general condition. Shell

nozzles and reinforcements shall be ultrasonic thickness tested for determination of minimum required thicknesses, corrosion rates, and remaining life.

4.2.1.9 Level Alarms/Water Draw-Off/ATG Systems/Vents

Identify methods/systems for level alarms, water draw-off, ATG, and venting systems. Gather operability information from onsite personnel. General condition and system functionality shall be included in the report.

4.2.2 Out-of-Service API 653 Inspection of Aboveground Storage Tanks

This inspection shall be performed while the tank is out-of-service. The following shall be performed:

4.2.2.1 Non-Destructive Testing

4.2.2.1.1 Visual Inspection (VT)

Visually inspect the overall condition of the tank. This includes plates, roof underside, corrosion, coating, welds, appurtenances, gauging, presence of cathodic protection, foundation, secondary containment, stairways, nozzles, grounding, sumps, etc.

4.2.2.1.2 Ultrasonic Thickness (UT) Measurements and Recording

Perform UT measurements of the tank shell, floor, roof, and nozzles. UT measurements shall be taken around the first course and on the upper courses accessible by stairways. The UT reading will be used for documentation, shell/roof/floor thickness acceptability, and if applicable, remaining life calculations.

4.2.2.1.3 Magnetic Flux Leakage (MFL)

MFL floor scanning shall be performed on all accessible areas of the floor. Topside or bottom side corrosion indications shall be verified by VT and/or UT. In areas inaccessible by scanning, a sufficient number of UT readings shall be taken to gain a representation of the bottom underside condition.

4.2.2.1.4 Vacuum Box Testing (VBT)

On uncoated floors and shells, VBT all welds on the tank floor and internal shell to floor weld. If the floor is coated, the contractor should have the capability to perform VBT if needed.

4.2.2.2 Color Photographs

Color photographs shall be taken to document tank condition, discrepancies and overall construction.

4.2.2.3 API 653 Checklist in Appendix C

The appropriate API 653 Checklist in Appendix C shall be performed.

4.2.2.4 Mapping

As-built mapping shall be performed of shell, floor, and roof plate orientation. Stairways, appurtenances, manways, vents and other significant tank details shall also be included.

4.2.2.5 Settlement Survey and Evaluation

A shell and floor edge settlement survey shall be performed to identify edge settlement, differential settlement, and/or planar tilt. The results of the evaluation shall be discussed in the body of the report and the acceptability of these results shall also be made. A graphical representation of the settlement shall be included in the report. The tank will be accessed for out-of-roundness as well.

4.2.2.6 Coating

A coating assessment shall be made by the persons inspecting. The inspectors shall be familiar with military coatings, but if significant or complex coating issues are present the contractor shall provide a NACE certified coating inspector. The NACE inspector shall only be included at the request of the

Contracting Officer. Dry Film Thickness (DFT) reading shall be taken at assessable tank locations (as applicable) to determine the average thickness readings of the internal/external shell, floor, and roof.

4.2.2.7 Secondary Containment

Visually inspect containment and assess the general secondary containment condition. Note the presence of cracks, settlement, and deterioration. Record condition and need for repairs is needed.

4.2.2.8 Tank Appurtenances

The tank nozzles, manways and other appurtenances shall be examined for adequacy and applicable standard compliance of wall thickness, reinforcement, weld spacing, and corrosion allowance. Tank accessories such as relief valves and level gauges shall be examined for general condition. Shell nozzles and reinforcements shall be ultrasonic thickness tested for determination of minimum required thicknesses, corrosion rates, and remaining life.

4.2.2.9 Level Alarms/Water Draw-Off/ATG Systems/Vents

Identify methods/systems for level alarms, water draw-off, ATG, and venting systems. Gather operability information from onsite personnel. General condition and system functionality shall be included in the report.

4.2.3 Modified API 653 Inspection

This section includes all other tanks that do not fall under the API 653 definition of an Aboveground Storage Tank.

4.2.3.1 Field Erected Cut and Cover Tanks

As applicable, use Section 4.2.1.10 "Out-of-Service Inspection of Aboveground Storage Tanks" for inspection of cut and cover tanks. The following will also be performed:

- 4.2.3.1.1 UT scan four locations from the tank floor/shell weld to the tank roof. This will used for shell backside evaluation.

4.2.3.2 Horizontal Cyclical Welded Steel Underground Tanks (Section to be included at a later date.)

4.2.3.3 Shop Fabricated Aboveground Tanks (Section to be included at a later date.)

4.2.3.4 Other (Section to be included at a later date.)

4.2.4 Steel Tank Institute Inspection

STI SP001 shall be used as guidance on all storage tanks not in contact with the ground. These tanks are typically smaller shop fabricated in a horizontal position. The purpose of the inspection shall be to document the tank and secondary containment condition, and ensure is the tank is not leaking.

4.3 Tank Calibration (Strapping Charts)

Prepare two calibration tables for each tank specified in Section 2.0, one in English units and one in metric units. Both tables shall show the volume of the fuel for all liquid levels in the tank starting at the shell to bottom joint and going up to the level of the overflow. Tank calibration shall be in accordance with API 2003 "Manual of Petroleum Measurements Standards" for "critical measurement," API Standard 2550 "Measurement and Calibration of Upright Cylindrical Tanks" and in accordance with UFGS Specification 33 56 13.13, paragraph 3.4.1.d (Chapter 2.2D, Internal Electro-optical Distance Ranging Method (EODR) (using a theodolite with an electronic distance ranging device).)

The English units calibration table shall show the volume of the fuel in barrels of 42 gallon and the level in 1/16-inch increments. The metric unit calibration table shall show the volume of the fuel in cubic meters and the level of the fuel in 2.0 mm increments. The zero level shall be the bottom of the shell. The level of the bottom of the shell and the level of the overflows shall be identified on the calibration table (strapping chart). The table shall not include tank volume above the level of the overflows. Preparation of new calibration tables from API report information or by interpolation of existing tables shall not be permitted. The table shall be certified by a

third party. The tables shall be include in the tank inspection report and in addition two laminated copies each of English and metric units provide shall be sent to the facility.

4.4 Tank Gauging Tubes (Stilling Wells)

The government is in the process of refining requirements for gauge tubes in all storage tanks. The standard design shall be used for the installation of the gauge tubes. Modification to any existing tubes shall be made if acceptable and feasible. All damaged coatings shall be repaired in accordance to UFGS 09770 and UFGS 09771.

4.4.1 Standard Design

The standard details shall be used for each tank identified in Section 2.0 and the Contractor shall make site specific adjustments as appropriate for each tank. The Contractor shall develop applicable details to retrofit identified tanks. Location of gauging tubes is critical for water and temperature sensing. Tubes shall be constructed of schedule 40 aluminum. Special considerations shall be made for unusual circumstances such as geodesic domes, very large or uncommonly shaped tanks, etc. These special circumstances will be addressed in Section 2.0.

4.4.2 Gauge Tube Requirements

The gauge tubes will need to provide the capability for the ATG system servo float, the temperature sensor (maybe included inside the ATG system gauge tube), and manual gauging.

4.5 Repairs

The Government shall have the option to modify the contract to include repairs identified during the inspection. This section shall include all repairs identified in the inspection, but shall not include tank gauge tubes that are in Section 4.4. If significant repairs are needed, the Government will require an API 653 inspector certify all repairs/NDT work. If repairs are deemed necessary, the government will submit a scope of work for repairs and request a modification to the existing contract. Once modification is awarded, the contractor shall prepare the following:

4.5.1 Work Plan

The Contractor shall prepare a Work Plan and it will be reviewed and approved before performing repairs to the tank(s). The Contractor shall have the option to amend the existing Work Plan or create a new plan. The Work Plan shall incorporate all Federal, State, and Local environmental regulations. The Repair Work Plan shall include all information requested in Section 5.2, but should also include the following if applicable:

4.5.1.1 Hydrostatic Testing Plan

If significant repairs are made, especially in the tank critical zone, the contractor may recommend a hydrostatic test be performed. The hydro test shall be performed in accordance to API Standard 653. Personnel performing the test shall be identified and documentation on qualifications shall be submitted.

4.5.1.2 Non-Destructive Testing (NDT)

The Contractor shall be responsible for performing all necessary NDT to prove the validity of repairs. NDT methods and technician qualification shall be chosen and applied according to API Standard 653.

4.5.2 Health and Safety Plan

The Health and Safety Plan for the repairs shall follow all the guidelines in Section 5.3.

4.5.3 Repair Certification Reports

A separate report shall be provided for each tank repaired. These reports will include thorough documentation all work performed. Hard copies of each tank shall be bind in plastic ring binding with a plastic sleeve inside to hold electronic copy of each report. NFESC will provide the cover and report number.

Repair Reports Shall Include:

- 4.5.3.1 Executive Summary
- 4.5.3.2 Suitability for Service Statement
- 4.5.3.3 Work Performed
- 4.5.3.4 Timeline

Appendices:

- 4.5.3.5 Documenting Photographs
- 4.5.3.6 Personnel Certifications
- 4.5.3.7 NDT Documentation
- 4.5.3.8 QC Documentation
- 4.5.3.9 Materials and Coating Data
- 4.5.3.10 As-built Drawings, if applicable
- 4.5.3.11 API 653 follow up inspection (if deemed necessary)

5.0 POST AWARD, PRE-WORK SUBMITTALS

Prior to the start of work, all submittals shall be reviewed and approved in accordance to Appendix xxx.

5.1 Schedule

After contract award, a projected schedule with dates of mobilization, major milestone and demobilization shall be submitted.

5.2 Work Plan

Provide a written plan for cleaning, inspecting and stilling well repairs for the requested storage tanks in Section 2.0. The work plan shall include the following:

5.2.1 Project Summary and Background

5.2.2 Detailed Schedule

This schedule shall have more detail the previous schedule required in Section 5.1.

5.2.3 Methodology

Provide details on the proposed methodology for completing the required work.

5.2.4 Execution Strategy

Provide strategy for execution. This should include incorporate the work methodology and schedule along with quality control, mobilization/demobilization, applicable permitting, etc.

5.2.5 Key Personnel and Subcontractors

Provide contact information for key personnel and subcontractors. Include brief description qualifications and responsibilities of all parties.

5.2.6 Materials and Equipment to be Used

Provide list materials and major equipment to be used. These items will need to be review and approved by the NTR. Material specification sheets shall be submitted in accordance to Appendix D.

5.2.7 Hazardous Waste Disposal

Provide a plan for proper identification, handling, storage, transportation and disposal of any anticipated hazardous material.

5.3 Health and Safety Plan (H&SP)

5.3.1 General Work Safety

The Contractor shall submit a Health & Safety Plan detailing such items as briefings, training, hazard control, general housekeeping, personal protective equipment, etc. Submit in accordance with EM 385-1-1 Appendix A Minimum Basic Outline for Accident Prevention. It is stressed the contractor shall perform all work in a safe manner and maintain all proper documentation. A complete hard copy of the H&SP shall be on-site at all times.

5.3.2 Confined Space Plan

Only a qualified person shall issue tank entry and confined space permits. Tank atmosphere shall be gas-freed and monitored in accordance with OSHA guidelines for oxygen content, flammable, and toxic vapors. API standard 2015 and 29 CFR 1910.146 shall also be followed.

5.3.3 Hazardous Materials Handling

Hazardous material handling shall be performed according to the manufacturer's specifications and conform to all applicable federal, state, and local regulations. Personnel handling hazardous materials shall be properly trained and provided with any required personal protective equipment (PPE).

5.3.4 Environmental Protection

Preventative measures shall be addressed and followed to protect the environment from any work being performed. This section shall also discuss contingency plans to contain and clean up in the event a spill.

5.3.5 Hot Work

Hot work permits shall be obtained prior to any hot work being performed. Hot work procedures for both above the floor work and on the floor work shall be included in the H&SP as well as the Work Plan. The Contract shall obtain Hot Work permits from a Marine Chemist or Certified Industrial Hygienist and also the local base fire department. Hot work is defined as welding, cutting, etc. Abrasive blasting will be considered hot work unless stated otherwise in Section 2.9.

5.4 Personnel and Contractor Qualifications

Provide information on experience, training and licensing.

5.4.1 Project Manager

The Project Manager for this project shall have the technical and practical background in petroleum storage tank construction and inspection. This person shall be familiar with the applicable API, STI, and other Military standards and recommend practices. This person shall be knowable of appropriate NDE/NDT techniques and quality assurance of these practices.

5.4.2 Site Manager

The Site Manager for this project shall have the technical and practical background in petroleum storage tank construction and inspection. This person shall be familiar with the applicable API, STI, and other Military standards and recommend practices. This person shall be knowable of appropriate NDE/NDT techniques and quality assurance of these practices. The site manager will also ensure all persons onsite are abiding to all safety measures outlined in the Health and Safety Plan.

5.4.3 Tank Cleaning Personnel

Tank cleaning personnel shall be trained in all safety equipment and procedures needed to perform work. This shall include, but not be limited to confined space, hazardous material handling, hazardous atmosphere monitoring, fall protection, etc. All appropriate safety regulations and guidelines shall be followed.

5.4.4 API 653 Inspectors

The inspectors shall be experienced with various types of storage tanks. Inspectors shall be a certified in accordance with to API 653 Appendix D - Authorized Inspector Certification. Inspectors shall furnish proof of API certification.

5.4.5 NDE/NDT Technicians

All non-destructive examination (NDE) testing shall be conducted by personnel qualified to ASNT Level II in accordance with inspection company's procedures or by an ASNT Level I qualified individual under the direct supervision of an ASNT Level II or Level III. Technicians shall provide NDE/NDT qualifications.

5.4.6 STI Inspectors

Inspectors performing STI inspections shall be certified in accordance to STI SP001.

5.4.7 Welders

Welding Procedure Specification (WPS) and welders shall be qualified in accordance with Section IX of the ASME Code. Personnel performing welds shall be experienced with construction and repairs of petroleum storage tanks and pipelines.

5.4.8 Coating Applicators

All contractors and subcontractors that perform surface preparation and coating application shall be certified by the Society for Protective Coatings (formerly Steel Structure Painting Council) (SSPC) to the requirement of SSPC QP 1 prior to contract award, and shall remain certified while accomplishing any surface preparation or coating application. Contractors shall be familiar with military coatings and experienced with their application.

5.4.9 National Association of Corrosion Engineers (NACE) Inspector – (If applicable)

As an option, a tank coating inspection shall be performed by a certified NACE Level III Coatings Inspector in accordance with the National Association of Corrosion Engineers (NACE).

5.4.10 Marine Chemist/Industrial Hygienist

The Marine Chemist or Certified Industrial Hygienist shall be certified by the American Board of Industrial Hygiene.

5.4.11 Tank Calibration Personnel

Contractor shall provide the services of a specialty calibration organization to provide tank field measurements to produce tank calibration charts (strapping tables) and electronic data files for use by the ATG system.

5.5 Daily Reports

Daily reports shall be generated by the contractor for each work day while on site. Daily reports shall be emailed by 0900 the following work day to the NTR and all agreed upon parties. A daily report format is included in Appendix C.

5.6 Inspection Reports

5.6.1 Preliminary Reports

Upon completion of the field work, a preliminary report shall be communicated to the NFESC. This information will be utilized in determining whether repairs need to be accomplished prior to returning the tank(s) into service. Preliminary reports shall be submitted within 48 hours of completing each inspection.

As a minimum, preliminary inspection reports shall include:

- 5.6.1.1.1 Tank ID, location, and inspection date
- 5.6.1.1.2 Statement if tank is suitable for service or should be removed or reduced from service.
If tank is unsuitable for service, a brief description of tank issue(s) shall be discussed.
- 5.6.1.1.3 Inspector(s) name, certification number, and date.

5.6.2 Inspection Reports

A separate report shall be provided for each tank inspected. Provide hardcopies of each report in plastic ring binding with a plastic sleeve inside to hold an electronic copy of each report. NFESC will provide the report covers with a report number.

Inspection Reports shall include:

5.6.2.1 Executive Summary

One page summary of the condition of the tank and basic recommendations for repairs

5.6.2.2 Suitability for Service Statement

This statement shall be a one page document with both the API 653 inspector's number and signature and the professional engineer's stamp and signature.

5.6.2.3 Tank History

The inspector shall establish a complete historical record of the entire tank. The records shall include as much information as possible including:

- 5.6.2.3.1 Nameplate Information
- 5.6.2.3.2 Products previously and presently stored in the tank
- 5.6.2.3.3 List of previous inspections
- 5.6.2.3.4 List and describe any significant environmental (earthquake, hurricane, etc) or operational (over-pressure, vacuum, foundation settlement, etc) events.
- 5.6.2.3.5 List and describe any repairs or alterations performed (Include significant drawings, executive summaries from other repair reports, etc in the Report Appendix).
- 5.6.2.3.6 Other pertinent information and details.

5.6.2.4 Methodology

Detailed discussion on the actual methodology of how each component was inspected. This section includes type of inspection, equipment, and methods.

5.6.2.5 Findings

Detailed description of each component including containment, foundation, bottom, shell, appurtenances, access ways, floating roof/pan, and fixed roof. Provide discussion on all findings.

5.6.2.6 Recommendations

Recommendations shall be included in the report and broken into three categories. These categories are Mandatory, Near Future, and Long Term repairs.

5.6.2.6.1 Mandatory

Provide mandatory actions that need to be completed before the tank can be returned to service.

5.6.2.6.2 Near Future

Provide recommended actions that should be programmed for completion within 2-3 years. All recommendations shall be accompanied by a recommended completion date.

5.6.2.6.3 Long Term

Provide recommended actions that currently have no adverse affect on tank operability or integrity but should be monitored and/or performed to ensure long term continued service. All recommendations shall be accompanied by a recommended completion date.

5.6.2.7 Report Appendices

5.6.2.7.1 Data (UT, MFE, Settlement, Safe Fill Heights, etc)

Include all data collected during the inspection along with an interpretation and discussion of the data. Data will be in tabular form with tank locations.

5.6.2.7.2 API checklist in API 653 Appendix C

Include actual notes and readings taken by the field inspector including: tank history, visual checklist and definitive inspection results.

5.6.2.7.3 Drawings

As a minimum, the following drawings, if applicable, shall be included in the report: shell, roof, and floor plate orientation with appurtenances and other significant tank details.

5.6.2.7.4 Photographs

Color photographs with captions shall be included to document tank condition, discrepancies and overall construction.

5.6.2.7.5 Calculations

Provide calculations required by API 653. This includes determination of the minimum shell thickness, next inspection date, safe fill height, settlement, nozzle reinforcement requirements, and estimated remaining service life of shell, nozzles, roof and floor.

5.7 Project Certification Reports

A separate report shall be provided for each tank on this task order. These reports shall include thorough documentation of all work performed. This includes cleaning, inspection, repairs, stilling well installation, strapping charts, etc. Hard copies of each tank report shall be bound in plastic ring binding with a plastic sleeve inside to hold electronic copy of each report. NFESC will provide the cover and report number.

Project Certification Reports Shall Include:

- 5.7.1.1 Executive Summary
- 5.7.1.2 Suitability for Service Statement
- 5.7.1.3 Work Performed (Include all subcontractors, with contact information)
- 5.7.1.4 Timeline

Appendices:

- 5.7.1.5 Documenting Photographs
- 5.7.1.6 Personnel Certifications
- 5.7.1.7 NDE Documentation
- 5.7.1.8 Quality Control Documentation
- 5.7.1.9 Materials, Equipment Specifications, and Coating Data
- 5.7.1.10 As-built Drawings, if applicable
- 5.7.1.11 API 653 follow up inspection (if deemed necessary)
- 5.7.1.12 Hazardous Waste Manifest

5.8 Materials, Workmanship, Quality Control and Testing

- 5.8.1 The contractor shall provide materials, workmanship, quality control and testing in accordance with the Work Plan. (Refer to paragraph 5.2 above).
- 5.8.2 The Contractor shall provide shop drawings and material specification sheets of all materials and major equipment to be used in accordance with the Submittal Register (refer to paragraph 5.5 above). Shop drawings and material specification sheets shall be submitted in accordance with Appendix H for Government Review and Approval.
- 5.8.3 The contractor shall provide reports from all quality control and testing in accordance with the Submittal Register. These reports shall be submitted in accordance with Appendix H for Government Review and Approval.

5.9 Submittal Register

- 5.9.1 The Contractor shall prepare and submit the Submittal Register, "SUBMITTAL FORM, Jan 96", found in Appendix G of this SOW. Columns (a) thru (I) shall be completed by the Contractor for all submittals required.
- 5.9.2 The Contractor shall prepare and maintain the submittal register as the work progresses. The submittal register is to be included with all submittals with the appropriate columns filled-in. Additional information concerning the Submittal Register is may be found in UFGS 01 33 00.
- 5.9.3 The Submittal Register shall be submitted in accordance with Appendix H for Governmental Review and Approval.
- 5.9.4 No work is to start on-site prior to review and approval by the Government.

6.0 MEETINGS

6.1 Work Kickoff Meeting

A Work Kickoff meeting will be coordinated by NFESC to establish the responsibilities of each party involved, discussion of the schedule, and to ensure a mutual understanding of the scope.

6.2 Repair Kickoff Meeting (If applicable)

A Repair Kickoff Meeting shall be held if work outside the original scope is being performed. This does not apply stilling well installation. This meeting is to be conducted to establish each party's responsibilities and achieve consensus on the repairs scope.

6.3 Work Completion Walk Through

Upon completion of the required tasks a Work Completion Walk Through is to be conducted. The purpose of this meeting is to ensure that all the government's requirements and expectations have been successfully completed and the government will accept all work performed.

7.0 BID PROPOSAL REQUIREMENTS

The contractor bid proposals are to include the following:

7.1 Brief Work Plan

A brief statement of how the contractor plans to complete the required tasks.

7.2 Schedule

Provide a schedule which identifies major milestones along with projected start and end dates.

7.3 Project Personnel and Subcontractors

Provide the names and contact information for the planned project personnel and subcontractors.

7.4 Costs Proposal

Provide a cost proposal for entire project. As part of the proposal, costs for cleaning, inspecting, and repairing each tank shall be included. These broken out costs will be used for government information only and the project will not be de-scoped according to them.

APPENDIX A
TANK INFORMATION

Tank ID	Site 1 Tank 5	Site 1 Tank 17
Facility Number	332	344
Capacity (specify gal or bbls)	12,697,986 gal	12,712,392 gal
Tank configuration	UST Vertical	UST Vertical
Construction Date	1942	1943
Product	JP-8	JP-5
Diameter	100'	100'
Height	250'	250'
Tank Material	Concrete with Welded Steel liner	Concrete with Welded Steel liner
Type of roof (if applicable)	N/A	N/A
If floating, can facility have high legs installed?	N/A	N/A
Type and date of last coating application	N/A	N/A
Date of last cleaning	N/A	N/A
Date of last out-of-service (internal) API 653 inspection. Can inspection report be provided?	1982	1974?
Date of last in-service (external) API 653 inspection. Can report be provided?	N/A	N/A
How far can tank be drained down? Est remaining product in gal or inches		
Is sludge anticipated? Estimate amt.		
Can facility provide water for tank cleaning? Is there a limit?	Yes/No	Yes/No
Can facility accept oily water or sludge from the tank cleaning?	w/ EMD approval	w/ EMD approval
If so, how many gallons and/or drums? Is there any testing or other requirements?		
Maximum time tank can be down		
Sump Location (center or edge?)	Center	Center
Bottom (Flat, Cone-up, Cone-down)	Cone-down	Cone-down
ATG stilling wells? If so, what size & location? at center, off center, or edge of tank?		
Slotted or Non-slotted		
Manual gauging still well? If so, what size & location? at center, off center, or edge of tank?		
Slotted or Non-slotted		
Water probe stilling well? If so, what size & location? at center, off center, or edge of tank?		
Slotted or Non-slotted		
Center roof vent		
Known or anticipated problems with the tank? (ie level shutoffs, coating, water intrusion in secondary containment, etc.		
Please provide any information about scheduling. (ie how many tanks can be take out of service at a time, for how long, can tanks be staggered, etc)	1 tank per product	1 tank per product
Can drawings of the tank construction/orientation be provided?	yes	yes
Other Comments		

APPENDIX B

GAUGE TUBE STANDARD DESIGN

Attached electronic files

APPENDIX C

GOVERNMENT FURNISHED INFORMATION

APPENDIX D removed intentionally – incorporated by reference

APPENDIX E

DAILY REPORT FORMAT

DAILY PRODUCTION REPORTS

A Production Report is required for each day that work is performed on the tanks. Unless unusual circumstances arise, the Production Report should be limited to 1-2 pages. The report is informal and can consist of hand written notes on a standard form. The report shall account for each calendar day while on-site. The reporting of work shall be identified by terminology consistent with the statement of work. Contractor Production Reports are to be prepared, signed and dated by the contractor's on-site Project Supervisor and shall contain the following information:

- 1.0 Date of report, report number, name of contractor, Delivery Order Number, title and location of tasks, and Construction manager present.
- 2.0 Weather conditions in the morning and in the afternoon. Include temperature, wind, rain, fog, and humidity.
- 3.0 A list of contractor and subcontractor personnel on the work site, their trades, employer, work location, descriptions of work performed, and hours worked.
- 4.0 A list of contractor and subcontractor equipment on the work site, rented or owned, if rented-from who, location, description of work performed with equipment and hours the equipment was on-site, used, idle, and/or down for repair.
- 5.0 A list of job safety actions taken and safety inspection conducted. Indicate that safety requirements have been met including the results of the following:
 - 5.1. Was a job safety meeting held? (If YES, attach a copy of the meeting minutes.)
 - 5.2. Were there any lost time accidents? (If YES, attach a copy of the completed OSHA report.)
 - 5.3. Was crane/trenching/scaffold/high voltage electrical/ high work done? (If YES, attach a statements or checklist showing inspection performed.)
 - 5.4. Was hazardous material/waste released into the environment? (If YES, attach a description of what was released, how it was released, actions taken to contain/clean-up, people/organizations contacted, meetings held, and future actions to be taken.)
 - 5.5. A list of material received each day that is incorporated into the project.
 - 5.6. Include a "diameterRemarks" diameter Section in the report which will contain the following: pertinent information including problems encountered during work, delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, minutes of QC meeting and/or other meetings, and a record of visitors to the work site.

APPENDIX F

INSPECTION/REPAIR SUMMARY TEMPLATE

Tank Inspection Summary Sheet	
Tank Location	
Tank No. (plus previous identification)	
Facility Number	
Inspection Date(s)	
Tank Type	(AST, UST, Vertical, Horizontal, In Contact w/ground, etc)
Type of Inspection	(In-Service, Out of Service, Modified, API, STL, Other, etc)
Contract Number, Task Order	
Prime Contractor Name	
Inspector, Cert #, Inspection Company	
Manufacturer, Date, Design Standard	
Diameter	
Height/Safe Fill Height	
Product/Specific Gravity	
Design Pressure/Temperature	
Gross Capacity/Nominal Capacity	
Safe Fill Height	
GPS Latitude & Longitude	
Foundation Configuration	
Shell Configuration	(# of courses, heights of each, thickness, etc)
Floor Configuration	(annular ring, sketch plates, butt welded, lap welded, etc)
Roof (Fixed, Floating or both, Seal type)	
Cathodic Protection, if so what type	
Stilling Wells (Sizes, Applications)	
Last Inspection (type, date)	
Last Coated Internally (Product)	
Last Coated Externally (Product)	
Inspection Results	
Can tank be returned to service?	Yes / No (If No, explain)
Deficiencies identified as mandatory repairs	
Deficiencies identified as recommended repairs	
Deficiencies identified as long term repairs	
Next Scheduled Inspection (type, date)	
Upgrades / Repairs Made at this Time	Use second page if more space is needed
Tank Re-Calibration to 1/16 in	Yes / No (if Yes, when)
Stilling Wells	
Coating (specify system, location)	
Floor (including sump)	
Shell	
Vents / Appurtenances	

Secondary Containment	
Other:	
General Comments	

APPENDIX G
SUBMITTAL FORM

APPENDIX H

SUBMITTAL LIST, SCHEDULE, AND DISTRIBUTION

SUBMITTAL LIST, SCHEDULE, AND DISTRIBUTION

SUBMITTAL	SUBMITTAL SCHEDULE			DISTRIBUTION - NUMBER OF COPIES	
	DRAFT (WACA)	GOVT Review	FINAL (WAGR)	NFESC	SCAN
Schedule	2 weeks	1 week		EC	
Submittal Register	2 weeks	1 week	1 week		
Draft				EC	
Final				EC	
As Required				EC	
Work Plan					
Draft	3 weeks	2 weeks	1 week	EC	
Final				EC	
Quality Control, Testing Reports, etc	In Accordance with Submittal Register			EC	
Health And Safety Plan					
Draft	3 weeks	3 weeks	1 week	EC	
Final				EC	
Qualifications	2 weeks	1 week	-	EC	
Shop Drawings, Material Information, etc	In Accordance with Submittal Register			EC	
	DRAFT (WACO)	GOVT Review	FINAL (WAGR)		
API 653 Reports					
Preliminary	48 hrs	-	-	EC	
Draft	4 days	2 weeks	2 weeks	EC	
Final				4 HC w/ CD, 4 additional CDs	
Work Certification Report					
Draft	4 weeks after completion of field work	2 weeks	1 weeks	EC	
Final				4 HC w/ CD, 4 additional CDs	
Quality Control Daily Reports ②				EC	EC
Meeting Minutes ②, ③				EC	

NOTES:

WACA – Weeks after Contract Award, WACO – Weeks after Completion

GOVT Review – Number of weeks for Government review after receipt of submittal.

WAGR – Weeks after Government Review

EC = Electronic Copy, HC = Hard Copy

☉ - Daily reports shall be e-mailed daily, by 0900 local time, the following day.

☉ - Minutes of meetings shall be e-mailed no later than three (3) working days following each meeting.

APPENDIX I

PRE-CONSTRUCTION AGENDA

PRE-INSPECTION MEETING

[TANK XX]

[FACILITY, CITY, STATE]

[DD MONTH YYYY]

[time hrs]

AGENDA

- * NFESC OPENING REMARKS/BRIEF TEAM INTRODUCTIONS
 - * ROLES & RESPONSIBILITIES – PROJECT ORGANIZATION
 - * INSTALLATION SUPPORT – [FACILITY] / COORDINATION
 - * EXECUTION PLAN
 - Summary Project Scope
 - Meetings
 - Project Documentation - Submittals
 - Quality Control – Corrective Actions
 - * HEALTH & SAFETY
 - * WASTE MANAGEMENT/DISPOSAL PROCEDURES
 - * ACTION ITEMS (Specific Project Issues – Logistics – Scheduling)
 - * SITE WALK (as necessary)
 - * OFF-LINE DISCUSSIONS – Subcontractor Invoicing Procedures, procurements, etc.
 - - Adjourn - -
-

TEAM INTRODUCTIONS

NFESC – NTR (COTR and ROICC),
 [FACILITY Personnel - (Opening Comments/Introductions)
 Construction Team:

Prime: [Contractor's Name]
 Tank Cleaning: [Name]
 Tank Inspection: [Name]
 Tank Repairs: [Name]

• **ROLES & RESPONSIBILITIES – PROJECT ORGANIZATION**

[Prime Contractor]

Project Manager, Construction Site Manager, Superior Industrial Maintenance Foreman, Procurement Manager, Contract Manager

[FACILITY]

Point(s) of Contact and Individual Roles

NFESC

COTR/ROICC, Assistant ROICC, CO

LINES of COMMUNICATION

Subcontractors → [Prime] → ROICC/AROICC → [FACILITY] → NFESC

• **INSTALLATION SUPPORT- COORDINATION**

- ☐ Security/Site Access (Base security force, escorts, contractor vehicle requirements, contractor personnel information requirements, material deliveries, etc.)
- ☐ [FACILITY] Fire Department
- ☐ [FACILITY] Environmental
- ☐ [FACILITY] Fuels Manager
- ☐ LB&B
- ☐ Hours of Operation (Monday – Friday 7am – 4 pm; Saturdays only with special permission/circumstances)
- ☐ Utility Coordination (Water, Fire hydrants, Electric, Telephone) with [FACILITY]
- ☐ Confined Space Entry Permits & Hot Work Permits (FACILITY and Fire Safety)
- ☐ Project Trailer/Facilities (break areas, portable toilets, restricted cell phone usage)
- ☐ Contractor Laydown Area(s)

• **EXECUTION PLAN**

- ☐ **Summary Project Scope**
 - Discuss Inspection/Repair work to be performed and general sequence
 - Stilling Well installation
 - Schedule
- ☐ **Meetings**
 - Daily Safety Tailgate Meetings
 - Weekly Construction Meetings w/FISC (if requested)
 - 50% Project Completion Meeting (after ?)
 - Pre-Final Completion Walk-Through Meeting (Develop punch list items)
 - Final Inspection/As-built Review Meeting (if necessary)

☐ **Project Documentation**

- ☐ Construction Submittals (Material Approval Forms; Electronic review /Approval Process, Review and Approval Distribution)
- ☐ Daily Production Reports
- ☐ QC Inspection Checklists

☐ **Quality Control - Corrective Actions**

- ☐ QC Field Inspections/Reports – Response/Corrective Action
- ☐ Material Approval Submittal Process – [Prime/Sub] QC check of submittals
- ☐ H&S Audits/H&S non-conformance observations

• **HEALTH & SAFETY**

Job-Specific Safety Topic:

- ☐ Site Health & Safety Officer –[Prime Contractor]
- ☐ Daily Tailgate Safety Meetings
- ☐ [Prime] H&S Inspections - Subcontractor PPE & Subcontractor H&S Contacts
- ☐ Traffic Plan – Barricades, specific routing requirements
- ☐ Daily Housekeeping at jobsite
- ☐ Hurricane Preparedness Plan
- ☐ Emergency / Incident Notification and Procedures – Route to Hospital

• **WASTE MANAGEMENT/DISPOSAL PROCEDURES**

- ☐ Wash water, PCW management / hydro test water management
- ☐ Coatings abatement: General waste manifest requirements, Notifications
- ☐ Material waste/general construction debris disposal

• **SPECIFIC PROJECT ISSUES – LOGISTICS – SCHEDULING**

- ☐ Tank Cleaning and API Inspections
- ☐ Initial hot work permit, subsequent hot work permits
- ☐ Finalize Design Repair package after API 653 Inspection
- ☐ Tank repair work – initial work and repairs mandated by specific design details

• **ACTION ITEMS**

CLARIFICATIONS

Clean, Inspect, and Repair Tanks 5 & 17
FISC, Pearl Harbor, HI

October 20, 2009

Clarifications #1