Services for diesel fuel tanks maintenance and dispensing equipment replacement at Vega Baja Readiness Center, Mayagüez Readiness Center, and Gurabo Readiness Center

Different Facilities, Puerto Rico

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PART 1

GENERAL INFORMATION

1.1 ACRONYMOUS

1.2 DEFINITIONS

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1.6 FUNDS

PART 1: GENERAL INFORMATION

1.1 ACRONYMOUNS

AR Army Regulations
ASG Administración de Servicios Generales
AT/OPSEC Antiterrorism/Operational Security Background Investigation
CFMO Construction and Facilities Management Office
CFR Code Federal Regulation
CM Contract Manager
COR Contracting Officer Representative
DA Department of the Army
DD254 Department of Defense Contract Security Classification Specification
DFARS Defense Federal Acquisition Regulation Supplement
DoD Department of Defense
EPA Environmental Protection Agency
FAR Federal Acquisition Regulation
NIOSH National Institute for Occupational Safety and Health
NGB National Guard Bureau
OSHA Occupational Safety and Health Agency
POC Point of Contact
PPE Personal Protective Equipment
PRARNG Puerto Rico Army National Guard
RUL Registro Unico de Licitadores
SAM System for Award Management
US United States

1.2 DEFINITIONS

Change Order - A written order issued by the PRARNG, or its duly authorized representative, to the Contractor, signed by both parties, covering, additions, deletions, and/or revisions in the Work and/or an adjustment in the Contract Price and/or the Contract Time, if any, issued on orafter the Effective Date of the Contract. In Unit Price Contracts, a Change Order can also reflect a change in the number of items, as well as an increase or decrease, contained in the proposal. In Lump Sum Contracts, it reflects an order for additional or less work.

Contract - a written agreement, especially concerning with detailed services herein in this document.

Contractor - is an individual or entity that conducts business and is duly organize under the laws of the Government of Puerto Rico or foreign commercial organizations authorized to do business in Puerto Rico, registered in “Registro Unico de Licitadores” under the Puerto Rico General Services Administration (ASG), with: Unique Entity Identifier, CAGE Number and be active in SAM Registry. It will be who be select to perform the services and works described in this request.

Days - this term will be considered as calendar days.

Government - means Government of Puerto Rico, it is inclusive but not limited toother branches, municipalities and instrumentalities that administer Puerto Rico.

PRARNG – means Puerto Rico Army National Guard.

Project Schedule - A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Work

within the Contract Time.

Subcontractor - A Subcontractor is an individual or entity that has a direct contract with the Contractor to perform any of the Work at the Site. The term Subcontractor as referred throughout the Purchase Order Documents means the Subcontractor or his authorized representative.

1.3 OVERVIEW

The Vega Baja Readiness Center, PRANG, have a refueling area that have one Above Storage Tank of 5,000 Gallons capacity of diesel. The tanks have a stair that give access to the top where are located a manhole, vents, and other fittings. Close to the tank is the dispenser that have electrical rigid pipelines. The dispenser is at the right side of the spill control area where the vehicles are refueled. The existing dispenser is a system of dispenser and pump by GPI lnc. and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions

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The Mayagüez Readiness Center, PRANG, have a refueling area that have one Above Storage Tank of 4,000 Gallons capacity of diesel. The tanks have a stair that give access to the top where are located a manhole, vents, and other fittings. Close to the tank is the dispenser that have electrical rigid pipelines. The dispenser is at the right side of the spill control area where the vehicles are refueled. The existing dispenser is a system of dispenser and pump by Tuthill Transfer System Co. and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions.

The Gurabo Readiness Center (RC) have a refueling canopy area that have one Above Storage Tank of 5,000 Gallons capacity of diesel. The tanks have the same specifications of tank located in Vega Baja. Close to the tank is the dispenser that have underground electrical pipelines. The main electrical panel three phase, 100 Amps, which have connected the pump and the dispenser system, is located at the right side of the refueling canopy area. The power supply line that are underground actually not have continuity. The dispenser is at the left side of the canopy area with a lineal distance of separation of approximately 57 feet. The dispenser is a model 91520 by Gasboy and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions.

1.4 DESCRIPTION

Provide maintenance to both Aboveground Storage Tank (AST) of diesel including the stair, and the yellow safety bars (cleaning, paint and place the corresponding safety labels by federal and local codes). Besides, replace electrical power lines and the diesel fuel dispenser. The installation of electrical system shall comply with all building codes and regulations, fire preventions, environmental codes, federal and states codes including the NEC 501.1, NEC 500.7, NFP70, NFPA30 and NFPA 395. The disposition of combustible shall comply with the regulation for the control of atmospheric pollution of the environmental quality board in Puerto Rico, and (EPA CFR- 40 Part-112).

1.5 PERFORMANCE PERIOD

Contractor will develop the activities indicated in the scope of work in a term of 6 months.

1.6 FUNDS

Appropriation funds for the project are 50% Federal and 50% State.

PART 2

COST PROPOSAL CONSIDERATION

2.1 SCOPE

2.2 CONDITIONS

2.2.1 GENERAL CONDITIONS

2.2.1.1 ADMINISTRATIVE

2.2.1.2 SAFETY REQUIREMENTS

2.2.1.3 PERMITS

2.2.1.4 INSURANCES REQUIRED

2.2.1.5 TECHNICAL

2.2.2 FEDERAL GENERAL CLAUSES

2.2.3 IMPERATIVE INCLUSION CLAUSES

2.2.4 SECURITY AND PROTECTION REQUIREMENTS

2.2.4.1 Anti-Terrorism/Force Protection

2.2.4.2 iWATCH

2.2.4.3 TARP

STATEMENT OF WORK

Diesel Fuel Tanks Maintenance and Dispensing Equipment Replacement Services located in Vega Baja, Mayagüez and, Gurabo Readiness Center

PREPARED BY:

SSG Ramdy Ramos
Facility Management Specialist

DATE: March 2023

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Part 1

GENERAL INFORMATION

1.0 Background
1.1 Objectives
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PART 1 GENERAL INFORMATION

1.0 Background

Vega Baja Readiness Center, PRANG, have a refueling area that have one Above Storage Tank of 5,000 Gallons capacity of diesel. The tanks have a stair that give access to the top where are located a manhole, vents, and other fittings. Close to the tank is the dispenser that have electrical rigid pipelines. The dispenser is at the right side of the spill control area where the vehicles are refueled. The existing dispenser is a system of dispenser and pump by GPI Inc. and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions.

Mayagüez Readiness Center, PRANG, have a refueling area that have one Above Storage Tank of 4,000 Gallons capacity of diesel. The tanks have a stair that give access to the top where are located a manhole, vents, and other fittings. Close to the tank is the dispenser that have electrical rigid pipelines. The dispenser is at the right side of the spill control area where the vehicles are refueled. The existing dispenser is a system of dispenser and pump by Tuthill Transfer System Co. and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions.

The Gurabo Readiness Center (RC) have a refueling canopy area that have one Above Storage Tank of 5,000 Gallons capacity of diesel. The tanks have the same specifications of tank located in Vega Baja. Close to the tank is the dispenser that have underground electrical pipelines. The main electrical panel three phase, 100 Amps, which have connected the pump and the dispenser system, is located at the right side of the refueling canopy area. The power supply line that are underground actually not have continuity. The dispenser is at the left side of the canopy area with a lineal distance of separation of approximately 57 feet. The dispenser is a model 91520 by Gasboy and the tank system is constructed as (Hoover Vault Tanks) UL 142 listed secondary containment tank, utilizing steel inner and outer tanks by Containments Solutions.

1.1 Objectives

Provide maintenance to both Aboveground Storage Tank (AST) of diesel including the stair, and the yellow safety bars (cleaning, paint and place the corresponding safety labels by federal and local codes). Besides, replace electrical power lines and the update the diesel fuel dispenser. The installation of electrical system shall comply with all building codes and regulations, fire preventions, environmental codes, federal and states codes including the NEC 501.1, NEC 500.7, NFP70, NFPA30 and NFPA 395. The disposition of combustible shall comply with the regulation for the control of atmospheric pollution of the environmental quality board in Puerto Rico, and (EPA CFR-40 Part-112).

1.2 Description

For the tank located in **Vega Baja Readiness Center**: this project consists of completely replacing the diesel dispensing system, giving maintenance to the Aboveground Storage Tank, cleaning and paint the floor area where it is located including the Spell Control Area, and providing all the necessary devices for the electrical supply of the new system. The new system shall have the capacity to dispense the flow from 2,500 gallons per hour to 3,000 gallons per hour and without any problems dispensing to a military vehicle fuel tank, truck, or portable fuel storage tank. Shall include a new hazmat spill kit (55 Gal).

For the tank located in **Mayagüez Readiness Center**: This project consists of completely replacing the diesel dispensing system, giving maintenance to the Aboveground Storage Tank, cleaning and paint the floor area where it is located including the Spell Control Area, and providing all the necessary devices for the electrical supply of the new system. The new system shall have the capacity to dispense the flow from 2,500 gallons per hour to 3,000 gallons per hour and without any problems dispensing to a military vehicle fuel tank, truck, or portable fuel storage tank. Shall include a new hazmat spill kit (55 Gal).

For the tank located in **Gurabo Readiness Center**: This project consists of completely replacing the diesel dispensing system, giving maintenance to the Aboveground Storage Tank, and providing the power electrical supply through aerial explosion proof electrical pipelines. The electrical pipelines shall be tied with support to the beam and columns of canopy area following the NEC. The new system shall have the capacity to dispense the flow from 2,500 gallons per hour to 3,000 gallons per hour and without any problems dispensing to a military vehicle fuel tank, truck, or portable fuel storage tank. Shall include a new hazmat spill kit (55 Gal).

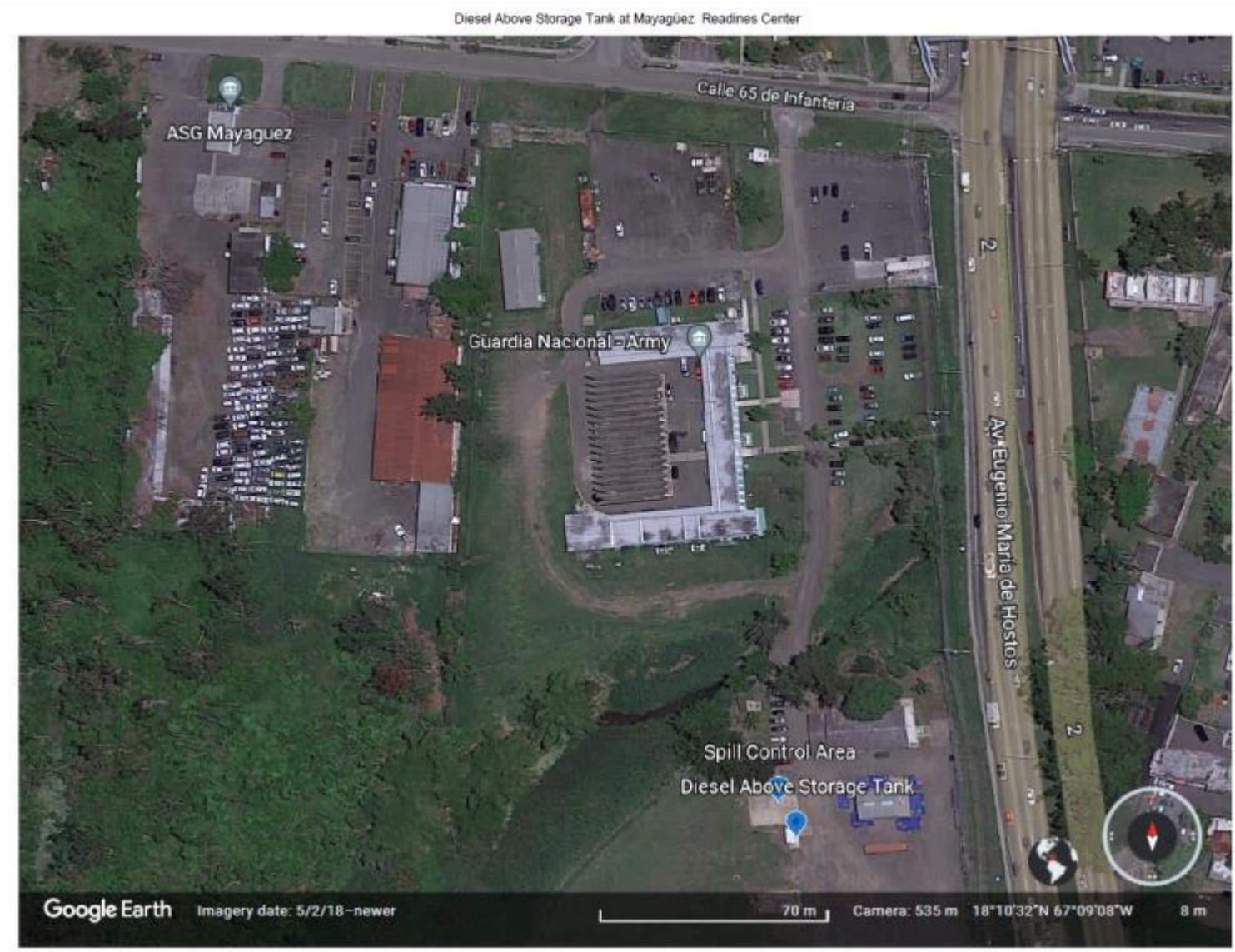
1.3 Locations

687 Road Tortuguero Camp, Vega Baja, P.R. 00693

Diesel Above Storage Tank at Vega Baja Readiness Center

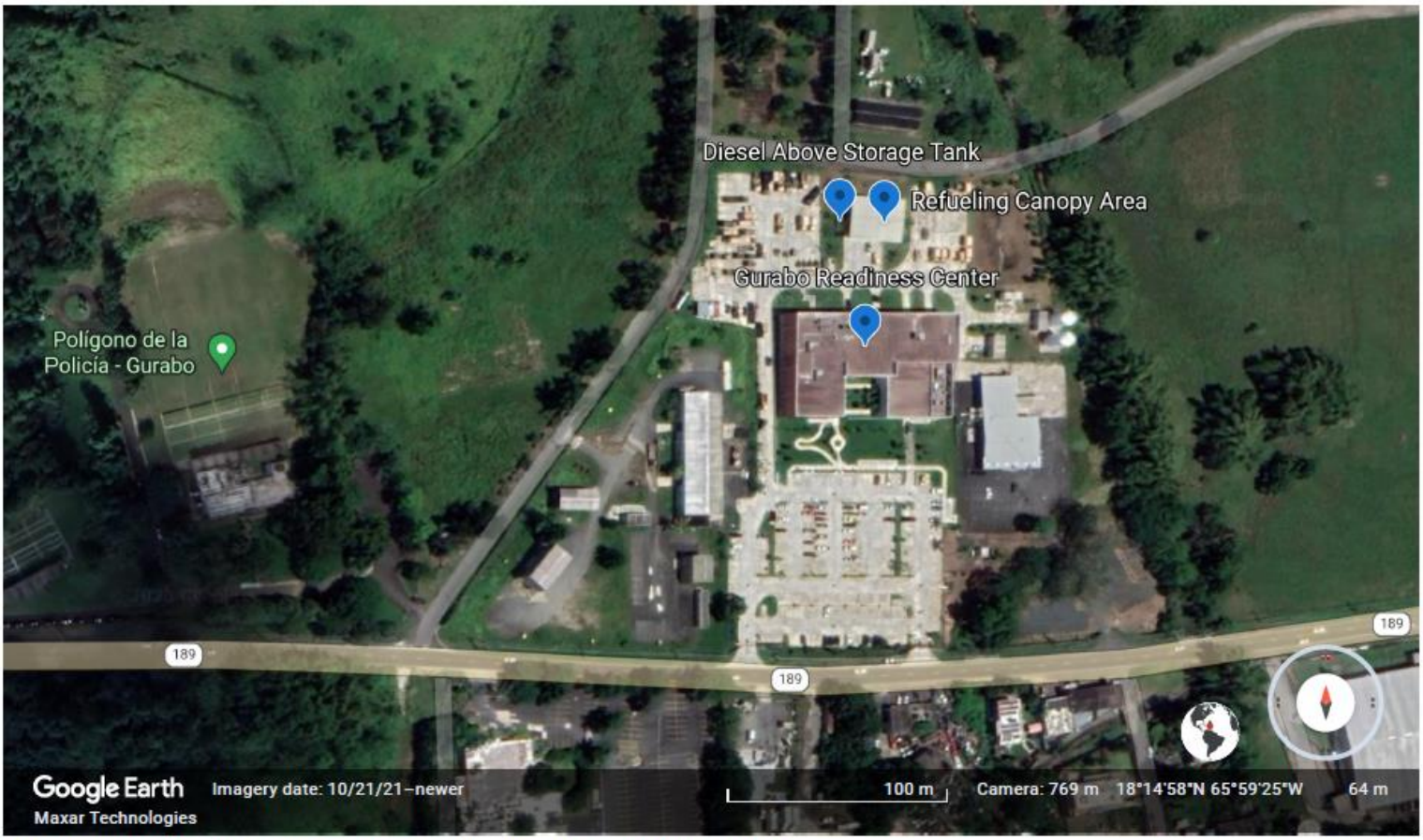
https://earth.google.com/web/search/vega+baja+national+guard/@18.44952789,-66.4191023,13.79573222a,787.69358826d,30.00013596y,-0h,0t,0r/data=CigiJgokCRP3EtT1dTJAERPLD08QazJAGYa… 1/1

Mayagüez Readiness Center Site, Carolina St. 100, Bo. Sábalo, Mayagüez, P.R. 00682



Gurabo Readiness Center, State Road 189, Km 5.5 Gurabo P.R. 00778

Diesel Above Storage Tank at Gurabo Readiness Center



https://earth.google.com/web/@18.24947711,-65.99053675,64.3394513a,704.34619928d,30.00000022y,360h,0t,0r

1.4 Performance of Period

Total of 6 Calendar Months

Part 2

EXISTING CONDITIONS

2.0 Photographs in Vega Baja Readiness Center
2.1 Photographs in Mayagüez Military Facility
2.2 Photographs in Gurabo Readiness Center
2.3 Considerations

PART 2 EXISTING CONDITIONS

2.0 Photographs in Vega Baja Readiness Center

Figure 1. Front View of Above Storage Tank

Figure 2. Left View of Above Storage Tank (Capacity: 5,000 Gal)

Figure 3. Right View of Above Storage Tank

Figure 4. Back View of Above Storage Tank

Figure 5. Top View of Above Storage Tank

Figure 6. Bluffton Motor 3/4HP
(Fil-Rite by Tuthill Co.)

Figure 7. Dispenser and flow meter system (GPI)

Figure 8. Spill Control Area

Figure 9. Safety Switch

2.1 Photographs in Mayagüez Military Facility

Figure 10. Front View of Above Storage Tank

Figure 11. Left View of Above Storage Tank (Capacity: 4,000 Gal)

Figure 12. Right View of Above Storage Tank

Figure 13. Back View of Above Storage Tank

Figure 14. Top View of Above Storage Tank

Figure 15. Explosion Proof Motor 1/3HP (Fil-Rite by Tuthill Co.)

Figure 16. Dispenser and flow meter system (Fil-Rite by Tuthill Co.)

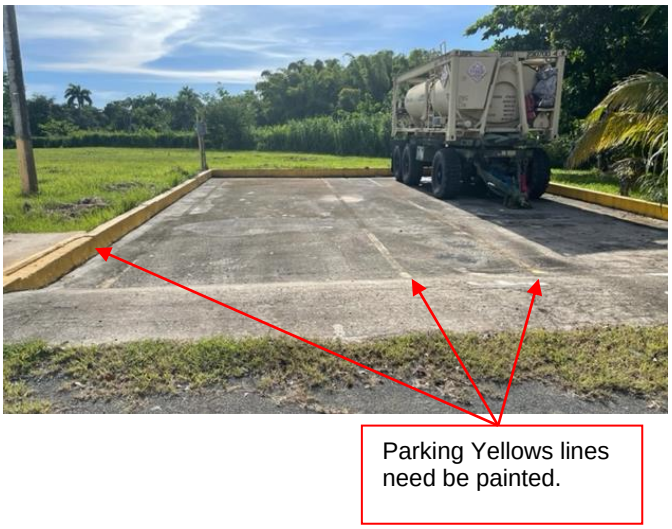


Figure 17. Spill Control Area

Figure 18. Broken Gate Valve

Figure 19. Left side broken edges of Spill Control Area

2.2 Photographs in Gurabo Readiness Center

Figure 20. Tank Cap: 5,000 Gal (Left View)

Figure 21. Front View Tank

Figure 22. Back View Tank

Figure 23. Top View (Vents, Manholes & fittings)

Figure 24. Mechanical Level Gage

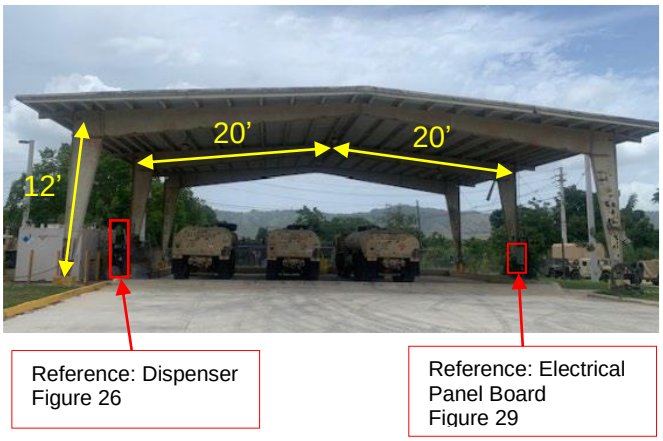


Figure 25. Front View (Above Storage Tank, Dispenser, and Canopy Area)

Figure 26. Dispenser Gasboy, Model: 9125Q Serial #: EPGC010636

Figure 27**.** Liquid level Control System

Figure 28. Hannay Reels Model No. N818-23-24-10.5J SR

Figure 29. Electrical Panel Board

Figure 30. Breakers Main Panel Board

Figure 31. Description GE 3P/ 4W

2.3 Considerations

- Working hours at the military installation are from 7:30 AM to 4:00 PM, Monday through Friday. The selected company must perform the contracted work during the days mentioned above.

- The non-working days federal holydays for year 2023 are:

    - May 29, Monday - Memorial Day
    - June 19, Monday – Juneteenth National Independence Day
    - July 4, Tuesday – Independence Day
    - September 4, Monday – Labor Day
    - October 9, Monday – Columbus Day
    - November 10, Thursday – Thanksgiving Day
    - December 25, Monday – Christmas Day

- Become familiar with details of the work and verify dimensions in the field to avoid interferences with mechanical equipment and structural components.

- All products and equipment that is procured for the completion of this work shall be protected from weather, dirt, and physical damage.

- For official company vehicles, parking is determined on the day of the site visit.

* Any other consideration that has not been mentioned will be provided on the site visit.

Part 3

ENVIRONMENTAL

3.0 Policy

3.1 Prevention and Mitigation Plan for COVD-19 of PRARNG

PART 3 ENVIRONMENTAL

3.0 Policy

The selected company must always comply with the GNPR's Environmental Preservation Policy during the development of the services. See document (Environmental Policy Statement). See Attachment A.

3.1 Prevention and Mitigation Plan for COVID-19 of PRARNG

The selected company must provide a safety plan that considers all the risks of the different work activities, and the measures to be taken to mitigate or eliminate such risks. The contracted company must provide its security plan submitted for the evaluation process and final approval by the Puerto Rico National Guard (GNPR) prior to its implementation and monitoring. This safety plan should establish the protocol for the prevention and mitigation of COVID-19 in the workplace. See the GNPR Plan in Attachment B.

Attachment A

Policy

NGPR-Z 9 November 2020

MEMORANDUM FOR ALL PERSONNEL OF THE PUERTO RICO ARMY NATIONAL GUARD

SUBJECT: Environmental Policy Statement

1. The Puerto Rico Army National Guard is a versatile organization of educated, disciplined and well-trained Citizen Soldiers committed to accomplish those missions that are in the best interests of our Nation, State and community.

2. Personnel in this organization are subject to federal, state and local environmental laws and regulations. They must ensure they fully understand and conform to these laws and regulations.

3. The Puerto Rico Army National Guard is committed to protect and preserve our physical environment utilizing environmentally sound standards and practices.

4. Through the adoption of this Policy, the Puerto Rico Army National Guard will:

a. Support the military mission by identifying management actions required to protect and conserve natural and cultural resources and provide sustained use of the training lands.

b. Be an environmentally responsible neighbor in the communities where we operate, and act promptly and responsibly to correct incidents or conditions that endanger human health or the environment.

c. Comply with all applicable Federal, State and local environmental laws and regulations, and those other requirements to which we subscribe.

d. Consider environmental requirements and impacts early in our planning process as they relate to military training, equipment fielding and construction projects.

e. Clean-up any contaminated sites as quickly as resources permit.

f. Continually improve pollution reduction strategies through the application of innovative processes and technologies.

1. Every employee, contractor and tenant of the Puerto Rico Army National Guard is expected to adhere to the provisions set forth in this policy. Managers at all levels are expected to oversee the implementation of this policy in their respective areas of responsibility.

2. Previous Policy Statement, 27 August 2019, is rescinded. A copy of this policy statement will be permanently posted on all bulletin boards.

3. Point of contact is 1LT David Santiago, PRARNG Environmental Manager, at (787) 421-8605, or email david.santiagohernandez.mil@mail.mil.

JOSE J. REYES
Major General, PRARNG, The Adjutant General

DISTRIBUTION:
A

Attachment B

Prevention and Mitigation Plan for COVID-19 of PRARNG

PUERTO RICO NATIONAL GUARD
STATE SURGEON OFFICE
BLD 552, BORINQUENEER TRL
FORT BUCHANAN, PUERTO RICO 00934

NGPR-SSZ 8 March 2022

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Updated Guidance for Mask and Screening Testing for the Puerto Rico Army National Guard (PRARNG)

1. References:

a. Under Secretary of Defense, memorandum (Updated Guidance for Mask and Screening Testing for all Department of Defense Installations and Other Facilities), 1 March 2022.

b. Under Secretary of Defense for Personnel and Readiness Memorandum, "Force Health Protection Guidance (Supplement 23) Revision 3 – Department of Defense Guidance for Coronavirus Disease 2019 Vaccination Attestation, Screening Testing, and Vaccination Verification", dated December 20, 2021

2. In accordance with the reference guidance, effective immediately, the following masking and screening testing guidance requirements based on the Center for Disease Control and Prevention (CDC) coronavirus disease 2019 (COVID-19) Community Level for Puerto Rico will apply to all personnel assigned, employed, attached, or visiting FT. Buchanan, Camp Santiago Joint Training Center (CSJTC), FT. Allen Training Center (FATC), and all other PRARNG Readiness Centers.

a. The current CDC COVID-19 Community Level for Puerto Rico has been determined to be low. Therefore, indoor mask-wearing is not required for DoD personnel or visitors. This guidance apply for personnel fully vaccinated. The screening testing program required by reference (b) shall be utilized in that installation of facility following consultation with the PRARNG State Surgeon.

b. DoD personnel or visitors may choose to wear a mask regardless of the COVID-19 Community Level.

3. Personnel and visitors who are not fully vaccinated should continue to follow applicable CDC and DoD mask guidance, and continue to wear masks indoors.

NGPR-SSZ
SUBJECT: Updated Guidance for Mask and Screening Testing for the Puerto Rico Army National Guard (PRARNG)

4. Regardless of vaccination status, personnel are required to maintain at least 6 feet of social distancing, and continue to wash hands regularly.

5. The Point of contact is the undersigned at 787-289-1400 ext. 7330, (787) 640-2616 or email at antonio.cortessanchez.mil@army.mil.

FOR THE ADJUTANT GENERAL:

ANTONIO CORTES SANCHEZ
COL, MC, PARNG
State Surgeon

DISTRIBUTION:
A

Part 4

SERVICES / PROJECT WORKS

4.0 Scope of Works
4.1 Drawings
4.2 Technical Data
4.3 Technical Specifications

PART 4 SERVICE / PROJECT WORKS

4.0 Scope of Works

- Technical Aspect for **Vega Baja & Mayagüez Readiness Center**

a. The contractor shall clean the outer surface of the secondary tank with pressure washer and biodegradable detergent.

b. The Contractor shall clean with pressurized water and biodegradable detergent the ladder that gives access to climb to the top of the Above Ground Storage Tank.

c. The Contractor shall clean the slab in the area around the Above Storage Tank and the Spill Control Area with pressurized water and biodegradable detergent. The area is approximate 700 square feet.

d. The contractor shall paint the exterior surface of the secondary tank with a corrosion resistant and as a protective maintenance coating for industrial for storage tank paint (3 to 6 mils film thickness or dry coat). The color is “desert sand” Semi-Gloss. The product description is for typical uses for industrial and commercial use as a protective maintenance coating for industrial plants, chemical processing plants, refineries, commercial buildings, and marine structures. For coating and protecting storage tanks, steel, machinery, plant equipment, marine vessels, offshore structures, and other surfaces exposed to humidity, chemicals, and corrosive environments. Can be used over old coating systems to upgrade the performance. Excellent for use in areas where sandblasting is undesirable, or impractical but high performance is required. Very good resistance to fumes and spillage of most organic solvents, acids and alkalies. Excellent abrasion and moisture resistance and flexibility. Very high solids. Low VOC. Heat resistant to 200ºF.

e. The method for paint application shall be only brush and roll. The contractor shall demonstrate, using current technology, the thickness of the paint before and after new paint application.

f. **For Mayagüez Readiness Center** - The Contractor shall remove the Gate Valve located at the Spill Control Area and replace it with a new Threated Brass Ball Valve of 3 inches ASME B16.33:125psig, UL oil. All the concrete to repair or in case of exposed rebar shall be replacement with the products cementitious, one -component material with corrosion inhibitor, used as bonding primer and/or for reinforcement corrosion protection. The product shall have characteristic at 28 days: of flexural strength of 1,400psi, splitting tensile strength of 500psi, slant shear strength of 2,600psi and with pull-out resistance of 350psi. For finishes use one component, early strength gaining, cementitious patching material, with the characteristics at 28 days: compressive strength of 8,000psi, flexural strength of 1,200psi, splitting tensile strength of 700psi and

slant shear strength of 2,000psi when repair the area where will be changed the Ball Valve. The new Ball Valve shall include a lock for valve.

g. **For Mayagüez Readiness Center** - Repair the concrete sides with broken edges located in the Spill Control Area. Use the same product described for the repair concrete when change the ball valve Part 4.0, Step g.

h. Paint the ladder that provides access to climb to the top of the Aboveground Storage Tank. The color is “desert sand”, the same color paint and compound that shall be used for the tank. The method for paint application shall be only brush and roll. See reference Part 2, Vega Baja – (Figure 3) and Mayagüez – (Figure 12).

i. Paint the edges concrete pad side where is located the tank, the Safety Bollard that protect the tank from any shock or danger from a moving vehicle and, the edges and lines of the Spill Control Area. Vega Baja - (Figure1, Figure 8), Mayagüez – (Figure 10 to 13, 17 to 19). Color is Hight Gloss HD Yellow HD Polyurethane Enamel shall offer excellent protection in exposures including moderate to severe industrial, commercial, and marine environments. Excellent resistance to fresh and salt water, detergents, and most chemicals. Very good resistance to fumes and spillage of most organic solvents, acids and alkaline. Excellent abrasion and moisture resistance. Exceptional gloss and color retention on exterior exposure. Improved application properties. Temperature resistant to 250F. The method for paint application shall be only brush and roll.

j. The contractor shall remove all safety sings and warnings existing on the walls tank and install new signs regulated by OSHA 1910.110 Storage and handling of liquefied petroleum gases. See reference Attachment E.

k. Replacement of diesel fuel dispensing equipment. The actual fuel dispensing kit is a model 9152Q by Gasboy. The new pump must be un upgrade or similar with 1.5 HP Submersible Turbine Pump 1.13KW, 208/230 V, 60Hz, single phase. Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The fuel compatibility shall be 100% diesel. The pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon system.

l. The fuel dispensing equipment to be replaced shall include a fuel control and data storage acquisition system easy use and ultra-fast rated at 50gpm.

m.-The system shall include a tank gauging system that show quantity dispensed, amount of fuel or water if detect, overfill alarm leaks, offers device to monitor site performance real time alerts, detailed

reports, and inventory data. Shall include a user login enables deployment of personal or company specific security controls and procedures. This system shall be installed in a corrosion- resistant, waterproof, and weather protection 304 stainless steel box listed UL 508A, meeting NEMA 1,2,4, 4X and 12 ratings and IP65 and IP66 requirements for harsh environments.

n. The system equipment shall include Spring Rewind Reel for 1 in x 50ft hose and the hose. Spring Rewind Reels are required to include features a roll-formed channel frame for heavy duty applications. Used in fuel dispensing, waste, oil evacuation, air, and water applications. The reel capacity is 50ft.

o. The hose shall include a swivel two plane 1” series (241TPS-1000C) designed for applications where easily nozzle and hose handling are important to provide flexibility in the system to reduce customer strain, position the nozzle properly and reduce premature hose wear. UL and ULc listed for use in diesel, added protection vs thermal and chemical degradation, dual seal, Buna-N PTFE seal, nylon bearing, zinc adaptor.

p. The new system shall also include a level control system and overfill alarm.

q. Replacement of electrical wiring and piping for the new fuel dispensing system. This new electrical pipeline way replacement shall be using new rigid metallic tube and stainless-steel support (bolts, washers, and union strut). This new electrical pipeline way replacement shall be using the 316 stainless-steel conduit hangers with bolts for the electrical pipes attached (includes bolts, washers, and union strut).

r. The installation of the electrical system must comply with all building codes and regulations, fire prevention, environmental codes, and federal, state, and local codes, including the NEC, NFP70, NFPA30, NFPA 395 and the Service Station and Marine Code. NFPA30A The electrical system must include the breaker, and everything required according to the NEC code when installing.

s. The contractor shall install an emergency power switch for the dispenser. New safety switch that simultaneously disconnects the alternating current of all the dispensing equipment of the installation. It must be installed in an easily accessible area, be clearly identified, and comply with all local and federal codes.

t. The circuit breaker installation shall be in accordance with NFPA 70 and NFPA 30A.

u. The Contractor shall provide an oil only spill kit (55Gal) volume absorber per kit, Goggles/Pr of nitrile Gloves. Shall include Container 65gal drum, Sorbents oil-only pads (100), oil-only Pillow (4), oil-only Socks (4), PPE Goggles, Pair of nitrile Gloves and Disposal Bags (5).

v. The Contractor shall dispose all replaced equipment (Dispenser, pump, switches, and devices) to the following address:

100 General Estévez Street Pda. 3 1/2
Puerta de Tierra, San Juan, P.R. 00901

- Technical Aspect in **Gurabo Readiness Center**:

w. Removal, handling, and disposal of 200 gallons of diesel fuel contaminated with water, stored inside of fuel tank on Gurabo Readiness Center located at Gurabo, P.R. Fuel tank must be completely empty as per the following notes:

i. Before removing and disposing of contaminated fuel, fuel must be laboratory tested (Resource Conservation and Recovery Act (RCRA)) to determine characteristic of toxicity. Two (2) copies of the laboratory results must be delivered to the Contracting Officer's Representative (COR) of Puerto Rico National Guard.

ii. Once test results are available, the fuel must be removed and stored in 55-gallon hazmat storage steel drums (DOT approved and open top (includes bung and bolt ring). The drums must follow these requirements for containers of hazardous waste management at 40 CFR 178.504 and 40 CFR 262.17(a).

iii. The drums must be labeled in according with 49 CFR part 172 subpart E or subpart F and includes a hazard statement or pictogram in according with 29 CFR 1910.1200. The markings on each drum must have the words "Hazardous Waste" or "Non-Hazardous Waste" (depending on the results of laboratory tests) in print and must contain the composition of the waste and its physical state, along with a statement about the hazardous properties of the waste. See Attachment E.

iv. The drums must be sent and delivered to Gurabo Readiness Center facility for subsequent handling and disposal by the Puerto Rico National Guard.

x. Once most or all the diesel and sludge has been removed from the tank, the company contracted is responsible for adding 500 gallons of low sulfite diesel for system testing, calibrations, and adjustment on equipment.

y. The contractor shall clean the outer surface of the secondary tank with pressure washer and biodegradable detergent.

z. The Contractor shall clean with pressurized water and biodegradable detergent the ladder that gives access to climb to the top of the Above Ground Storage Tank.

aa. The contractor shall paint the exterior surface of the secondary tank with a corrosion resistant and as a protective maintenance coating for industrial for storage tank paint (3 to 6 mils film thickness or dry coat). The color is “desert sand” Semi-Gloss. The product description is for typical uses for industrial and commercial use as a protective maintenance coating for industrial plants, chemical processing plants, refineries, commercial buildings, and marine structures. For coating and protecting storage tanks, steel, machinery, plant equipment, marine vessels, offshore structures, and other surfaces exposed to humidity, chemicals, and corrosive environments. Can be used over old coating systems to upgrade the performance. Excellent for use in areas where sandblasting is undesirable, or impractical but high performance is required. Very good resistance to fumes and spillage of most organic solvents, acids and alkalies. Excellent abrasion and moisture resistance and flexibility. Very high solids. Low VOC. Heat resistant to 200ºF.

bb. The method for paint application shall be only brush and roll.
The contractor shall demonstrate, using current technology, the thickness of the paint before and after new paint application.

cc. Cleaning with pressurized water and biodegradable detergent the metal ladder used to climb to the top surface of Above Ground Storage tank.

dd. Paint the ladder that provides access to climb to the top of the Aboveground Storage Tank. The color is “desert sand”, the same color paint and compound that shall be used for the tank. The method for paint application shall be only brush and roll. See reference Part 2, Figure 22.

ee. Paint the yellow protective bars that protect the tank from any shock or danger from a moving vehicle. Color is Hight Gloss HD Yellow HD Polyurethane Enamel shall offer excellent protection in exposures including moderate to severe industrial, commercial, and marine environments. Excellent resistance to fresh and salt water,

detergents, and most chemicals. Very good resistance to fumes and spillage of most organic solvents, acids and alkaline. Excellent abrasion and moisture resistance. Exceptional gloss and color retention on exterior exposure. Improved application properties. Temperature resistant to 250oF. The method for paint application shall be only brush and roll. See reference, Part 2, (Figure 20 to 22).

ff. The contractor shall install all required safety signs and warnings on the tank and regulated by OSHA 1910.110 Storage and handling of liquefied petroleum gases. See reference Attachment E.

gg. Replacement of diesel fuel dispensing equipment. The actual fuel dispensing kit is a model 9152Q by Gasboy. The new pump must be un upgrade or similar with 1.5 HP Submersible Turbine Pump 1.13KW, 208/230 V, 60Hz, single phase. Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The fuel compatibility shall be 100% diesel. The pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon system.

hh. The fuel dispensing equipment to be replaced shall include a fuel control and data storage acquisition system easy use and ultra-fast rated at 50gpm.

ii. The system shall include a tank gauging system that show quantity dispensed, amount of fuel or water if detect, overfill alarm leaks, offers device to monitor site performance real time alerts, detailed reports, and inventory data. Shall include a user login enables deployment of personal or company specific security controls and procedures. This system shall be installed in a corrosion- resistant, waterproof, and weather protection 304 stainless steel box listed UL 508A, meeting NEMA 1,2,4, 4X and 12 ratings and IP65 and IP66 requirements for harsh environments.

jj. The system equipment shall include Spring Rewind Reel for 1 in x 50ft hose and the hose. Spring Rewind Reels are required to include features a roll-formed channel frame for heavy duty applications. Used in fuel dispensing, waste, oil evacuation, air, and water applications. The reel capacity is 50ft.

kk. The hose shall include a swivel two plane 1” series (241TPS-1000C) designed for applications where easily nozzle and hose handling are important to provide flexibility in the system to reduce customer strain, position the nozzle properly and reduce premature hose wear. UL and ULc listed for use in diesel, added protection vs thermal and chemical degradation, dual seal, Buna-N PTFE seal, nylon bearing, zinc adaptor.

ll. The new system shall also include a level control system and overfill alarm.

mm. Replacement of electrical wiring and piping for the new fuel dispensing system. This new electrical pipeline way replacement shall be aerial, using the 316 stainless-steel conduit hangers with bolts for the aerial electrical pipes attached to the path of the existing roof beams of the canopy area where the fuel dispenser is located (includes bolts, washers, and union strut). The trajectory from the main electrical panel to the diesel fuel tank and dispenser area is approximately 120 linear feet. (Inspect measurements before starting). The electrical pipelines shall be rigid and use the explosion proof conduit sealing. The electrical main panel board is GE A Series II assembled in America. 125 Amps Maximum, 208/120 Volts, Main Breaker 3P/4W.

nn. The installation of the electrical system must comply with all building codes and regulations, fire prevention, environmental codes, and federal, state, and local codes, including the NEC, NFP70, NFPA30, NFPA 395 and the Service Station and Marine Code. NFPA30A The electrical system must include breaker, safety switch and everything required according to the NEC code when installing the system.

oo. The contractor shall install an emergency power switch for the dispenser. New safety switch that simultaneously disconnects the alternating current of all the dispensing equipment of the installation. It must be installed in an easily accessible area, be clearly identified, and comply with all local and federal codes.

pp.

qq. The circuit breakers installation shall be in accordance with NFPA 70 and NFPA 30A.

rr. The Contractor shall provide an oil only spill kit (55Gal) volume absorber per kit, Goggles/Pr of nitrile Gloves. Shall include Container 65gal drum, Sorbents oil-only pads (100), oil-only Pillow (4), oil-only Socks (4), PPE Goggles, Pair of nitrile Gloves and Disposal Bags (5).

ss. The disposition of all replaced equipment (Dispenser, pump, switches, and devices) the Contractor shall send them to the following address:

100 General Estévez Street Pda. 3 1/2
Puerta de Tierra, San Juan, P.R. 00901

4.1 Drawings

See Attachment C.

4.2 Technical Data

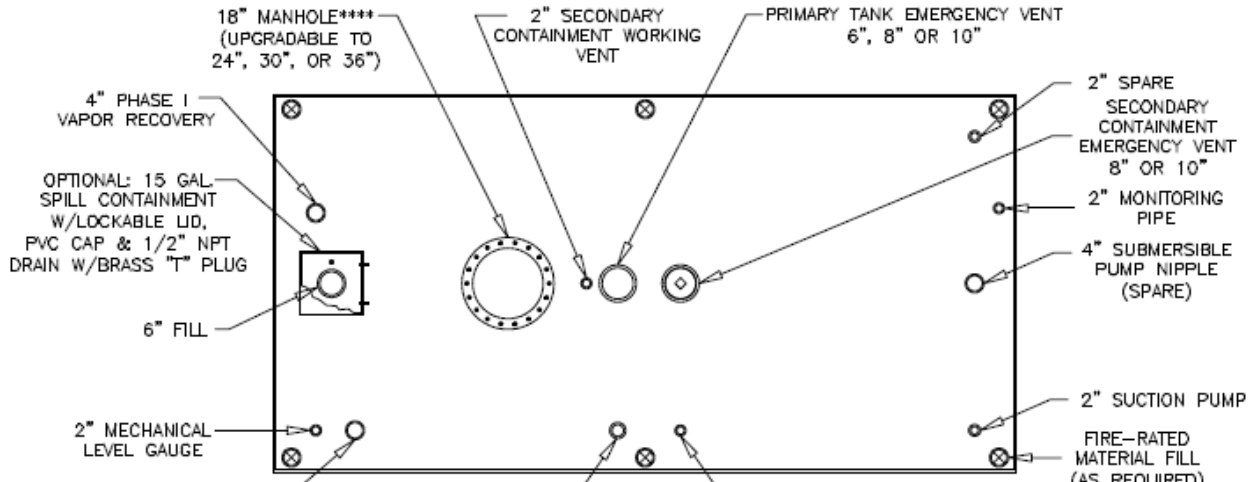
See Attachment D.

4.3 Technical Specifications

See Attachment E.

Attachment C

Drawings



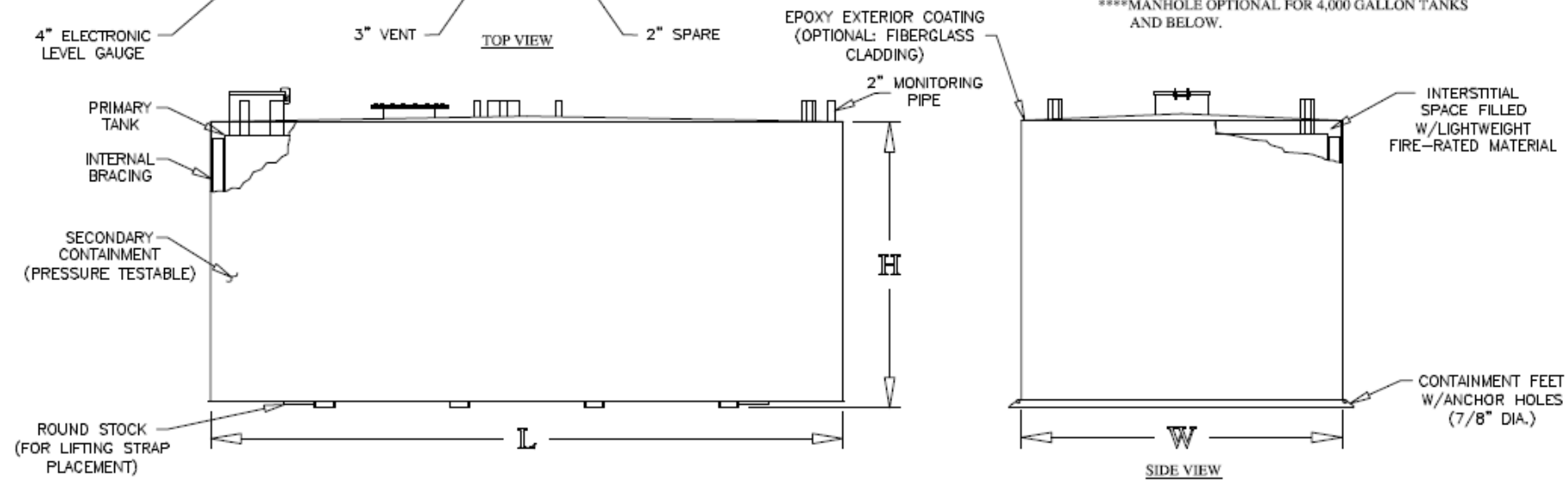
TOP VIEW

STANDARD DIMENSIONS(SECONDARY TANK)***				
CAPACITY GALLONS	LENGTH(L)	WIDTH (W)*	HEIGHT (H)**	WEIGHT
****2,500	9' 5"	6' 11"	7' 1"	13,100 lb.
****3,000	9' 8"	7' 11"	7' 1"	15,800 lb.
****4,000	12' 8"	7' 11"	7' 1"	19,000 lb.
5,000	15' 8"	7' 11"	7' 1"	23,700 lb.
6,000	18' 8"	7' 11"	7' 1"	27,000 lb.
8,000	24' 8"	7' 11"	7' 1"	33,450 lb.
10,000	30' 8"	7' 11"	7' 1"	42,600 lb.
12,000	36' 8"	7' 11"	7' 1"	48,750 lb.
15,000	45' 8"	7' 11"	7' 1"	60,400 lb.
20,000	60' 8"	7' 11"	7' 1"	76,900 lb.

1. REFER TO DWG. SAC001 FOR TANKS 250 GALLONS.
2. REFER TO DWG. SAC002 FOR TANKS 500 TO 2,000 GALLONS.

NOTES:

*ADD AN ADDITIONAL 7" FOR OVERALL WIDTH.
**ADD AN ADDITIONAL 9" FOR OVERALL HEIGHT IF INSTALLING SPILL BOX.
***ADDITIONAL FITTINGS AVAILABLE UPON REQUEST.
****MANHOLE OPTIONAL FOR 4,000 GALLON TANKS AND BELOW.



ELEVATION

SIDE VIEW

ENTIRE TANK ASSEMBLY IS UL-2085 LISTED (INSULATED SECONDARY CONTAINMENT ABOVEGROUND TANKS FOR FLAMMABLE LIQUIDS, PROTECTED TYPES).

PRODUCT CODE	GALLONS	DESCRIPTION	OVERALL SIZE	SHIP WT.
SAC003	SEE CHART	UL-2085 VAULT TANK	SEE CHART	SEE CHART

CONTAINMENT SOLUTIONS

CUSTOMER NAME	APPROVED BY:	DATE:

DRAWN BY: D. ROVANG	DATE DRAWN: 07-01-09
DWG NUMBER: SAC003	SCALE: SALES
REV: / REV BY: / DATE:	SHEET: 1 OF 1

Attachment D

Technical Data

Brass Ball Valves

Two-Piece Body • Full Port • Blowout-Proof Stem • PTFE Seats

¼"-2" 600 PSI/41.4 Bar Non-Shock Cold Working Pressure
2½"-4" 400 PSI/27.6 Bar Non-Shock Cold Working Pressure

CSA CERTIFIED TO ASME B16.44 AND CR91-002 (THREADED ¼"-4") • UL LISTED (THREADED ¼"-4") • FM APPROVED (THREADED ¼"-2") • CRN: 0C19353.5XX*

Threaded
CSA (¼" - 4"):
- CR91-002: ½ psig, 2 psig, and 5 psig (these are specific approved categories)
- ASME B16.33: 125 psig (maximum)
- Temperature is -4° F to 194° F

Threaded
FM (1/4" - 2"):
- 175wwp Threaded

UL, Gas and Oil (¼" - 4"):
- YQNZ, Compressed Gas Shutoff Valves: 250 psi
- YRBX, Flammable Liquid Shutoff Valves: 250 psi
- YRPV, Gas Shutoff Valves: 250 psi
- YSDT, LP-Gas Shutoff Valves: 250 psi
- MHKZ, Manual Valves: 250 psi

***Please contact Technical Customer Service for the CRN Jurisdictions/Provinces list**

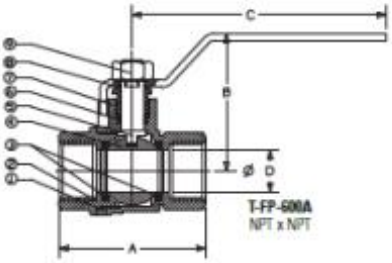
T-FP-600A
Threaded

S-FP-600A
Solder

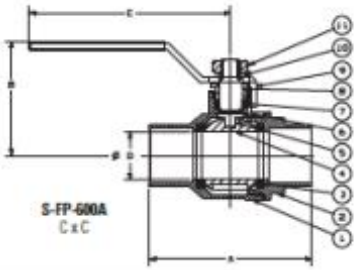
MATERIAL LIST

PART		SPECIFICATION
1.	Body	Forged Brass[2] CU > 57%
2.	End Cap	Forged Brass[2] CU > 57%
3.	Ball Seat	PTFE
4.	Ball	Chrome Plated Brass - C46500 (1/4"-1"), Stainless Steel 316 (11/4"-4")
5.	Stem	Brass
6.	O-Ring (Stem Seal)*	Fluorocarbon (FKM)
7.	Stem Packing	PTFE
8.	Packing Nut	Brass
9.	Lever Handle[1]	Steel, Plated
10.	Lock Washer*	Stainless Steel
11.	Handle Nut[1]	Stainless Steel

Note: * Parts 6 and 10 are applicable of S-FP-600A only.
[1] Due to Standard Approvals, Lever Handles and Nuts are not interchangeable between Solder and Threaded.
[2] For Material Certification, contact NIBCO Technical Services.



T-FP-600A
NPT x NPT



S-FP-600A
C x C

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions T-FP-600A A		S-FP-600A A		T-FP-600A B		S-FP-600A B		T-FP-600A C		S-FP-600A C		Port D		T-FP-600A Lbs.	T-FP-600A Kg.	S-FP-600A Lbs.	S-FP-600A Kg.	T-FP-600A Ctn. Qty.	S-FP-600N Ctn. Qty.
In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.						
¼	8	1.76	45	—	—	1.73	44	—	—	3.54	90	—	—	.39	10	.33	.15	—	—	18	—
⅜	10	1.76	45	1.75	44	1.73	44	1.58	40	3.54	90	3.78	96	.39	10	.30	.14	.38	.17	18	18
½	15	2.05	52	2.01	51	1.92	49	1.78	45	3.54	90	3.78	96	.59	15	.44	.20	.40	.18	18	18
¾	20	2.36	60	2.74	70	2.09	53	2.13	54	3.78	96	3.98	101	.75	19	.66	.30	.67	.30	12	12
1	25	2.76	70	3.35	85	2.56	65	2.52	64	4.53	115	4.41	112	.98	25	1.10	.50	1.12	.51	6	6
1¼	32	3.31	84	3.78	96	2.95	75	2.65	67	4.53	115	5.04	128	1.26	32	1.57	.71	1.49	.67	4	4
1½	40	3.66	93	4.42	112	3.35	85	3.12	79	5.51	140	6.22	158	1.57	40	2.40	1.09	2.38	1.08	2	2
2	50	4.18	106	5.34	136	3.68	93	3.41	87	5.51	140	6.22	158	1.97	50	3.37	1.53	3.62	1.64	2	2
2½	65	5.38	137	6.28	160	4.76	121	4.76	121	8.66	220	8.66	220	2.56	65	7.60	3.45	6.36	2.88	3	3
3	75	6.04	153	7.15	182	5.08	129	5.08	129	8.66	220	8.66	220	2.95	75	9.36	4.24	8.32	3.77	2	2
4	100	7.39	188	—	—	5.87	149	—	—	9.61	244	—	—	3.89	99	16.85	7.64	—	—	1	—

NOT FOR USE WITH POTABLE DRINKING WATER APPLICATIONS AFTER JANUARY 3, 2014.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

GASBOY

FLEET & COMMERCIAL

FUELING

GASBOY

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ATLAS SERIES

FUELING EQUIPMENT

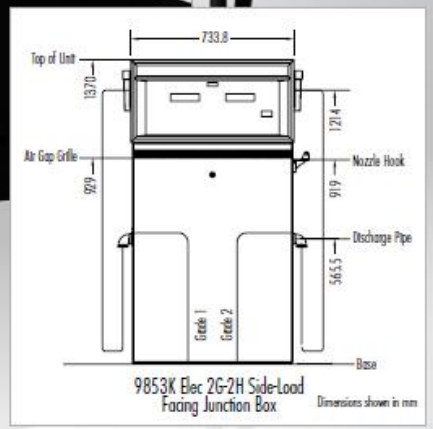
Gasboy has been producing refueling equipment since the 1920's. The Atlas Series is the latest generation in a long line of fleet-fueling equipment and is the workhorse for the tough Fleet and Commercial environment. It's compatible with the Gasboy PLUS Fuel Management System or a wide range of third-party controllers.

The Atlas Platform Offers:

- A wide range of models and flow rates
- Sophisticated electronics or simple mechanical registers which cover all requirements
- Use in Underground Tanks (UST) or Aboveground Tanks (AST) applications

Common Features in the Atlas Platform Include:

- Rugged and welded G90 galvanized-steel frame
- Structural foam bezel with a clear polycarbonate window, and a backscreen polycarbonate dialface
- Field-wiring junction box for easy installation
- Replaceable sheathing – painted or optional 304 embossed stainless steel
- Standard hydraulics – compatible with traditional motor fuels such as Biodiesel (up to B20) and Ethanol (up to E15); custom models are available for E85, B100 or DEF
- Safety listed and with NTEP CoC for W&M sealing for fuel resale application
- Optional High Retrievers and Catlow's hanging hardware to complete your fleet fueling equipment



9853K Elec 2G-2H Side-Load Facing Junction Box

Dimensions shown in mm

9853K

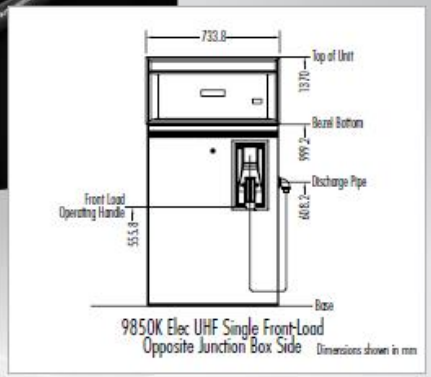
ATLAS 9853K

ELECTRONIC HIGH FLOW

Basic High Flow

The 9853K Series Basic High Flow Atlas has electronic displays. Available in a complete range of pump or dispenser style models. Versatile for most high-flow fleet fueling applications.

EASY USE	Large 1" LCD display with LED backlight and capacitor back up. LED lighting to identify fuel grade and illuminate the front panel.
FAST	High-flow rated at 22 gpm with side load or optional front load nozzle positions.
INTEGRATED	RS485 or Pulse Output interface for connectivity to Gasboy PLUS or other third-party site controllers.
DURABLE	Four-piston CFT meter with flow-through center chamber for harsh fuels. Large 1" internal piping for high flow rates in a variety of site conditions. Steel internal tubing on most models. 10-vane suction pump with 1-HP motor.
OPTIONS	Satellite piping option can turn your Atlas into a master / satellite fueling position.



9850K Elec UHF Single Front-Load
Opposite Junction Box Side Dimensions shown in mm

9850K

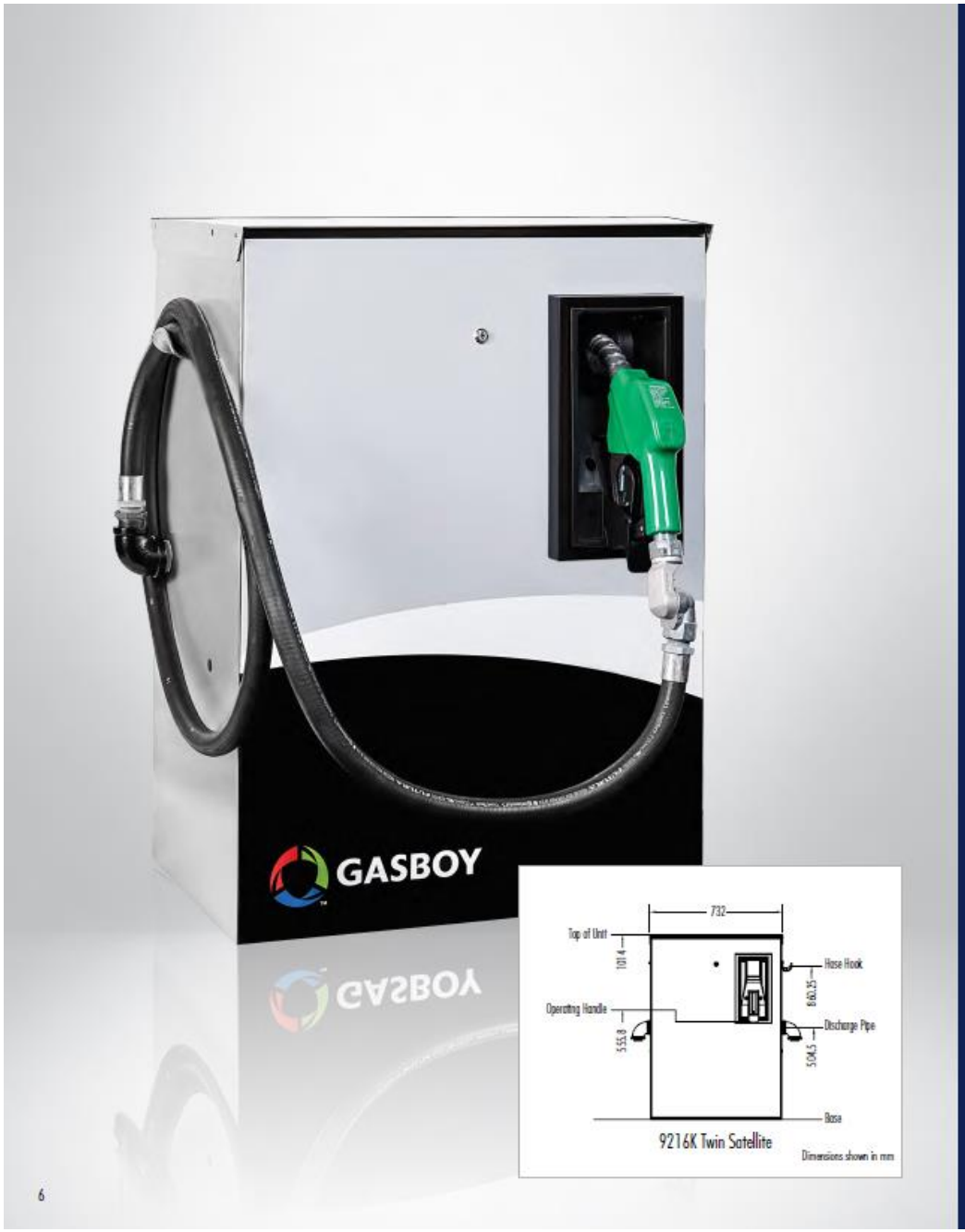
ATLAS 9850K

ELECTRONIC ULTRA-HI

Ultra-Hi Flow

The 9850K Series Ultra-Hi Atlas has electronic displays. Available in pump or dispenser style models. Heavy-duty, ultra-hi flow equipment is designed for the fleet market. Lane-oriented nozzles offer easy, saddle-tank fueling or side-load fueling for conventional islands.

EASY USE	Large 1" LCD display with LED backlight and capacitor back up. LED brand lighting.
ULTRA FAST	Rated at 50 gpm for the 9850 and 40 gpm for the 9840. LC meter in 9850, 2 CFT meters in the 9840.
DURABLE	Large 1-½" internal piping will give ultra-hi flow rates.
OPTIONS	Satellite piping option can turn your Atlas in to a master / satellite fueling position.



ATLAS 9216K

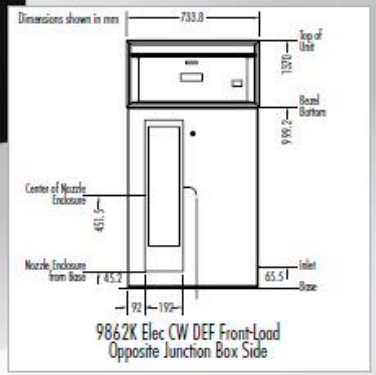
GENERAL PURPOSE SATELLITE

Satellite Dispenser

The 9216K Series general purpose satellite dispenser for use with Atlas or other master dispensers has front-load, lane-oriented nozzle boots. The 9216K is convenient for toll-gate island layout with fuel from both sides of the fueling lane, with a single or twin hose.

A perfect companion to the Atlas masters for either saddle-tank refueling, Encore® masters, or other third-party master dispensers.

DURABLE	Rugged Atlas welded frame with 13 gauge G90 galvanized steel.
FAST	Ultra-hi flow hydraulics standard with large 1-½" valve and piping to maximize flow rate / throughput.
COMPATIBLE	Wire to operate simultaneously with the master dispenser or independently. Image companion for Atlas, matches the frame size and footprint.
EASE OF USE	Large and open hydraulic cabinet for easy installation and service.
OPTIONS	Stainless-steel sides, top and door panels (replaceable). Embossed finish available. High-flow external filters and external high retrievers are available.



9862K Elec CW DEF Front-Load Opposite Junction Box Side

9862K

ATLAS 9862K DEF

ELECTRONIC DEF

Gasboy Atlas DEF

Integrate Diesel Exhaust Fluid (DEF) into your site with the Gasboy 9862 DEF dispenser, available in a heated or unheated cabinet. The 9862K offers the same rugged Atlas welded frame and a familiar interface for users. The Coriolis Mass Flow meter has no moving parts and protects from crystallization. The optional electronic interface works with the Gasboy PLUS or other third-party controller.

VERSATILE Cold weather (-40°C) and warm weather (-11°C) models are available. The cold weather (CW) model incorporates an improved heat-insulated cabinet with internal hose reel and enclosed nozzle area to protect from freezing and crystallization. Front-load nozzle position.

Warm weather (WW) model is for use in climates or applications where freeze protection is not required. Models are available in a front or side-load styles.

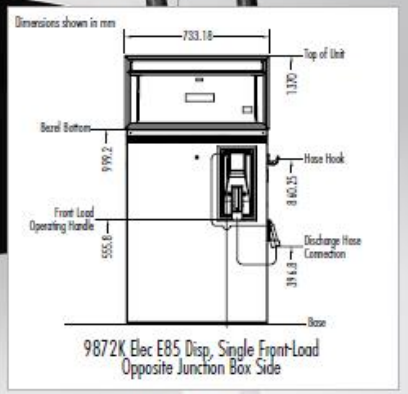
DEPENDABLE Atlas electronics with electronic calibration.

ACCURATE Same reliable Coriolis meter used in both CW or WW models

CORIOLIS MASS FLOW METER

Both Atlas DEF dispenser models are equipped with a Coriolis Mass Flow Meter for exceptional accuracy.

- Mass flow technology delivers industry leading accuracy – even as the product characteristics change
- No moving parts that wear or stick, delivering reliable operation
- Measures mass directly and independently from viscosity and density changes, allowing the meter to be unaffected by temperature, conductivity and solid content
- Weights & Measures approved for transfer sales
- Electronic calibration for accuracy



9872K Elec E85 Disp, Single Front-Load
Opposite Junction Box Side

9872K

ATLAS 9872K E85

ELECTRONIC E85

Atlas E85 Dispenser

The 9872K Series is specifically designed and UL listed for use with E85 fuels. Works with the same site controllers as other Atlas electronic models.

DURABLE	Rugged Atlas welded G90 galvanized-steel frame.
EASY USE	Large 1" LCD display with LED backlight and capacitor back up.
ACCURATE	Electronic calibration. Rated at 15 gpm.
DEPENDABLE	Proven hydraulics from the Encore E85 series.
FLEXIBLE	Use with alternative fuels up to E85 or B100 along with conventional motor fuels.

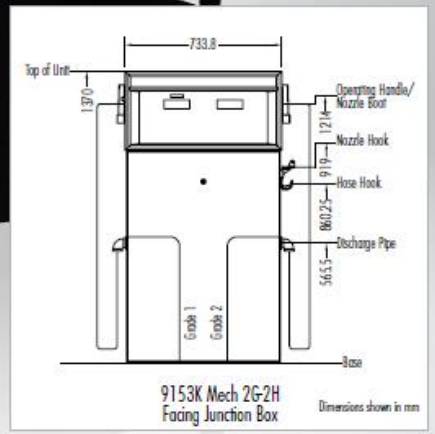
ATLAS PRIME

GASBOY FUEL MANAGEMENT

Gasboy Atlas PRIME

The newest Gasboy development integrates the Gasboy PRIME fuel-authorization terminal into the Atlas electronic platform. This provides full fuel management from the pump. The PRIME can operate as a stand alone or remote terminal.

EASY USE	Large, user-friendly, 40-key, and full alpha-numeric keypad with 4.3" high-brightness, LCD color screen and four soft-function keys.
ADVANCED TECHNOLOGY	MIFARE contactless reader with insert magnetic card reader. Optional HID reader. Web connection to Home Base FHO. Use in combination with an external printer.
FLEXIBLE	Optional FuelPoint PLUS controller.



9153K Mech 2G-2H
Facing Junction Box

Dimensions shown in mm

9153K

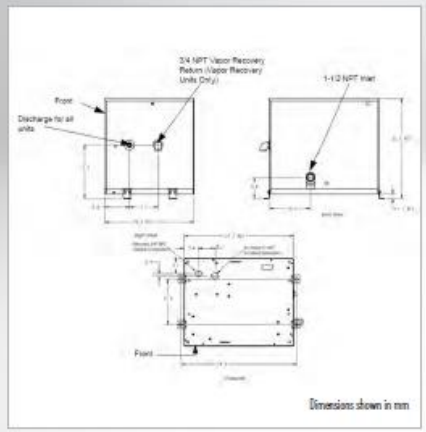
ATLAS 9153K

MECHANICAL HIGH FLOW

High Flow with Mechanical Register

The 9153K Series High Flow Atlas uses a mechanical register in the pump and dispenser models. Traditional refueling platform without electronics — simple to service.

DEPENDABLE	Same hydraulics as 9853 series with reliable VR10 mechanical register.
FAST	High-flow rated at 22 gpm.
DURABLE	10-vane suction pump with 1 HP motor. Power-operated reset mechanism.
FLEXIBLE	Pulser options for interface to site controllers. Keytrol option still available.



9823K

ATLAS 9823K

ELECTRONIC AST

Tank-Mounted Pump

The Atlas 9823K ASTRA is a split-remote, AST-mounted pump with an electronic display and a nozzle hang-up at grade. It has easy access and viewing at just the right user height.

EASY USE	W&M sealable Fleet pumps for above ground storage tanks (AST). Large 1" LCD display with LED backlight and capacitor backup.
DEPENDABLE	UL, cUL listed. NCWM approved. MC approved.
FLEXIBLE	Mount pump on top, side of tank or at grade.
FAST	Rated at 21 gpm.
VERSATILE	Use with Gasboy PLUS or competitive, fuel-management controllers for complete fuel management.

ATLAS MODELS

GASBOY MODELS

Model Number	Description	Type	Hoses	Products	Register	Flow Rating
9153K						
9153K	Hi-flow Single Pump	Pump	1	1	Mech	22 gpm
9152KTW1	Std-flow Twin 1 Pump	Pump	2	1	Mech	15 gpm
9153KTW1M	Hi-flow Twin 1 Pump	Pump	2	1	Mech	22 gpm
9153KTW2	Hi-flow Twin 2 Pump	Pump	2	2	Mech	22 gpm
9153KX	Hi-flow Single Dispenser	Dispenser	1	1	Mech	22 gpm
9153KXTW1	Hi-flow Twin 1 Dispenser	Dispenser	2	1	Mech	22 gpm
9153KXTW2	Hi-flow Twin 2 Dispenser	Dispenser	2	2	Mech	22 gpm
9853K						
9853K	Hi-flow Single Pump	Pump	1	1	Elec	22 gpm
9852KTW1	Std-flow Twin 1 Pump	Pump	2	1	Elec	15 gpm
9853KTW1M	Hi-flow Twin 1 Pump	Pump	2	1	Elec	22 gpm
9853KTW2	Hi-flow Twin 2 Pump	Pump	2	2	Elec	22 gpm
9853KX	Hi-flow Single Dispenser	Dispenser	1	1	Elec	22 gpm
9853KXTW1	Hi-flow Twin 1 Dispenser	Dispenser	2	1	Elec	22 gpm
9853KXTW2	Hi-flow Twin 2 Dispenser	Dispenser	2	2	Elec	22 gpm
9840K						
9840K	Super-hi Single Pump	Pump	1	1	Elec	40 gpm
9840KX	Super-hi Single Dispenser	Dispenser	1	1	Elec	40 gpm

Model Number	Description	Type	Hoses	Products	Register	Flow Rating
9850K						
9850K	Ultra-hi Flow Single Pump	Pump	1	1	Elec	50 gpm
9850KTW3	Ultra-hi Flow Combo Pump	Pump Combo	2	1	Elec	50 gpm
9850KX	Ultra-hi Flow Single Disp	Dispenser	1	1	Elec	50 gpm
9850KXTW1	Ultra-hi Flow Twin 1 Disp	Dispenser	2	1	Elec	50 gpm
9850KXTW2	Ultra-hi Flow Twin 2 Disp	Dispenser	2	2	Elec	50 gpm
9850KXTW3	Ultra-hi Flow Combo Disp	Disp Combo	2	1	Elec	50 gpm
9862K						
9862KX–Z	DEF – Cold Weather	Dispenser	1	1	Elec	
9862KX–WW	DEF – Warm Weather	Dispenser	1	1	Elec	
9862KX–ZWW	DEF – Warm Weather	Dispenser	1	1	Elec	
9872K						
9872KX	E85 – Single	Dispenser	1	1	Elec	15 gpm
9872KXTW1	E85 – Twin 1	Dispenser	2	1	Elec	15 gpm
9823K						
9823K	ASTRA Split AST Pump	Pump	1	1	Elec	21 gpm
9216K						
9216K	Satellite	Satellite	1	1	None	
9216KTW	Satellite	Satellite	2	1	None	

ATLAS FEATURES

GASBOY MODELS

Feature	Short Description	9853	9840	9850	9823	9872	9862 CW	9862 WW	9153	9216
Approvals	Safety: UL and cUL Listed	S	S	S	S	S	MET	MET	S	S
	W&M: NCWM, Measurement Canada (MC)	S	S	S	S	S	S	S	S	S
Working Pressure	50 psi maximum	S	S	S	S	S	S	S	S	S
Operating Temp	-30°C to +55°C	S	S	S	S	S	S	-11°C	S	S
Unit of Measure	Gallons (liters optional)	S	S	S	S	S	S	S	S	—
Meter	Gilbarco 4 piston PD CFT Meter	S	S	—	S	S	—	—	S	—
	Liquid controls 6 step rotary PD Meter	—	—	S	—	—	—	—	—	—
	Coriolis Mass Flow Meter	—	—	—	—	—	S	S	—	—
Motors/Voltages	1 HP CD – 115V/60Hz (230V/50Hz optional)	S	S	—	S	—	—	—	S	—
	1½ HP CD – 115V/60Hz (230V/50Hz optional)	—	—	S	—	—	—	—	—	—
	3/4 HP CD 380V/50Hz/3-phase	O	O	—	O	—	—	—	O	—
Pump Models	10 vane rotary w/air separator	S	S	—	S	—	—	—	S	—
	High speed rotary vane w/air separator	—	—	S	—	—	—	—	—	—
Solenoid Valve	2-stage valve for Preset Operation (PP)	1"	1½"	1½"	1"	1"	¾"	¾"	1"	1½"
Filters	Internal spin-on style (F)	S	S	Strainer	S	S	Strainer	Strainer	S	—
	External Canister Type	O	O	O	O	—	—	—	O	O
Piping	Internal Fuel Piping	1"	1½"	1½"	1"	1"	¾"	¾"	1"	1½"
Discharge	Hose Connection – NPT	1"	1¼"	1¼"	1"	¾"	1" BSPP	1" BSPP	1"	1¼"
Satellite Piping	Satellite piping connection (S) – disp only	O	O	O	—	—	—	—	O	—
Inlet	Island Connection – NPT	1½"	2"	2"	1½"	1½"	1" BSPP	1" BSPP	1½"	1½"
Junction Box	Field Wiring Junction Box	S	S	S	S	S	S	S	S	S
Housing	G90 Galvanized Steel	13 GA	13 GA	13 GA	11 GA	13 GA	13 GA	13 GA	13 GA	13 GA
Panels	Lockable removable – Painted Galvanized Steel (std) – gauge	20	20	20	16	20	20	20	20	20
	Lockable removable – Kooline Stainless Steel – 22 gauge	O	O	O	—	O	—	O	O	O
Sheathing	Replaceable – Painted G60 Galvanized Steel (std) – gauge	20	20	20	16	20	20	20	20	20
	Replaceable – Kooline Stainless Steel – 22 gauge	O	O	O	—	O	O	O	O	O

Feature	Short Description	9853	9840	9850	9823	9872	9862 CW	9862 WW	9153	9216
Computer/Register	Electronic Register – Volume only display	S	S	S	S	S	S	S	—	—
	Mechanical Register – VR10 volume only	—	—	—	—	—	—	—	S	—
Electronic Display	1" LCD w/LED Backlight & Capacitor Backup	S	S	S	S	S	S	S	—	—
Interface Options	Pulser – 10:1 or 100:1 volume (CC or CX)	—	—	—	—	—	—	—	O	—
	RS-485 – Gasboy CFN, Islander, or TopKat	O	O	O	O	O	O	O	—	—
	Pulse Output I/F	O	O	O	O	O	O	O	—	—
	DC conduit and junction box (D)	S	S	S	—	S	S	S	—	—
	Keytrol (EK)	—	—	—	—	—	—	—	O	—
TopKAT PLUS	TopKAT PLUS with Ethernet conduit (factory install)	O	O	O	—	O	O	O	—	—
Brand Panel Lighting	LED Lighted brand panel (L)	O	O	O	—	O	O	O	O	—
Totalizers	Electronic	S	S	S	S	S	S	S	—	—
	Non-resettable Electro-mechanical	O	O	—	—	O	O	O	—	—
	Non-resettable mechanical	—	—	O	O	—	—	—	S	—
Nozzle Position	Side load	S	S	S	—	S	—	S	S	—
	Front load (Z)	O	O	O	S	O	S	O	—	S
Hose Retractors	Internal hose retractor (I)	O	O	—	—	—	—	—	O	—
	Internal hose reel	—	—	—	—	—	S	—	—	—
	High hose retractor – external post mounted	O	O	O	O	O	—	O	O	O
AST Applications	Pressure Regulating Valve Model 52A – suction pumps only	O	—	—	O	—	—	—	O	—
	9850 Above Ground Tank Kit – suction pumps only	—	—	O	—	—	—	—	—	—
Warranty	12 month – Parts and labor	S	S	S	S	S	S	S	S	S
	Extended – 2, 3, 4 or 5 years	O	O	O	O	O	—	—	O	O
Miscellaneous	ATC (Canada only)	O	O	O	—	—	—	—	—	—
	Hand crank (K)	—	—	—	—	—	—	—	O	—
	Power reset	—	—	—	—	—	—	—	S	—
	Display power fail backup	S	S	S	S	S	S	S	—	—
	Internal cabinet heater (DEF only)	—	—	—	—	—	S	—	—	—
	Balanced vapor recovery	O	—	—	O	—	—	—	O	—
	Healy Universal Kit compatible	O	—	—	—	—	—	—	O	—
	Hose, nozzle, swivel, breakaway	O	O	O	O	O	O	O	O	O

S = Standard; O = Optional; — = not available

GASBOY

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VEEDER-ROOT

The Red Jacket® 1.5 HP Submersible Turbine Pump – 60Hz

STP Description

The Red Jacket Submersible Turbine Pump (STP) is responsible for driving fuel from the storage tank, through the piping infrastructure and into the vehicle through the use of pressure energy. It optimizes fuel flow and dispensing, and its advanced packer manifold design makes it the industry's easiest and safest STP to install and service. Available in 3/4 HP to 2 HP configurations and fixed or variable Quick Set® lengths. As a Veeder-Root flagship product line, Red Jacket is backed by the largest network of distributors and authorized service contractors worldwide.

4" Red Jacket STP

Part #	Description	Model #	Notes
0410141-001	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 74.5" - 105" Length	P150U1 RJ1	• 1.5 HP, 1.13 KW, 208/230 Voltage, single-phase. • Length is in inches, measured from top of the eyebolt to the bottom of the motor inlet. • FSA stands for Floating Suction Adapter.
0410141-002	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 104.5" - 165" Length	P150U1 RJ2	
0410141-003	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 164.5" - 225" Length	P150U1 RJ3	
0410141-004	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 76.9" - 107.4" Length	P150U1 RJ1 FSA	
0410141-005	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 106.9" - 167.4" Length	P150U1 RJ2 FSA	
0410141-006	4" TRJ STP - Quick Set (Adjustable) Final Assemblies, 166.9" - 227.4" Length	P150U1 RJ3 FSA	

Fuel Compatibility

The Red Jacket Submersible Turbine Pump Model is UL Listed for:	STP Application Description
• 100% Gasoline • 100% Diesel • 80% Gasoline with 20% TAME, ETBE or MTBE Gasoline • 85% Gasoline with 15% Methanol • 90% Gasoline with 10% Ethanol	STP shall be of submersible centrifugal type which installs through a standard 4" threaded tank opening. Motor size shall be from 3/4 through 2 HP, depending upon required flow rates and head loss of a given piping system.

Mechanical Features

Pump	Impellers and Diffusers
Pump shall be multi-stage, dependent upon required flow rate, self-lubricating and easily removed from storage tank without disconnecting discharge piping, mechanical or electronic leak detectors or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.	Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
Pump Intake Inlet	**Manifold Head Assembly**
Pump intake inlet shall be horizontal to prevent drawing sediment from the tank bottom into the pump inlet. The intake inlet shall be compatible with the particulate "Trapper" to prevent particulate from being ingested into the motor.	Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water intrusion into the storage tank. The discharge outlet shall be a 2" NPT opening. The manifold shall have a built-in air purge screw, line check valve, pressure relief valve, and shall support dual vacuum sensor siphon systems when required. The extractable packer shall incorporate industrial die springs to break loose the o-ring seals, when the flange nuts holding the extractable packer in place are removed. No physical lifting effort or special equipment shall be required to break the extractable packer seals. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.

VEEDER-ROOT

The Red Jacket® 1.5 HP Submersible Turbine Pump – 60Hz

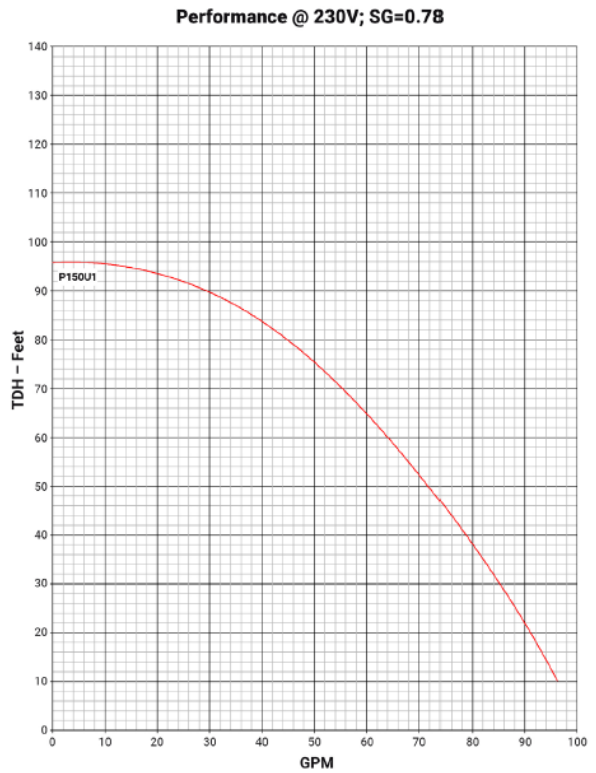
Mechanical Features (Continued)	**Electrical Disconnect**	**Check Valve with "Lock-n-Lift" Feature**
	The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed. Re-insertion of the extractable packer and tightening of the flange nuts shall remake the electrical connection.	The check valve shall incorporate a "Lock-n-Lift" feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank preventing service spills. The check valve shall provide pressure relief of the product line and be optimized for compatibility with Veeder-Root PLLD systems.
	Vacuum Sensor Siphon System	**Quick Set®**
	The vacuum sensor siphon system shall be capable of drawing 25" of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing. The vacuum sensor siphon system shall be designed to integrate with Veeder-Root Vacuum Sensors. The manifold head assembly shall support dual vacuum sensor siphon systems for vacuum monitoring or siphon manifold applications. Unused vacuum siphon ports shall be sealed with a plug designed specifically for that purpose.	The Quick Set feature shall be capable of varying the overall pump length. The Quick Set shall incorporate a collet gripping mechanism and setscrew as a locking mechanism allowing future resizing.
Electrical Features	**Electric Motors – 4" Models**	**Connections**
	The motor shall be 208/230 volt, 60Hz, single-phase, 3450 RPM, permanent split capacitor type continuous duty, rated explosion proof in Class 1, Group D, petroleum products. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.	The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
Construction	**Accessibility**	**Assembly Order**
	All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.	The pump shall be assembled with the pump inlet and impellers at the bottom for maximum liquid draw. The motor is to be mounted above the pump inlet, so that the motor is both cooled and lubricated by the liquid flow through and past the motor.
Environmental	• The pump assembly shall be rated for operation between -40°F (-40°C) and 105°F (40.5°C) in non-gelling petroleum products. • The pump assembly shall be listed under UL 79 for operation between -20°F (-4°C) and 125°F (51°C) ambient environment. • The product temperature must not exceed 105°F (40.5°C). • Petroleum shall not exceed the specific gravity as stated in the installation manuals (ranging from 0.86 - 0.95) based upon the specific pump model. • Maximum viscosity allowable – 70SSU @ 60°F (15°C).	
Approvals	UL 79, cUL	
Product Installation Guide	https://www.veeder.com/us/technical-document-library	

VEEDER-ROOT

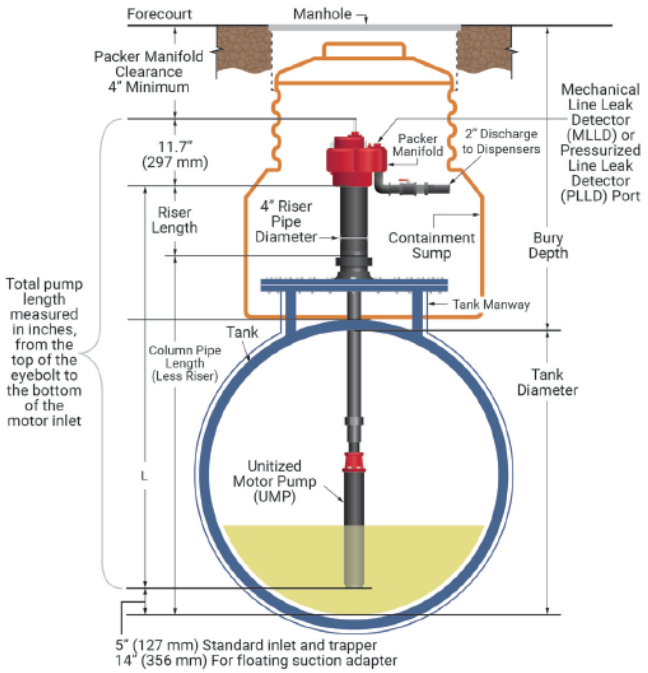
The Red Jacket® 1.5 HP Submersible Turbine Pump – 60Hz

Bill of Materials	4" Red Jacket STP Models		
	Component	**Material**	**Surface Finish**
	Packer/Manifold Head	Gray Cast Iron	Low Volatile Organic Compound Paint
	Elastomers – "O" Rings	Fluorocarbon	None
	Check Valve Seat	Stainless Steel	None
	Check Valve Lock Down Screw	Brass	None
	Column Pipes	Steel Tubing	Powder Primer
	Conduit Pipe	1/2" Steel Pipe	Mill Finish
	Quick Set Connector	Gray Cast Iron	Phosphate and Oil
	Discharge Head	Gray Cast Iron	Corrosion Inhibitor
	Retaining Nuts	Steel	Zinc Plating
	Die Springs	Spring Steel	Enamel Paint
	Purge Screw	Brass	None
	Siphon Cartridge	Brass	None
	Pump/Motor		
	Outer Shell	Stainless Steel	None
	Stator Shell	Stainless Steel	None
	Rotor Shaft	Stainless Steel	None
	Impellers & Diffusers	(Acetel) Celcon® Plastic	None
	Motor Bearings	Carbon	None

The Red Jacket STP Performance



The Red Jacket STP Dimensions



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Veeder-Root reserves the right to change system options or features, or the information contained in this publication.

Example Illustrations

Illustrations used in this guide may contain components that are customer supplied and not included with the Red Jacket Submersible Turbine Pump. Please check with your Veeder-Root Distributor for recommended installation accessories.

BUILDING TRUST

PRODUCT DATA SHEET

SikaRepair®-223

One component, early strength gaining, cementitious patching material

PRODUCT DESCRIPTION

SikaRepair®-223 is a one-component, early strength gaining, cementitious, patching material for vertical and overhead repair of concrete.

USES

- On grade, above, and below grade on concrete and mortar
- As a repair material for vertical and overhead concrete surfaces

CHARACTERISTICS / ADVANTAGES

- Easy-to-use
- Suitable for exterior and interior applications
- Easily applied to clean, sound substrate
- High early strengths
- Increased abrasion resistance
- Increased freeze/thaw resistance
- Not flammable

PRODUCT INFORMATION

Packaging	SikaRepair®-223	50 lb. (22.7 kg) bag
	SikaLatex® (R)	1 gal (3.8 L) jug, 4/carton
		5 gal (19 L) pail
Appearance / Color	Gray powder	
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging	
Storage Conditions	Store dry at 40–95 °F (4–35 °C) Protect from moisture. If damp, discard material	

TECHNICAL INFORMATION

Compressive Strength (ASTM C-109) 73 °F (23 °C) 50 % R.H.

	Water	SikaLatex® R
1 day	> 3,500 psi (24.1 MPa)	> 4,000 psi (27.6 MPa)
7 days	6,000 psi (41.4 MPa)	6,200 psi (42.7 MPa)
28 days	> 7,500 psi (51.7 MPa)	> 8,000 psi (55.2 MPa)

Flexural Strength (ASTM C-293) 73 °F (23 °C) 50 % R.H.

	Water	SikaLatex® R
28 days	850 psi (5.9 MPa)	1,200 psi (8.2 MPa)

Splitting tensile strength (ASTM C-496) 73 °F (23 °C) 50 % R.H.

	Water	SikaLatex® R
28 days	550 psi (5.8 MPa)	700 psi (4.8 MPa)

Slant Shear Strength (ASTM C-882 modified)*

	Water	SikaLatex® R
28 days	1,800 psi (12.4 MPa)	2,000 psi (13.8 MPa)

* Mortar scrubbed into substrate (73 °F (23 °C) and 50 % R.H.)

APPLICATION INFORMATION

Mixing Ratio 3/4 - 1 gal. (2.8 - 3.8 L) of liquid

Coverage 0.41 ft³ (0.01 m³) per bag
(Coverage figures do not include allowance for surface profile and porosity or material waste)

Layer Thickness

	Min.	Max.
Water and diluted SikaLatex® R	1/4" (6 mm)	1-1/2" (38 mm)
Undiluted SikaLatex® R	1/8" (3 mm)	1-1/2" (38 mm)

Product Temperature 65–75 °F (18–24 °C)

Ambient Air Temperature > 45 °F (7 °C)

Substrate Temperature > 45 °F (7 °C)

Pot Life ~ 15 minutes
As the temperature will affect the pot life, application temperature:
- Above 73 °F (23 °C) will reduce the pot life
- Below 73 °F (23 °C) will extend the pot life

Finishing time ~20 to 60 minutes

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

0 g/L (EPA Method 24)

LIMITATIONS

- Use only potable water
- Do not use solvent-based curing compound
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur® Hi-Mod 32
- Not a vapor barrier
- Refer to Sika® Antisol®-250 W product data sheet for use.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Substrate preparation

- Surface must be clean and sound. Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials from the area to be repaired.
- Be sure repair area is not less than 1/4" (6.3 mm) deep.
- Preparation work should be done by high pressure water blast, scabbler, or other appropriate mechanical means. Obtain an exposed aggregate surface with a minimum surface profile of ± 1/8" (3 mm) (CSP-6) on clean, sound concrete.
- To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test.
- Saw cutting of edges is preferred and a dovetail is recommended.
- Substrate should be Saturated Surface Dry (SSD) with clean water prior to application. No standing water should remain during application.

Priming

- Reinforcing steel: Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water after mechanical cleaning. For priming of reinforcing steel use Sika® Armatec® 110 EpoCem (consult PDS).

- Concrete Substrate: Prime the prepared substrate with a brush or sprayed applied coat of Sika® Armatec® 110 EpoCem (consult PDS). Alternately, a scrub coat of SikaRepair®-223 can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

MIXING

- **With water**: Start with 3/4 gal. (2.8 L) of water added to the mixing vessel. Add 1 bag of SikaRepair®-223 while continuing to mix with a low-speed drill (400-600 rpm) and mixing paddle or in an appropriate mortar mixer. Add up to another 1/4 gal (1 L) of water to achieve desired consistency. Do not over-water.

- **With SikaLatex® R**: Pour 3/4 gal. (2.8 L) of SikaLatex® R into the mixing container. Slowly add powder, mix and adjust as above.

- **With diluted SikaLatex® R**: SikaLatex® R may be diluted up to 5:1 (water: SikaLatex® R) for projects requiring minimal polymer modification. Pour 3/4 gal. (2.8 L) of the mixture into the mixing container. Slowly add powder, mix and adjust as above.

APPLICATION

- At the time of application, surfaces should be SSD with no standing water.
- Mortar must be scrubbed into the substrate, filling all pores and voids. Force material against edge of repair, working toward center.
- After filling repair, consolidate, then screed.
- Material may be applied in multiple lifts. The thickness of each lift must be 1/4" (6 mm) minimum. Where multiple lifts are required score top surface of each lift to produce a roughened surface for next lift. Allow preceding lift to reach final set, 30 minutes minimum before applying fresh material. SSD of the lift with clean water. Scrub fresh mortar into preceding lift.
- Allow mortar to set to desired stiffness, then finish with wood or sponge float for a smooth surface, or texture as required.

CURING TREATMENT

- As per ACI recommendations for Portland cement concrete, curing is required.
- Moist cure with wet burlap and polyethylene, a fine mist of water or Sika® Antisol®-250 W*.
- Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings.
- Moist curing should commence immediately after finishing. Protect freshly applied mortar from direct sunlight, wind, rain and frost.

* Pretesting of curing compound is recommended.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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BUILDING TRUST

PRODUCT DATA SHEET

Sika® Armatec® 1C

BONDING PRIMER AND REINFORCEMENT CORROSION PROTECTION

PRODUCT DESCRIPTION

Sika® Armatec® 1C is a cementitious, one-component, coating material with corrosion inhibitor, used as a bonding primer and/or for reinforcement corrosion protection.

USES

- Suitable as a bonding primer on cementitious mortar, steel, or when placing fresh, plastic concrete onto existing, mechanically prepared, saturated surface dry (SSD), hardened concrete.
- Suitable in concrete repair assemblies as reinforcement corrosion protection.
- Protection to reinforcing steel in areas of thin concrete cover where project documents, local building codes or ACI 301 "Specifications for Structural Concrete" recommendations for minimum concrete cover requirements may not have been met.

CHARACTERISTICS / ADVANTAGES

- Easy to mix, just add water.
- User-friendly application
- Excellent adhesion to mechanically prepared concrete and steel.
- Performs as a corrosion inhibitor
- High shear strength
- Can be used on exterior, slab-on-grade surfaces.
- Excellent bonding bridge for cement based repair mortars.
- Long application life
- Can be brushed on, or applied using a textured pattern pistol, hopper spray equipment.

APPROVALS / STANDARDS

- Tested in accordance with ASTM B 117, the "Standard Practice for Operating Salt Spray (Fog) Apparatus"

PRODUCT INFORMATION

Packaging	10 lb (4.5 kg) bag
Appearance / Color	Red/orange powder
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged, sealed packaging
Storage Conditions	Store dry at 40° - 95° F (4° - 35° C). Protect from moisture. If damp, discard material.

TECHNICAL INFORMATION

Flexural Strength	28 days	1,400 psi (9.7 MPa)	(ASTM C-293) 73° F (23° C), 50% R.H.
Splitting Tensile Strength	28 days	500 psi (3.4 MPa)	(ASTM C-496) 73° F (23° C), 50% R.H.
Slant Shear Strength	28 days	2,600 psi (18.0 MPa)	(ASTM C-882 modified*)
	* Bonding primer scrubbed into mechanically prepared, SSD substrate at 73° F (23° C) and 50% R.H.		
Pull-Out Resistance	Adhesion to mechanically prepared concrete	350 psi (2.4 MPa) substrate failure	(ASTM C-1583) 73° F (23° C), 50% R.H.
Corrosion Test	Resistance to Salt Spray (saline) Fog 120 hours	Excellent	(ASTM B-117)

APPLICATION INFORMATION

Mixing Ratio	Bonding Agent	1.2 quarts (1.1 L) of water	
	Steel Reinforcement Protection	1 quart (0.95 L) of water	
Coverage	Bonding Agent	15 -18 ft² (1.4 -1.7 m²)	
	Steel Reinforcement Protection	45 lin.ft (13.7 m) on No. 4 rebar	
	(Coverage figures do not include allowance for surface profile and porosity of substrate, or material waste.)		
Layer Thickness		**Minimum thickness / coat**	**Number of coats**
	Bonding Agent	31 mils (0.8 mm)	1
	Steel Reinforcement Protection	31 mils (0.8 mm)	2
Product Temperature	65° - 75° F (18° - 24° C)		
Ambient Air Temperature	> 45° F (7° C); maximum 95° F (35° C)		
Substrate Temperature	> 45° F (7° C); maximum 95° F (35° C)		
Application Time	> 1 hour Temperatures will affect Application Time: ▪ Above 73° F (23° C) will reduce the application time and workability. ▪ Below 73° F (23° C) will extend the application time and workability.		
Waiting / Recoat Times	Bonding agent for concrete repair product installation	Wet-on-Wet	
	Minimum between layers (2 layers on steel reinforcement)	2 hours	

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

As a bonding primer

- Must be free from dust, loose material, surface contamination and materials which inhibit bond or prevent wetting by repair materials.
- Delaminated, weak, damaged and deteriorated concrete (and where necessary sound concrete) shall be removed by suitable, mechanical means.

As reinforcement corrosion protection

- Rust, scale, mortar, concrete, dust and other loose and deleterious materials which inhibit bond or contribute to corrosion shall be removed by blast cleaning or other means of mechanical abrasion.
- Should be fully exposed with all corrosion mechanically removed.
- Refer to International Concrete Repair Institute (ICRI) Technical Guideline # 310.1R, the “Guideline for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion” for additional information.

MIXING

- Wet down all tools and mixing equipment prior to use.
- Pour 1 - 1.2 quarts (0.95 - 1.10 liters) of cool, clean water [approximately 70° F (21° C)] into a suitably sized and clean mixing container, using a calibrated measuring jug or similar, to ensure strict control of water content. Do not overwater.
- Mix mechanically with a low-speed drill (< 300 rpm) and mixing paddle or mortar mixer.
- Mix to a uniform consistency for a time typically not to exceed a maximum 3 minutes. Mix should be free of lumps.
- Refer to ACI 305R, "Guide to Hot Weather Concreting" & ACI 306R, "Guide to Cold Weather Concreting" when there is a need to place this product in hot or cold ambient and substrate temperature conditions. Thinner applications of cementitious repair mortars will be more sensitive to jobsite temperature conditions.

APPLICATION

As a bonding primer

- Substrate must be Saturated Surface Dry (SSD). Surfaces should be damp with no standing water.
- Apply using a stiff-bristle mason's brush or spray. To achieve good bond, Sika® Armatec® 1C must be scrubbed well into the substrate, filling all pores ensuring complete coverage of all surface irregularities.
- Apply the freshly mixed patching mortar or concrete wet on wet, or up to the maximum recommended waiting time, onto the bonding primer.

As reinforcement corrosion protection

- Apply by stiff-bristle mason's brush or spray.
- Take special care to properly coat the underside of the totally exposed steel.
- Allow material to dry 2 - 3 hours at 73° F (23° C), then apply a second coat at the same coverage rate.
- Allow to dry again before the repair mortar or concrete is applied.
- Pour or place cementitious repair mortar or concrete within 7 days.

CURING TREATMENT

- Sika® Armatec® 1C must be protected against contamination and precipitation until installation of the cementitious repair mortar or concrete.

LIMITATIONS

- Avoid application in direct sun, while strong winds prevail, and/or while raining or snowing.
- Sika® Armatec® 1C is not a vapor barrier when cured.
- Apply only to sound, mechanically prepared substrates.
- Use of semi-dry mortars onto Sika® Armatec® 1C must be applied “wet-on-wet”
- When used in overhead applications with hand trowelled patching mortars, use “wet on wet” to achieve maximum thickness.
- Substrate profile as specified by the design professional or recommended by the overlay or repair material manufacturer is still required prior to Sika® Armatec® 1C installation.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur-32 Hi-Mod.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its

subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

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Attachment E

Technical Specifications

Diesel AST's Labels:

OSHA 1910 has stipulated one approach that is sure to be compliant: product identifier, signal word, hazard statement(s), pictogram(s), and precautionary statement(s).

Post signs at the dispensing point with the words: "**No Smoking** or Open Flames. "**Turn off engine before refueling**" and the appropriate product Id and capacity of the tank signs. In addition, it is necessary to have the **NFPA Symbol for Diesel**

Recommended Size: 14 x10 in.

Capacity
5,000 Gal

Example of drum with the necessary safety sign and warning labels:

If the lab test reports indicate is HW, need to put this label and filled the blanks. And the DOT label depends on which type of hazard (flammable, toxic, reactive corrosive)

If the lab test reports indicate is Non HW, need to put this label and filled the blanks.

Important to include the Strata accumulation date in each container, and put the drum in a blue (heavy duty construction) wooden pallet.

CONTAINMENT SOLUTIONS

SPECIFICATIONS

HOOVER VAULT TANK™ UL LISTED 2085 PROTECTED SECONDARY CONTAINMENT TANK (RECTANGULAR DESIGN)

1.0 GENERAL TANK DESCRIPTION:

1.1 Hoover Vault Tanks are constructed and listed in accordance with Underwriters Laboratories Inc. Standard 2085 for Insulated Secondary Containment Aboveground Tanks for Flammable and Combustible Liquids, Protected Type. This 2 Hour fire rating shall exceed all requirements of The National Fire Protection Association Sections 30 and 30A for "fire resistant" tanks and meet the requirements of The Uniform Fire Code Articles 52 and 79, Appendix II-F and Appendix Standard A-II-F-1 for "protected" aboveground tanks.

1.2 The standard model Hoover Vault Tank is constructed as a UL 142 listed secondary containment tank, utilizing steel inner and outer tanks.

1.3 All Vault Tank designs are resistant to bullet penetration according to Appendix II-F of the Uniform Fire Code.

1.4 Lightweight concrete surrounds the primary storage tank and shall be UL listed to allow the detection of leaks from the primary tank.

1.5 The tanks shall have Certification from CARB for Phase I and II Vapor Recovery.

1.6 The anchoring tie downs shall be welded to the bottom of the secondary tank and meet Zone 4 Seismic requirements.

1.7 The tanks must be off-loaded on site with a crane.

1.8 All openings shall be from the top, with threaded NPT risers.

1.9 The Vault Tank to include a Warranty for 30 years, see warranty documents.

1.10 The tank manufacturer shall provide proof of a minimum 10 years of manufacturing vault tanks.

2.0 PRIMARY STORAGE TANKS:

2.1 The standard primary storage tank shall be rectangular in design. It shall be constructed of UL 142 specified steel thickness, with continuous welds.

2.2 The primary storage tank shall be constructed of optional ASTM A-569 or A-36 carbon steel, or ASTM A-240 type 304 or 316 stainless steel, as required for compatibility of product being stored.

2.3 The primary storage tank shall be constructed and listed in accordance with UL 142 Standards.

2.4 The primary tank shall be fitted with: a 4" or 6" Fill Port, a 2" Normal Vent Port, either a 4", 6", 8", or 10" Emergency Vent Port, a 2" Liquid Gauging Port, a 2" Port for Dispensing Pump, a 4" Phase I Vapor Recovery Port, and a 18" manway (for tanks with capacities 5,000 gallons and greater). An optional 15 gallon Spill Containment with Lockable Lid and Drain Port to the primary tank is available.

2.5 The primary tank shall be pressure tested to UL 142 Standard (minimum 3 to maximum 5 psi) at the factory, and shall be field tested by the contractor to a maximum 3 psi.

2.6 The primary steel tank shall be designed to store M85 (methanol), alcohol and petroleum blends.

3.0 FIRE PROTECTION:

3.1 The standard fire protection material shall be lightweight concrete and surround the primary tank. The tank design shall provide a minimum two (2) hour fire rating per UFC Appendix Standard A-II-F (formerly UFC 79-7), and UL 2085 Protected Secondary Containment Tanks.

3.2 The fire protective material shall allow liquid leaking from the primary tank to penetrate the material and communicate with the leak detection tube according to UL 2085 Protected Secondary Containment Tanks.

3.3 The fire protective material shall be of a monolithic pour, poured at the factory.

3.4 The fire protective material shall provide a minimum of an R-10 insulating factor.

4.0 BULLET RESISTANCE:

4.1 The fire protected primary tank shall be tested by a qualified engineering firm to be resistant to penetration of the primary tank by a 150 grain, M 2 Bullet, traveling at a velocity of at least 2700 feet per second, when fired from a .30 caliber rifle, located a maximum of 100 feet from the target.

4.2 The fire-protected tank must be able to be repaired in the field by a factory representative, when impacted by a bullet.

4.3 The factory representative must be able to certify that the primary and secondary containment do not leak, and that the fire protective material regains its minimum two (2) hour protection.

5.0 SECONDARY LEAK CONTAINMENT TANK:

5.1 The secondary leak containment tank shall be rectangular in design and listed according to UL 2085 insulated secondary aboveground tanks for flammable and combustible liquids, protected type.

5.2 The secondary tank shall be tested liquid tight at the factory (minimum 3 to maximum 5 psi), and shall be field tested by the contractor to a maximum 3 psi.

5.3 The secondary tank shall provide reinforcement for the lightweight concrete to remain in place around the primary tank.

5.4 The secondary tank shall provide true 360° Radius "pressure testable" containment for the primary tank.

5.5 The secondary tank shall be fitted with : a 2" Annular Space Monitoring Tube, a 2" Normal Vent Port and either a 4", 6", 8" or 10" Emergency Vent Port, in addition to openings for all ports in the primary tank.

5.6 The port openings in the top of the secondary tank shall be constructed with full welds to prevent moisture from seeping between the fire proofing material and secondary and primary tanks.

5.7 The top of the secondary tank shall be sloped so that water will not accumulate on top of the tank.

5.8 The secondary tank shall have a two (2) inch monitoring port including a tube, which provides a means to detect product leakage from the primary tank into fire protection material that directly surrounds the primary tank. This design shall be listed under UL 2085.

6.0 COATINGS:

6.1 The exterior surface of the secondary tank shall be cleansed of foreign material and coated with a corrosion resistant industrial paint (3 to 5 mils dry film thickness).

6.2 The standard color shall be desert sand.

6.3 Optional FIBERVAULT® coating can be applied to the exterior surface of the secondary tank to provide resistance to corrosive environments such as salt-water spray.

6.3.1 The total dry thickness shall be a minimum of 1/8 inch.

6.3.2 All threaded openings and flanges shall be protected during the coating process.

6.3.3 The coating shall be applied only when the work area and the secondary steel tank are between the temperatures of 32 and 103 degrees F.

6.3.4 The standard color shall be desert sand.

6.3.5 The coating shall provide a 20-year warranty.

Part 5
GENERAL REQUIREMENTS

PART 5 GENERAL REQUIREMENTS

Requirements:

a. All bidders or companies interested in submitting a proposal are required to participate in a mandatory meeting to be held at the Military Readiness Center at Gurabo. The purpose of the meeting is to discuss all administrative and technical details of the requested services.

b. The contracted company is responsible for the payment of salaries to its personnel, social security, State Insurance Fund Corporation premium, contributions, and/or any other stipend or economic contribution not mentioned but required by the labor laws and regulations in force in the State or Federal jurisdiction. In case of contracting personnel for professional services, the company is responsible for complying with the terms agreed upon by both parties in such contract.

c. The contracted company will be responsible for any damage caused to GNPR property or visitors, as a result of the provision of services. In addition, it shall be liable for damages caused to second and third parties as a result of the provision of the services.

d. The selected company will provide prior to commencement of services, the following documents for PRARNG evaluation and approval:

   i. DD Form 369 filled by the personnel that needs access to the facility. This form will be provided by PRARNG.
   ii. List of official vehicles.
   iii. Security Plan including Protocol for COVID-19.
   iv. Copy of Self-Certification approved by the Department of Labor for COVID-19.
   v. Itinerary of services.
   vi. Technical Documents ("Equipment and materials already delivered for evaluation and approval of the GNPR).
   vii. State Insurance Fund Coverage.
   viii. General Liability Insurance.

e. Upon completion of the services, the company must submit its invoice for collection with the following certification:

   "Under penalty of absolute nullity, I certify that no public servant of this body is a party to or has any interest in the profits or benefits resulting from the contract that is the subject of this invoice and if he is a party to or has an interest in the profits or benefits resulting from the contract, there has been a prior waiver. The only consideration to supply the goods or services object of the contract has been the payment agreed with the authorized representative of the agency. The amount of this invoice is fair and correct. The construction work has been performed; the products have been delivered (the services rendered) and have not been paid for."

The same, certified by the person with authority in jurisdiction for the selected company. In addition, the invoices must have attached photos of the areas worked in accordance with the work required in this scope of work. In addition, they must be accompanied by the Tax Withholding Certificates from the Department of the Treasury.

All stages of the services must be duly certified and approved by the Puerto Rico National Guard representative before proceeding to the next stage of the work.

Part 6
CODES AND REGULATIONS

PART 6 CODES AND REGULATIONS

The work perform in this SOW shall conform, but not limited to, the following codes and regulations.

- NFPA 30 Flammable and Combustible Liquid Code
- NFPA 70 National Electrical Code
- NFPA 70E Standard for Electrical Safety in the Workplace
- NFPA 395 Storage of Combustible Liquid
- NESC: National Electrical Safety Code
- OSHA 1926 Construction Industry Regulations
- NEC 501.1 Electrical and electronic equipment and wiring for all voltage Class Div. 1, 2 and I; Class II, div 1 and 2; Class III, Div. 1 and 2 locations where fire or explosion hazard may exist.
- NEC 500.7 Protection Techniques
- ANSI Standards
- EPA CFR-40 Part-112 Pollution Prevention

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below forma part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

ASSE/SAFE A10.22	(2007; R 2012) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists
ASSE/SAFE A10.34	(2001; R 2012) Protection of the Public on or Adjacent to Construction Sites
ASSE/SAFE A10.44	(2014) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSE/SAFE Z244.1	(2003; R 2014) Control of Hazardous Energy Lockout/Tagout and Alternative Methods
ASSE/SAFE Z359.0	(2012) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSE/SAFE Z359.1	(2016) The Fall Protection Code
ASSE/SAFE Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSE/SAFE Z359.12	(2009) Connecting Components for Personal Fall Arrest Systems
ASSE/SAFE Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSE/SAFE Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSE/SAFE Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSE/SAFE Z359.2	(2007) Minimum Requirements for a Comprehensive Managed Fall Protection Program
ASSE/SAFE Z359.3	(2007) Safety Requirements for Positioning and Travel Restraint Systems

ASSE/SAFE Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSE/SAFE Z359.6	(2009) Specifications and Oesign Requirements for Active Fall Protection Systems
ASSE/SAFE Z359.7	(2011) Qualification and Verification Testing of Fall Protection Products
ASSE/SAFE Z490.1	(2009) Criteria for Accepted Practices in Safety, Health, and Environmental Training

ASME INTERNATIONAL (ASME)

ASME B30.20	(2013; INT Oct 2010 - May 2012) Below-the-Hook Lifting Oevices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2011) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Oerricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; INT Jun 2010 - Jun 2014) Rigging Hardware
ASME B30.3	(2016) Tower Cranes
ASME B30.5	(2014) Mobile and Locomotive Cranes
ASME B30.7	(2011) Winches
ASME B30.8	(2015) Floating Cranes and Floating Oerricks
ASME B30.9	(2014; INT Feb 2011 - Nov 2013) Slings

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2015) Standard Specifications for Temporary Protective Grounds to Be Used on Oe-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL ANO ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2003) Guide for Protective Grounding of Power Lines
IEEE C2	(2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

NATIONAL AERONAUTICS ANO SPACE AOMINISTRATION (NASA)

NASA NPR 8621.1	(2006b; Change 7) NASA Procedural

	Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping
NASA NPR 8715.3	(2008c; Change 9) NASA General Safety Program Requirements
NASA-STO 8719.12	(2011; Change 2) Safety Standard for Explosives, Propellants, and Pyrotechnics

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA Z535.2	(2011) Environmental and Facility Safety

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2018; TIA 18-1) Standard for Portable Fire Extinguishers
NFPA 241	(2013; Errata 2015) Standard for Safeguarding Construction, Alteration, and Oemolition Operations
NFPA 306	(2014) Standard for Control of Gas Hazards on Vessels
NFPA 51B	(2014) Standard for Fire Prevention Ouring Welding, Cutting, and Other Hot Work
NFPA 70	(2017; ERTA 1-2 2017; TIA 17-1; TIA 17-2; TIA 17-3; TIA 17-4; TIA 17-5; TIA 17-6; TIA 17-7; TIA 17-8; TIA 17-9; TIA 17-10; TIA 17-11; TIA 17-12; TIA 17-13; TIA 17-14) National Electrical Code
NFPA 70E	(2018; TIA 18-1; TIA 81-2) Standard for Electrical Safety in the Workplace

TELECOMMUNICATIONS INOUSTRY ASSOCIATION (TIA)

TIA-1019	(2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas
TIA-222	(2005G; Add 1 2007; Add 2 2009; Add 3 2014; Add 4 2014; R 2014; R 2016) Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES ANO RECOROS AOMINISTRATION (NARA)

10 CFR 20	Standards for Protection Against Radiation

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1919	Gear Certification
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.1400	Cranes and Derricks in Construction
29 CFR 1926.16	Rules of Construction
29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection
29 CFR 1926.552	Material Hoists, Personal Hoists, and Elevators
29 CFR 1926.553	Base-Mounted Drum Hoists
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
CPL 02-01-056	(2014) Inspection Procedures for Accessing Communication Towers by Hoist
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

[redacted] and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person

requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA's Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSE/SAFE Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements [redacted] Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented and include experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented, minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.6 Competent Person (CP) Trainer

A competent person traineras defined in EM 385-1-1 Appendix Q, who is qualified in the material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to

that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.7 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.8 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.9 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load)

1.2.10 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

1.2.11 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.12 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this ''envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.13 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to salve or resolve problems related to the subject matter, the work, or the project.

1.2.14 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the requirements of EM 385-1-1 Appendix Q, **llllll!IASSE/SAFE** Z359.0, with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall

protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1. 2.15 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely dueto material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over).

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance with Section 01 33

[redacted]

01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP)-

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports-

LHE Inspection Reports

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1 [redacted] CFR 1926 and federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, ANO MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section l. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one (1) person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO oran equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

1.6.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may also serve as the Quality Control Manager. The SSHO may not serve as the Superintendent.

1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet

the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the the Contracting Officer for information in consultation with the Safety Office.

1.6.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements [redacted], Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1, Section 34.

1 Since this work involves operations that handle combustible or hazardous materials, this person must have the ability to understand and follow through on the air sampling, Personal Protective Equipment (PPE), and instructions of a Marine Chemist, Coast Guard authorized persons, or Certified Industrial Hygienist. Confined space and enclosed space work must comply with NFPA 306, OSHA 29 CFR 1915, Subpart B, "Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment," or as applicable, 29 CFR 1910.147 for general industry.

•. 6.1.2.2 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of EM 385-1-1, Section 22.B.02 and herein.

1.6.1.2.3 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements [redacted], Section 21.C.04, 21.B.03, and herein.

1.6.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, ata minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards,Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450 Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class raster signed daily by each attendee. Maintain copies of the raster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

- Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.6.1.4 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. Provide proof of current qualification.

1.6.2 Personnel Duties

1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SOS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

- Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSRO are subject to dismissal if the above duties are not being effectively carried out. If Superintendent, QC Manager, or SSRO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Realth officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Razard Analyses (ARAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures anda listing of anticipated ARAs that will be developed and implemented during the performance of the contract. This list of proposed ARAs will be reviewed at the conference andan agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of ARAs to preclude project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate ARA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Realth (SOR) training and motivation. Conduct meetings at least once a month for all supervisors on the project location. The SSRO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.7 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, andas supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which

it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP anda log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE/SAFE Alü.34), and the environment.

l. 7. 1 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation

and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.7.2 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.7.2.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910.29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.7.2.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1 Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of 3 months.

1.7.2.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.

b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.

c. For lifts with anticipated binding conditions.

d. When erecting cranes.

1.7.2.3.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

1.7.2.3.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400[redacted], Section 16.T.

1.7.2.4 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

1.7.2.5 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.7.2.6 Fall Protection and Prevention (FP&P) Plan

The plan must comply with the requirements of EM 385-1-1, Section 21.D and ASSE/SAFE Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but ata minimum every six months, for lengthy projects, reflecting any changes during the course of construction dueto changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.7.2.7 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSE/SAFE Z359.2, and include in the FP&P Plan andas part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.7.2.8 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147[redacted] 29 CFR 1910.333.29 CFR **1915.89** [redacted] **ASSE/SAFE** Z244.1, and ASSE/SAFE Al0.44- Submit this HECP as part of the Accident Prevention Plan (APP). Conducta preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is

familiar with and complies with these procedures.

1.7.2.9 Excavation Plan

Identify the safety and health aspects of excavation, and provide and prepare the plan in accordance with EM 385-1-1, Section 25.A and Section 31 00 00 EARTHWORK.

•. 7.2.10 Occupant Protection Plan

Identify the safety and health aspects of lead-based paint removal, prepared in accordance with Section.

■ 7.2.11 Asbestos Hazard Abatement Plan

Identify the safety and health aspects of asbestos work, and prepare in accordance with Section.

• 7.2.12 Site Safety and Health Plan

Identify the safety and health aspects, and prepare in accordance with Section 01 35 29.13 HEALTH, SAFETY, ANO EMERGENCY RESPONSE PROCEOURES FOR CONTAMINATEO **SITESI**

■ 7.2.13 Polychlorinated Biphenyls (PCB) Plan

Identify the safety and health aspects of Polychlorinated Biphenyls work, and prepare in accordance with Sections 02 84 33 REMOVAL ANO OISPOSAL OF POLYCHLORINATEO BIPHENYLS (PCBs) and 02 61 23 REMOVAL ANO OISPOSAL OF PCB CONTAMINATEO SOILS.

■ 7.2.14 Site Oemolition Plan

Identify the safety and health aspects, and prepare in accordance with Section 02 41 00 [OEMOLITION] [ANO] [OECONSTRUCTION] and referenced sources.

•. 8 ACTIVITY HAZARO ANALYSIS (AHA)

Befare beginning each activity, task or Oefinable Feature of Work (OFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval befare submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 oras directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or OFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and signa signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.9 DISPLAY OF SAFETY INFORMATION

1.9.1 Safety Bulletin Board

Within one calendar day(s) after commencement of work, erecta safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

[redacted]

[redacted]

1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment

manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

1.12 NOTIFICATIONS and REPORTS

1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than 4 hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Are Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.12.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1 to establish the root cause(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: Near miss reports are considered positive and proactive Contractor safety management actions.

1 c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 andas specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.13.1 Entry Procedures

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 that all potential hazards are controlled or eliminated and documented. Comply with EM 385-1-1, Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.13.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.13.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.13.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implementan on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.14 SEVERE STORM PLAN

In the event of asevere storm warning, the Contractor must:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment,

debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

PART 3 EXECUTION

3.1 CONSTRUCTION ANO OTHER WORK

Comply with EM 385-1-1 NFPA 70.NFPA 70E NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. An employee check-in/check-out communication procedure must be developed to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed asan exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.1.3 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work and notify the Contracting Officer immediately. Within [14][ ] calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4 Changes and FAR 52.236-2 Differing Site Conditions.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 5 days in advance. Ata minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, anda description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1, Section 11.A.02 (Isolation). Sorne examples of energy isolation devices and procedures are highlighted in EM 385-1-1, Section 12.D. In accordance with EM 385-1-1, Section 12.A.01, where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HECP and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1, Section 11.A.02 and NFPA 70E,work on energized electrical circuits must not be performed without prior government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additonal or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conducta pre-outage coordination meeting in accordance with EM 385-1-1, Section 12.A. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Installation representative. All parties must fully coordinate HEC activites with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1, Section 12.C. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance [redacted] Section 12, 29 CFR 1910.333.29 CFR 1915.89 ASSE/SAFE Al0.44.NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, and required by EM 385-1-1, Section 12.A.02. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting. Both the safety preparatory inspection coordination meeting and the outage coordination meeting must occur prior to conducting the outage and commencing with lockout/tagout procedures.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, both the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1, Sections 05.I and 11.B. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1, Section 12.E.06.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, Section 12.E.08, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSE/SAFE Z359.2 [redacted] Sections 21.A and 21.D.

3.5.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Oocument training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSE/SAFE Z359.2 in the AHA.

3.5.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated

(to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M, ASSE/SAFE Z359.0ll!IASSE/SAFE Z359.1ll!IASSE/SAFE Z359.2 ASSE/SAFE Z359.311!1ASSE/SAFE Z359.411!1ASSE/SAFE Z359.611!1ASSE/SAFE Z359.7 ASSE/SAFE Z359.11ll!IASSE/SAFE Z359.1211!1ASSE/SAFE Z359.1311!1ASSE/SAFE Z359.14 ll!IASSE/SAFE Z359.15I

3.5.2.1 Additional Personal Fall Protection

In addition to the required fall protection systems, other protection such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.0 through 21.0.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.2.2 Personal Fall Protection Harnesses

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabiners must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. All full body harnesses must be equipped with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.5.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

(1) For work within 6 feet of an edge, on a roof having a slope less than or equal to 4:12 (vertical to horizontal), protect personnel from falling by use of personal fall arrest/restraint systems, guardrails, or safety nets. A safety monitoring system is not

adequate fall protection and is not authorized. Provide in accordance with 29 CFR **1926.5001**

(2) For work greater than 6 feet frorn an edge, erect and install warning lines in accordance with 29 CFR 1926.500 [redacted] Section L.

b. Steep-Sloped Roofs: Work on a roof having a slope greater than 4:12 (vertical to horizontal) requires a personal fall arrest systern, guardrails with toe-boards, or safety nets. This requirernent also applies to residential or housing type construction.

3.5.4 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Cornrnercially rnanufactured horizontal lifelines (HLL) rnust be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest systern which rnaintains a safety factor of 2 (29 CFR 1926.500). The cornpetent person for fall protection rnay (if deerned appropriate by the qualified person) supervise the assernbly, disassernbly, use and inspection of the HLL systern under the direction of the qualified person. Locally rnanufactured HLLs are not acceptable unless they are custorn designed for lirnited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systerns.

3.5.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.5.6 Rescue and Evacuation Plan and Procedures

When personal fall arrest systerns are used, ensure that the rnishap victirn can self-rescue or can be rescued prornptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: rnethods of rescue; rnethods of self-rescue or assisted-rescue; equiprnent used; training requirernent; specialized training for the rescuers; procedures for requesting rescue and rnedical assistance; and transportation routes to a rnedical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan rnust cornply with the requirernents of EM **385-1-1llASSE/SAFE** Z359.2, and ASSE/SAFE Z359.4I

3.6 WORK PLATFORMS

3.6.1 Scaffolding

Provide ernployees with a safe rneans of access to the work area on the scaffold. Clirnbing of any scaffold braces or supports not specifically designed for access is prohibited. Cornply with the following requirernents:

a. Scaffold platforrns greater than 20 feet in height rnust be accessed by use of a scaffold stair systern.

[redacted]

prohibited for accessing scaffold platforms greater than 20 **fe**

c. An adequate gate is required.

d. Employees performing scaffold erection and dismantling must be qualified.

e. Scaffold must be capable of supporting at least four times the maximum intended load, and provide appropriate fall protection as delineated in the accepted fall protection and prevention plan.

f. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

g. Special care must be given to ensure scaffold systems are not overloaded.

h. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in must be at the height equal to 4 times the width of the smallest dimension of the scaffold base.

i. Scaffolding other than suspended types must bear on base plates upon wood mudsills (2 in x 10 in x 8 in minimum) or other adequate firm foundation.

j. Scaffold or work platform erectors must have fall protection during the erection and dismantling of scaffolding or work platforms that are more

- 6 feet

[redacted] 6 feet-

above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.6.2 Elevated Aerial Work Platforms (AWPs)

Workers must be anchored to the basket or bucket in accordance with manufacturer's specifications and instructions (anchoring to the boom may only be used when allowed by the manufacturer and permitted by the CP). Lanyards used must be sufficiently short to prohibit worker from climbing out of basket. The climbing of rails is prohibited. Lanyards with built-in shock absorbers are acceptable. Self-retracting devices are not acceptable. Tying off toan adjacent pole or structure is not permitted unless a safe device for 100 percent tie-off is used for the transfer.

Use of AWPs must be operated, inspected, and maintained as specified in the operating manual for the equipment and delineated in the AHA. Operators of AWPs must be designated as qualified operators by the Prime Contractor. Maintain proof of qualifications on site for review and include in the AHA.

3.7 EQUIPMENT

3.7.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically

delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910 Subpart N.

c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.7.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, ASME B30.9 Standards[and host country] safety standards.

c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9-slings, ASME B30.20 for below the hook lifting devices and ASME **B30.2**

e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME **B30.5-** **ASME** B30.22 as applicable.

f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

- Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.

i. Use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

m. Maintain written reports of operational and load testing in accordance [redacted], Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater - 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer anda reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

3.7.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1- Incorporate such additional safety precautions or requirements into the [redacted]

3.7.4 Base Mounted Drum Hoists

a. Operation of base mounted drum hoists must comply with EM 385-1-1- ASSE/SAFE **A10.221**

-Rigging gear must comply with applicable ASME/OSHA standards

c. When used on telecommunication towers, base mounted drum hoists must comply with TIA-1019[redacted]TIA-222IIASME B30.7[redacted]29 CFR 1926.552, and

29 CFR 1926.5531

d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, ata minimum, in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056-ASME B30.23I

e. Material and personnel must not be hoisted simultaneously.

f. Personnel cage must be marked with the capacity (in number of persons) and load limit in **pounds1**

g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.7.5 Use of Explosives

Explosives must not be used or brought to the project site without prior written approval from the Contracting Officer. Such approval does not relieve the Contractor of responsibility for injury to persons or for damage to property dueto blasting operations.

Storage of explosives, when permitted on Government property, must be only where directed and in approved storage facilities. These facilities must be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.8 EXCAVATIONS

Soil classification must be performed by a competent person in accordance

3.8.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area in addition to any station locating service and coordinated with the station utility department.

3.8.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

3.8.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever contract work involves chipping, saw cutting, or core drilling

through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third party, independent, private locating company. The third party, independent, private locating company must locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the Contractor from meeting this requirement.

3.9 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Appendix A, Sections 11 and 12.

3.9.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA anda summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855-IEEE 1048- Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical are flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job andas delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR **1910.1471**

3.9.2 Qualifications

Electrical work must be performed by QP personnel with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State, Local[and Host Nation] requirements applicable to where work is being performed.

3.9.3 Are Flash

Conducta hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with

NFPA **70EI**

All personnel entering the identified are flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.9.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70—IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM **385-1-11**

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.9.5 Testing

Temporary electrical distribution systems and devices must be inspected,

tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Submittals requiring Government approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Pickup and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

A submittal register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register".

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to or the start of the next major phase of the construction on a multi-phase contract, includes schedules, tabular list of data, or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates of insurance

Surety bonds

List of proposed Subcontractors

List of proposed product substitutions

Construction progress schedule

Submittal register

Breakdown and Schedule of Values

Health and safety plan

Environmental protection plan- General Permit(JCA) and Plan CES

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate sorne portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product andas aids to the Contractor for integrating the productor system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for sorne portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, productor system identical to the material, productor system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily logs and checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (MSDS)concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and state the test results; and indicate whether the material, product, or system has passed or failed the test.

Factory test reports.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

This data is intended to be incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements orto establish an administrative mechanism.

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

l. 2.2 Approving Authority

Office or designated person authorized to approve submittal.

l. 2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, except those SD-01 Pre-Construction Submittals noted above, construction, materials, products, equipment, and systems incorporated orto be incorporated in such construction.

1.3 SUBMITTALS

Government [redacted]

[redacted]

Submittal Register

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

l. 4.1 Designer of Record Approved (DA)

Designer of Record (DOR) approval is required for extensions of design, critical materials, any deviations from the solicitation, the accepted proposal, or the completed design, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause SPECIFICATIONS ANO DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings." Contractor to provide the Government with the number of copies designated hereinafter of all DOR approved submittals. The Government may review any or all Designer of Record approved submittals for

conformance to the Solicitation, Accepted Proposal and the completed design. The Government will review all submittals designated as deviating from the Solicitation or Accepted Proposal, as described below. Design submittals to be in accordance with Section 01 33 16 DESIGN AFTER AWARD. Generally, design submittals should be identified as SD-05 Design Data submittals.

I. 4.2 Government Approved (G)

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause SPECIFICATIONS ANO DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

I. 4.3 For Information Only

Submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings'' within the terms of the Contract Clause referred to above.

1.5 PREPARATION

1.5.1 Transmittal Form

Use the attached sample transmittal form in Appendix B ENG Form 4025-R for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special careto ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

I. 5.2 Source Drawings for Shop Drawings

The entire set of Source Drawing files (DWG) will not be provided to the Contractor. Only those requested by the Contractor to prepare shop drawings may be provided. Request the specific Drawing Number only for the preparation of Shop Drawings. These drawings may only be provided after award.

1.5.2.1 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Government, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic Source Drawing files are not construction documents. Differences may exist between the Source Drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic Source Drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished Source Drawing files, the signed and sealed construction documents govern. The Contractor is responsible for determining if any conflict exists. Use of these Source Drawing files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic Source Drawing files for use in producing construction data related to this contract, remove all previous indicia of ownership (seals, logos, signatures, initials and dates)

1.5.3 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. [In addition to the electronic submittal, provide - hard copies of the submittals. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Electronic format shall be in PDF, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature, or sean of a signature.

Email electronic submittal documents fewer than 10MB toan email address as directed by the Contracting Officer. Provide electronic documents over 10MB on an optical disc, or through an electronic file sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/

[redacted]

Officer. Up to two (2) additional hard copies of any submittal may be requested at the discretion of the Contracting Officer, at no additional cost to the Government.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of Copies of SD-02 Shop Drawings

Submit four (1) copies of submittals of shop drawings requiring review.

1.6.2 Number of Copies of SD-03 Product Data and SD-08 Manufacturer's Instructions

Submit in compliance with quantity requirements specified for shop drawings.

l. 6. 3 Number of Samples SD-04 Samples

a. Submit one (1) sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by approving authority and one will be returned to Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in technical section oras directed.

c. Submit one sample installation, where directed.

d. Submit one sample of non-solid materials.

1.6.4 Number of Copies SD-05 Design Data and SD-07 Certificates

Submit in compliance with quantity requirements specified for shop drawings.

l. 6. 5 Number of Copies SD-06 Test Reports and SD-09 Manufacturer's Field Reports

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

l. 6. 6 Number of Copies of SD-10 Operation and Maintenance Data

Submit four (4) copies of O&M Data to the Contracting Officer for review and approval.

1.6.7 Number of Copies of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

Unless otherwise specified, two (2) sets of administrative submittals.

1.7 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.8 VARIATIONS

Variations from contract requirements require both Designer of Record (DOR) and Government approval pursuant to contract Clause FAR 52.236-21 and will be considered where advantageous to Government.

l. 8. 1 Considering Variations

Discussion with Contracting Officer prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Government requiring rejection and removal of such work at no additional cost to the Government.

l. 8.2 Proposing Variations

When proposing variation, deliver written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

Check the column "variation'' of ENG Form 4025 for submittals which include proposed deviations requested by the Contractor. Set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

l. 8.3 Warranting that Variations are Compatible

When delivering a variation for approval, Contractor, including its Designer(s) of Record, warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

l. 8.4 Review Schedule is Modified

In addition to normal submittal review period, a period of twenty (20) working days will be allowed for consideration by the Government of submittals with variations.

1.9 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by Government; retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided asan attachment. This list may not be all inclusive and additional submittals may be required. The Government will provide the initial submittal register in electronic format with the following fields completed, to the extent that will be required by the Government during subsequent usage.]

Column (c) Lists specification section in which submittal is required.

Column (d) Lists each submittal description (SO No. and type,

e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the Government.

1.9.1 Use of Submittal Register

Submit submittal register. Submit with QC plan and project schedule. Verify that all submittals required for project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

1 Column (a) Activity Number: Activity number from the project schedule.

■ Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

■ Column (h) Contractor Approval Date: Date Contractor needs approval of submittal.

■ Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control .

•. 9.2 Contractor Use of Submittal Register

Update the following fields[in the Government-furnished submittal register program or equivalent fields in program utilized by Contractor] with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (1) List date of submittal transmission.

Column (q) List date approval received.

1.9.3 Approving Authority Use of Submittal Register

Update the following fields[in the Government-furnished submittal register program or equivalent fields in program utilized by Contractor].

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (1) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

l. 9.4 Copies Delivered to the Government

Deliver one copy of submittal register updated by Contractor to Government with each invoice request.

l. 10 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. An additional ten [10] calendar days will be allowed and shown on the register for review and approval of submittals for refrigeration and HVAC control systems.

a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

b. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."

c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.11 GOVERNMENT APPROVING AUTHORITY

When approving authority is Contracting Officer, the Government will:

a. Note date on which submittal was received.

b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with markings appropriate for action indicated.

Opon completion of review of submittals requiring Government approval, stamp and date submittals. Two [2] copies of the submittal will be retained by the Contracting Officer and two [2] copies of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be so identified and returned, as described above.

1.11.1 Review Notations

Contracting Officer review will be completed within ten [10] calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize the Contractor to proceed with the work covered.

b. Submittals marked "approved as noted" "or approved, exceptas noted, resubmittal not required," authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections.

c. Submittals marked "not approved" or "disapproved," or "revise and resubmit," indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is approved.

d. Submittals marked ''not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed'' will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

l. 12 DISAPPROVED[OR REJECTED] SUBMITTALS

Contractor shall make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice as required under the Contract clause CHANGES, is to be given to the Contracting Officer. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Government requiring rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

l. 13 APPROVED[/ACCEPTED] SUBMITTALS

The Contracting Officer's approval or acceptance of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing and other information are satisfactory.

Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist. As per requirements of this contract Contractor is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all **work**l

After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will

be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. Government reserves the right to disapprove any material or equipment which previously has proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Contractor to replace such materials or equipment to meet contract requirements.

Approval of the Contractor's samples by the Contracting Officer does not relieve the Contractor of his responsibilities under the contract.

1.15 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.16 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements is to be similar to the following:

CONTRACTOR

(Firm Name)

Approved

Approved with corrections as noted on submittal data and/or attached sheets(s)

SIGNATURE: _____

TITLE: _____

DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

2.2
CONDITIONS

2.2 CONDITIONS

2.2.1 General Conditions

2.2.1.1 Administrative

1. The offer must include the payment of all applicable state and municipal taxes and patents as require by Law. The Contractor shall paid taxes prior to start the services and will be required to present evidence of these payments.
2. Along the duration of service, Contractor must comply with Federal Non-Discrimination policy and Drug-Free Workplace Policy.
3. Any waste generated as part of the service must be disposed outside of PRARNG facilities and in accordance with applicable laws and regulations.
4. The Contractor is responsible to provide to PRARNG copy permits hauling vehicle that transport diesel.
5. If applicable, the Fuel Oil and Gas (F.O.G.) shall be no more than 25% of the equipment charges.
6. If applicable the Fringe Benefits shall be no more than 30% of the payroll.
7. The Contractor is still fully responsible for process, installation, transport, deliver, and dispatch fueling at no additional cost to the Government. If there is a discrepancy or conflicting requirements either specified or shown on the documents, consider the most stringent requirement.
8. Working hours at the facility are from 7:30a.m. to 4:00p.m. Any services to be performed off working hours must be coordinated with PRARNG and the execution will be pending approval from PRARNG and without additional charges.
9. Any person who is part of the services and need access to the PRARNG's facilities should have at all times a photo ID. Accepted identifications are passport, driver's license, or ID card issued by the Department of Transportation and Public Works (DTOP).
10. All the provide information as part of this acquisition process, including but not limited to statement of works and photos, is for the exclusive use of this acquisition process. Any reproduction and distribution of the material for other use is prohibit.
11. FAR 52.219-14 Limitations on Subcontracting only apply for contracts performed by Small Business Administration or 8(a) Bidders.

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12. Award of Subcontracts for Portions of the Work,
    - Unless otherwise specified in the Purchase Order and/or Contract Documents the Contractor, as soon as practicable after the signing of the Contract, shall furnish to the PRARNG's Representative in writing for his acceptance a fist of the names of the main Suppliers and Subcontractors proposed for the principal portions of the Work.
    - The Contractor must be submit the Certification of Subcontractors and Suppliers provide by PRARNG. As part of this Certification of Subcontractors and Suppliers is required that the Contractor provide a copy of the Payment and Performance Bonds.
    - All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of PRARNG's Representative, and PRARNG, including required contract provisions applicable to State and Federal Agency funded projects.
13. The Contractor shall pay each Subcontractor for services performed in the Project in accordance with the terms and conditions stipulated in the contract executed by and between the Contractor and the Subcontractor.
14. The Contractor shall be considered as an independent contractor for all purposes under the Purchase Order and/or Contract, and no persons engaged or contracted by the Contractor for the performance of Contractor's obligations shall be considered an employees or agents of the PRARNG.
15. Contractor shall be solely responsible for scheduling and coordinating the services of Subcontractors, Suppliers, and other such individuals or entities performing or furnishing any of the service under a direct or indirect purchase order and/or contract with Contractor.
16. Contractor's Fee: The Contractor's fee for overhead and profit for service performed under a Change Order shall be determined as follows:
    - a mutually acceptable fixed fee; or
    - if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
        - the Contractor's fee shall be fifteen (15) percent;
        - the Contractor's fee shall be ten (10) percent;
17. Any representatives and personnel of PRARNG, independent testing laboratories, and governmental agencies will performed observation, inspection, and testing.

18. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.
19. The Contractor shall be responsible for maintaining satisfactory standards personnel conduct and work performance and shall administer disciplinary action as required. The Contractor is expected to remove any employee(s) from the work site for cause, to include, but not limited to, safety violations, other misconduct in performance of duty under these specifications and/or contrary to the best interest of the Government. If the Contractor fails to act in this regard, or the reason for removal is immediately required to protect the interests of the Government, the PRARNG's may direct the removal of an employee from the premises. Contractor objections to any such action will be referred to the PRARNG's representative final resolution; however, the Contractor shall first immediately comply with PRARNG's representative direction pending any final resolution issued by the PRARNG's representative at a later date or time. The Contractor will not be due any type of compensation for their costs incurred because of an employee being removed for cause; unless the removal is directed by the PRARNG's representative and in later found to be invalid or and/or unreasonable by the PRARNG's representative.

2.3.1. Safety Requirements

1. During such time, Contractor shall be responsible for the safety and protection of such Underground Facilities, utilities services in site, and spillage.
2. Contractor shall be responsible for all environmental contamination that is caused by incorrect handling, negligence, and accident that occurs in the execution of the services.
3. Unless otherwise provided in the Purchase Order and/or Contract Documents the PRARNG, through PRARNG's Representative, shall have no authority over, nor responsibility for, Contractor's means, methods, techniques, sequences, or procedures, or the safety precautions and programs incident there to, or shall not be held responsible for any failure of Contractor to comply with Laws or Regulations applicable to the performance of the service. PRARNG's Representative, or PRARNG, will not be responsible for Contractor's failure to perform the service in accordance with the Purchase Order and/or Contract Documents.

4. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the service. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all persons, equipment, and vehicle on the site or who may be affected by the service.

5. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
6. Contractor shall notify PRARNGs of adjacent property and of Underground Facilities and utility PRARNGs when prosecution of the service may affect them.
7. Contractor's duties and responsibilities for safety and for protection of the services shall continue until such time as all the service is completed.
8. Contractor shall designate a qualified and experienced personnel at the Site whose duties and responsibilities shall be the prevention of accidents.
9. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available at the site in accordance with laws or regulations.

2.3.1.4 Permits

1. Any fees or charges related to permitting be paid by the Contractor.

2. The Contractor is responsible to obtain all permits and certifications of approval required in connection with this statement of works.

3. The Contractor is responsible to develop and submit a Work Plans for cleaning, removal and disposing of the contaminated material, when applies.

2.3.1.5 Insurances Required

The Contractor shall not commence service under the Purchase Order until he has obtained the insurances and policies specified in this section and has submitted to the PRARNG certificates of insurance (and other evidence requested by PRARNG) evidencing his compliance with the requirements in this Sections.

It will be the Contractor’s responsibilities to submit the renewal of the insurances and policies of these expire during the term of the Purchase Order.

All insurances required herein shall be obtained from insurance and surety companies complying with the requirements of Puerto Rico’s Insurance Commissioner.

If on the termination date of any of the policies, the service is still under execution and the Contractor has not renewed the policies, the PRARNG can renew them and deduct the amount paid for the premium, and applicable costs from the next payment, only if Contractor does not remedy and provide timely evidence of coverage.

Unless otherwise indicated in the Purchase Order Documents, the Contractor shall, throughout the performance of service under the Purchase Order, procure and maintain in effect, and require all Subcontractors and others performing any such service to procure and maintain in effect, insurance of the types applicable and with limits no less than the minimum amounts specified above, or insure the activity of his Subcontractors in his own policy.

The Contractor within ten (10) calendar days from the delivered of the Purchase Order and/or Contract signature, the Contractor should provide the following:

1. Workmen's Compensation Insurance Policy

   Workmen's Compensation Insurance Policy issued by

   The Puerto Rico State Insurance Fund and all Social Insurances required by law.

   The Contractor shall provide Worker's Compensation Insurance as required by the "Workers' Compensation Act of the Commonwealth of Puerto Rico". The Contractor shall furnish the PRARNG a certificate from the State Insurance Fund Corporation covered by the Workers' Compensation Act of the Commonwealth of Puerto Rico.

   The Contractor shall also be responsible for compliance with said "Workers" Compensation Act" by all his subcontractors and agents.

2. General Liability

   Contractor shall maintain the following liability insurance coverage, in an occurrence format, and other insurance as is appropriate for the service being performed and will provide protection from claims set forth which may arise out of or result from Contractor's performance of the service and Contractor's other obligations under the Purchase Order Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the service, or by anyone for whose acts any of them may be liable:

The liability insurance limits shall not be less than:

General Aggregate Limit	$1,000,000.00
Products/Completed Operations Aggregate Limit	$1,000,000.00
Personal and Advertising Injury Limits	$ 500,000.00
Each Occurrence Limit	$1,000,000.00
Fire Damage Limit	$1 0 0,000.00
Medical Expense Limit	$ 5,000.00

3. Auto Liability

Automobile Liability coverage shall be written to protect the Contractor against all claims for bodily injuries to member of the public and damage to property of other arising from the use of motor vehicles and shall cover operations on or the site of all motor vehicles, whether they are owned, non-owned or hired.

a. Unless otherwise stated in the Purchase Order and/or Contract Documents, the liability limits shall not be less than:

b. *Bodily Injury*: two hundred and fifty thousand dollars ($250,000.00) each person and five hundred thousand dollars ($500,000.00) each occurrence.

c. *Property Damage*: one hundred thousand dollars ($100,000.00) each occurrence or two hundred and fifty thousand dollars ($250,000.00) combined single limit for bodily injuries and property damage liability.

The Contractor shall, throughout the performance of Work under the Purchase Order and/or Contract, maintain current, and in effect all the required insurance.

4. Others

- Hold Harmless is required.
- Terrorism coverage is required.

2.3.1.6 Technical

1. It will be Contractor's responsibility to carry out all necessary cleaning and/or mitigate any environmental contamination that is generated as a consequence of negligence, poor execution of services, breach of service violation of applicable laws and regulations, lack of regulations, lack of security and protection, at the time of execute the service, among other actions, at no additional cost to the PRARNG. It will be responsibility of the Contractor to pay any fine that issued on the individual, without additional cost to the PRARNG.

2. No payment will be made by PRARNG when the Contractor performed additional services without change order or modification process is completed by both (Contractor and PRARNG).
3. The Contractor will be responsible for submitting a “Site Safety and Health Plan” for approval by the staff of the PRARNG, prior to start the services.
4. The Contactor will be delivered 24 hours after PRARNG notification of delivery.
5. It will be the responsibility of the Contractor to deliveries shall be at the diesel fuel tank of power generators at different facilities of PRARNG.
6. It will be the responsibility of the Contractor to fix the tank to the vehicle safely, prevent overfilling of the tanks, control the flow of the product, use the emergency shut-off equipment and liquids or fluids, and secure the unloading equipment during transportation.
7. The Contractor must use personnel with experience in the operation and management of the type of vehicle used to provide the contracted service for the transportation and dispatch of diesel.
8. The Contractor must use to provide the service personnel who have experience in the safe dispatch of diesel.
9. It will be responsibility of the Contractor to have a current permit for the transportation of hazardous materials issued by the Bureau of Transportation and Other Public Services.
10. It will be the Contractor’s responsibility to have the permit and/or certification required for diesel delivery and transportation.
11. The Contractor shall supply and deliver the PRARNG’s facilities fuel tanks (maximum capacity)
12. Fuel delivery shall be made in accordance with all general safety standard and protocols.
13. Before the commencement of work, the Contractor shall survey the site. The Contractor shall take the necessary precautions to avoid damages to existing item. Any damaged items shall be repaired or replaced at the Contractors expense as directed by the PRARNG’s representative.
14. Thoroughly clean up the work area at the end of each day’s work and at the completion of the project. Leave premises clean and free of waste, scrap, used equipment, or other material intentionally or incidentally delivered to the site by the Contractor or Contractor’s personnel.
15. The Contractor shall protect from damage all existing improvements, equipment, structures, facilities, grounds, and utilities at or near the work site or adjacent property. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work.

16. At Contractor's own expenses, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to include but not limited to ring piping and consults, wires, cables, etc., utility services, or of fire protection systems, communication systems (including telephone and data) which are not scheduled for discontinuance or abandonment.

2.2.2 Federal General Clauses

The Proponent must submit the Federal General Clauses initiated by the authorized representative with their proposal. All costs associated and related with the Federal General Clauses will be part of the cost proposal. *See Attachment 1*

2.2.3 Imperative Inclusion Clauses

The Imperative Inclusion Clauses will be part of contract or purchase order.

See Attachment 2

2.2.4 Security and Protection Requirements

The Bidder, Team and all associated Subcontractor personnel must provide all information required for background checks to comply with the requirements for access to the facilities to be performed by the Provost Marshal Office, Director of Emergency Services or the Office of Security. The Proposing workforce must comply with all personal identity verification requirements (clause FAR 52.204- 9, Verification of personal identification of Contractor personnel) as directed by the Department of Defense, HQDA and / or local policy. In addition to the changes authorized by the change clauses of this Purchase Order, if the Force Protection Condition (FPCON) in any individual installation or insulation change, the Government may require changes in the Contractor's security issues or processes.

The photographs will be limited to the authorized work area with the prior approval of the PRARNG and only for information purposes for the development of the services described in this document. The Contractor must request permission from the PRARNG before taking the photographs and will be governed by the instructions offered for taking them. The use of drone to take is prohibited.

2.2.4.1 Anti-Terrorism/Force Protection

AT Level I training, all awarded Contractor's personnel, to include subcontractor personnel, requiring access PRARNG installations, facilities and controlled access areas shall complete AT Level I awareness training within fourteen (14) calendar days after Purchase Order start date or effective date of incorporation of this requirements into the Purchase Order, whichever is applicable. The awarded Bidder shall submit certificates of completion for each affected Contractor's personnel and subcontractor's personnel to the Contracting Officer Representative (COR) within seven (7) calendar days after completion of training by all personnel. AT Level I awareness training is available at the following website: http://jko.jten.mil The PRARNG can provide the instructions (2 hours) with previous coordination.

- Access and general protection/security policy and procedures. Awarded Bidder and all associated subcontractor's personnel shall provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Awarded Bidder workforce must comply with all personal identity verification requirements (FAR clause 52.204-9, Personal Identify Verification of Contractor Personnel) as directed by DoD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this Purchase Order, should the Force Protection Condition (FPCON) at any individual facilities or installation change, the Government may require changes in contractor's security matters or processes.

- Awarded Bidder and all associated sub-contractor's personnel shall comply with all standards and policies for all PRARNG installations and facilities to include access and local security policies and procedures (provided by government representative). This applies for contractors that do not require CAC but require access to a DoD facilities or installations.

2.2.4.2 iWATCH

The Contractor's personnel, to include subcontractor personnel, requiring access PRARNG installations, facilities and controlled access areas shall complete iWATCH awareness training within fourteen (14) calendar days after Purchase Order start date or effective date of incorporation of these requirements into the Purchase Order, whichever is applicable. The Contractor shall submit certificates of completion for each affected Contractor's personnel and subcontractor's personnel to the Contracting Officer Representative (COR) within ten (10) calendar days after completion of training by all personnel. The PRARNG can provide training in face-to-face to personnel of Contractor and Subcontractor (1 hour) with previous coordination.

2.2.4.3 TARP

Threat Awareness and Reporting Program (TARP) training, Contractor's personnel, to include subcontractor personnel, requiring access PRARNG installations, facilities and controlled access areas shall complete TARP awareness training within fourteen (14) calendar days after Purchase Order start date or effective date of incorporation of these requirements into the Purchase Order, whichever is applicable. The Contractor shall submit certificates of completion for each affected Contractor's personnel and subcontractor's personnel to the Contracting Officer Representative (COR) within ten (10) calendar days after completion of training by all personnel. The PRARNG can provide training in face-to- face to personnel of Contractor and Subcontractor (2 hours) with previous coordination.

Attachment 1

FEDERAL GENERAL CLAUSES

Rev. 4/2023

Contract Clauses Required in Purchases and Contracts with Federal Funds
"Cláusulas Contractuales Requeridas en Compras y Contratos con Fondos Federales"
(2 C.F.R. PART 200, Appendix II)

Any acquisition to be paid with partial or completely federal funds must comply with all the terms and conditions included as part of this quote request. Any supplier interested in participating in this process agrees to comply with each of the terms and conditions set forth herein. The Contractor certifies that follows the requirements established by state laws and regulations and federal regulations established in 2 CFR §200.

"Cualquier adquisición a ser pagada con fondos parciales o completamente federales, debe cumplir con todos los términos y condiciones incluidos como parte de esta solicitud de cotización. Cualquier proveedor interesado en participar en este proceso, se compromete a cumplir con cada uno de los términos y condiciones aquí establecidos. El Contratista certifica que cumplirá con los requisitos establecidos por las leyes y reglamentos estatales y los reglamentos federales establecidos en 2 CFR §200."

1. **Record retention and access to records** The Contractor and the Agency shall afford any authorized representative of NGB, DoD or the Comptroller General of the United States access to and the right to examine all records, books, papers, and documents that are parts of this contract. The Agency and the contractor agree to comply with the record retention and provide, as is required, all intact records for at least ten (10) years following closeout of the award.
   "El Contratista y la Agencia otorgarán a cualquier representante autorizado de NGB, DoD o el Contralor General de los Estados Unidos acceso y el derecho de examinar todos los registros, libros y documentos que forman parte de este contrato. La Agencia y el contratista acuerdan cumplir con la retención de registros y proporcionar, si es necesario, todos los registros intactos durante al menos diez (10) años después del cierre de la adjudicación."

2. **Clean Air Act, Water Pollution Control Act (APLICA A CONSTRUCCION DE $150,000 O MÁS)** The Contractor and the Agency agrees to comply with all applicable standards, order or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act *(42 U.S.C., Section 7401 t 7671 and 33 U.S.C. Section 1318*) violations should be reported to NGB and Environmental Protection Agency (EPA).
   "El Contratista y la Agencia acuerdan cumplir con todas las normas, órdenes o regulaciones aplicables emitidas de conformidad con la Ley de Aire Limpio y la Ley Federal de Control de la Contaminación del Agua (42 USC, Sección 7401 t 7671 y 33 USC Sección 1318), las violaciones deben informarse a NGB y Agencia de Protección Ambiental (EPA)."

3. **Use of US Flags Carriers** The Contractor agrees to use US Flag Air Carriers for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974 (*49 U.S.C. 40118*), and their intraoperative guideline by the Comptroller General of the United States.
   "El Contratista acuerda utilizar US Flag Air Carriers para el transporte aéreo internacional de personas y propiedades en la medida en que dicho servicio esté disponible, de conformidad con la Ley de Prácticas Competitivas de la Feria Internacional de Transporte Aéreo de 1974 (49 USC 40118), y su directriz intraoperatoria por El Contralor General de los Estados Unidos."

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4. **Debarment and Suspension: EXECUTIVE ORDERS 12549 and 12689 (APLICA A CONSTRUCCION DE $100,000 o más)** The Contractor agrees to comply with *2CFR Part 180* by certifying than neither it, subcontractor nor its principals or its affiliates are excluded or disqualified from the Excluded executed Parties List System (EPLS) or the System for Awards Management (SAM), at the current OMB website. This certification is a material representation of the fact upon which the agency relies in entering this contract. The Contractor will include a provision requiring such compliance in its lower tier transactions. This verification shall be documented on the Contract File and shall be subject to audit *(31 U.S.C. 1352*). The Contractor and or bidder will provide the require certification as part of the bid and the contract.
"El Contratista acuerda cumplir con 2CFR Parte 180 al certificar que ni él, el subcontratista ni sus directores o sus afiliados están excluidos o descalificados en el Sistema de Lista de Partes (EPLS) excluidas o el Sistema de Gestión de Premios (SAM), en el sitio web actual de OMB. Esta certificación es una representación material de hecho en la cual la agencia se basa para firmar este contrato. El contratista incluirá una disposición que requiera dicho cumplimiento en sus transacciones de nivel inferior. Esta verificación se documentará en el archivo del contrato y estará sujeta a auditoría (31 U.S.C.1352*). El Contratista y/o el oferente proporcionarán la certificación requerida como parte de la oferta y el contrato."*

5. **Byrd Anti-lobbying amendment** (**APLICA A CONSTRUCCION- DESDE EL BID, REQUIERE CERTIFICACION; APLICA $100,000 o más)**. The Contractor certifies that each tier to the tier above will not and has not used Federal appropriated funds to pay any organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, or an officer of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other awards covered by federal actions.
"*El Contratista certifica que cada nivel del nivel anterior no utilizará ni ha utilizado los fondos federalesapropiados para pagar a ninguna organización por influir o intentar influir un funcionario o empleado de cualquier agencia, un miembro del Congreso o un funcionario del Congreso, o un empleado de un miembro del Congreso en relación con la obtención de cualquier contrato federal, subvención o cualquier otro premio cubierto por acciones federales."*

6. **Buy American Act** The Contractor agrees to comply with the Buy American Act (*41 U.SC. 10a etseq*.) giving preference to domestic end products and domestic construction material.
"El Contratista acepta cumplir con la Ley de Compras de Estados Unidos (41 U.SC. 10a et seq.) Dando preferencia a los productos finales nacionales y al material de construcción nacional."

7. **Central Contractor Registration** The parties agree to comply with the System for Award Management (SAM) and Data Universal Numbering System (DUNS) Requirements.
"Las partes acuerdan cumplir con el System for Award Management (SAM) y Data Universal Numbering Requirements (DUNS)."

8. **False or Fraudulent Statement of Claims** The Contractor acknowledges that 31 U.S.C. Chapter 38, applies to its actions pertaining to this contract. The Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to this contract. The Contractor agrees to include the above language in each subcontract under this contract, modified only to identify the subcontractor that will be subject to these provisions.
"El Contratista reconoce que 31 U.S.C., Capítulo 38 se aplica a sus acciones relacionadas con este contrato. El Contratista certifica o afirma la veracidad y exactitud de cualquier declaración que haya hecho, haga, pueda hacer o haga que se haga en relación con este contrato. El Contratista acuerda incluir el lenguaje anterior en cada subcontrato bajo este contrato, modificado solo para identificar al subcontratista que estará sujeto a estas disposiciones."

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9. **Contract Work Hours and Safety Standards Act (APLICA A CONSTRUCCION DE $100,000 o más)** The Contractor will comply with the contracts work hours and Safety Standard Act (*40 USC Sections 3701-3708*) as supplemented by the Department of Labor Regulations (29 CFR Part 5).
"El Contratista cumplirá con los contratos de horas de trabajo y la Ley de Normas de Seguridad (40 U.S.C. Secciones 3701-3708) según lo complementado por el Departamento de Regulaciones Laborales (29 CFR "Parte 5".)

10. **Davis–Bacon Act (APLICA A CONSTRUCCION DE $2,000 o más)** The Contractor agrees to comply with the Davis-Bacon Act (*40 U.S.C. & 3141-3148*). That establishes the requirement for paying the local prevailing wages on public works projects for laborers and mechanics.
"El Contratista acepta cumplir con la Ley Davis-Bacon (40 U.S.C. y 3141-3148). Eso establece el requisito de pagar los salarios locales vigentes en proyectos de obras públicas para trabajadores y mecánicos."

11. **Copeland Anti-kickback act 40 U.S.C. 3145.** (**APLICA A CONSTRUCCION DE $2,000 o más y debe ir acompañada de la cláusula DAVIS BACON ACT)**. The Contractor or Sub-recipient will comply with the Copeland Anti-kickback Act (40 U.S.C. 3145). By this means the Contractor acknowledges and certifies that will not induce any person employed in the construction, completion, or repair of any public work, to give up any part of the compensation to which he or she is otherwise entitled.
"El Contratista o el Sub-receptor cumplirán con la Ley contra el Soborno Copeland (40 U.S.C.3145). Por este medio, el Contratista reconoce y certifica que no inducirá a ninguna persona empleada en la construcción, finalización o reparación de ninguna obra pública a renunciar a ninguna parte de la compensación a la que tiene derecho de otra manera."

12. **Energy Policy and Conservation Act** The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the State Energy Conservation Plan issued in compliance with the Federal Energy Policy and Conservation Act.
"El Contratista acepta cumplir con las normas y políticas obligatorias relacionadas con la eficiencia energética que figuran en el Plan Estatal de Conservación de Energía emitido de conformidad con la Ley Federal de Política y Conservación de Energía."

13. **Seat Belt Use. Executive Order 13043.** In Accordance with the Executive Order No. 13043 the Contractor will enforce Seat Belt use policies and programs for its employees when operating agency cars, rented or personally owned vehicles.
"De acuerdo con la Orden Ejecutiva No. 13043, el Contratista hará cumplir el uso del cinturón de seguridad de las políticas y programas para sus empleados cuando operen automóviles de agencias, vehículos alquilados o de propiedad personal."

14. **Compliance with Federal Law, Regulations and Executive Orders.** The Contractor will comply with all applicable federal laws, regulations and executive orders and National Guard policies, procedures and directives.
"El Contratista cumplirá con todas las leyes, regulaciones y órdenes ejecutivas federales aplicables y las políticas, procedimientos y directivas de la Guardia Nacional."

15. **No Obligation by Federal Government**: The federal government is not a party to this contract and is not subject to any obligations or liabilities to the Agency, contractor, or any other party pertaining to any matter resulting from this contract.
"El gobierno federal no es parte de este contrato y no está sujeto a ninguna obligación o responsabilidades con la Agencia, el contratista o cualquier otra parte relacionada con cualquier asunto resultante de este contrato."

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16. Privacy Act

The Contractor agrees to**:**

(1) Comply with the Privacy Act of 1974 (the Act) and the agency rules and regulations issued under the Act in the design, development, or operation of any system of records on individuals to accomplish an agency function when the contract specifically identifies-
   a. The systems of records; and
   b. The design, development, or operation work that the contractor is to perform.
   c. Include the Privacy Act notification contained in this contract in every solicitation and resulting subcontract and in every subcontract awarded without a solicitation, when the work statement in the proposed subcontract requires the redesign, development, or operation of a system of records on individuals that is subject to the Act; and

(2) Include this clause, including this paragraph,

(3) in all subcontracts awarded under this contract which requires the design, development, or operation of such a system of records.

In the event of violations of the Act, a civil action may be brought against the agency involved when the violation concerns the design, development, or operation of a system of records on individuals to accomplish an agency function, and criminal penalties may be imposed upon the officers or employees of the agency when the violation concerns the operation of a system of records on individuals to accomplish an agency function. For the purposes of the Act, when the contract is for the operation of a system of records on individuals to accomplishan agency function, the Contractor is an employee of the agency.

"Operation of a system of records," as used in this clause, means performance of any of the activities associated with maintaining the system of records, including the collection, use, and dissemination of records.
"Record," as used in this clause, means any item, collection, or grouping of information about an individual that is maintained by an agency, including, but not limited to, education, financial transactions, medical history, and criminal or employment history and that contains the person's name, or the identifying number, symbol, or other identifying particular assigned to the individual, such as a fingerprint or voiceprint or a photograph.
"System of records on individuals," as used in this clause, means a group of any records under the control of any agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying assigned to the individual.

"El Contratista acepta:

(1) Cumplir con la Ley de Privacidad de 1974 (la Ley) y las reglas y regulaciones de la agencia emitidas bajo la Ley en el diseño, desarrollo u operación de cualquier sistema de registros de individuos para cumplir una función de la agencia cuando el contrato identifica específicamente:
   a. Los sistemas de registros; y
   b. El trabajo de diseño, desarrollo u operación que el contratista debe realizar;
   c. Incluir la notificación de la Ley de Privacidad contenida en este contrato en cada solicitud y subcontrato resultante y en cada subcontrato otorgado sin una solicitud, cuando la declaración de trabajo en el subcontrato propuesto requiera el rediseño, desarrollo u operación de un sistema de registros de individuos que está sujeto a la Ley; e

(2) Incluir esta cláusula, incluido este párrafo,

(3) en todos los subcontratos adjudicados en virtud de este contrato que requiera el diseño, desarrollo u operación de dicho sistema de registros.

"En caso de violaciones de la Ley, se puede entablar una acción civil contra la agencia involucrada cuando la violación se refiere al diseño, desarrollo u operación de un sistema de registros de individuos para cumplir una función de la agencia, y se pueden imponer sanciones penales a los oficiales o empleados de la agencia cuando la violación se refiere a la operación de un sistema de registros de individuos para cumplir una función de la agencia. Para propósitos de la Ley, cuando el contrato es para la operación de un sistema de registros de individuos para cumplir una función de agencia, el Contratista se considera un empleado de la agencia."

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"Operación de un sistema de registros", como se usa en esta cláusula, significa el desempeño de cualquiera de las actividades asociadas con el mantenimiento del sistema de registros, incluida la recopilación, uso y difusión de registros.
"Registro", como se usa en esta cláusula, significa cualquier elemento, recopilación o agrupación de información sobre un individuo que es mantenida por una agencia, que incluye, entre otros, educación, transacciones financieras, historial médico e historial criminal o laboral y que contiene el nombre de la persona, o el número de identificación, símbolo u otra identificación particular asignada a la persona, como una huella digital o una huella de voz o una fotografía.
"Sistema de registros de individuos", como se usa en esta cláusula, significa un grupo de registros bajo el control de cualquier agencia de la cual se recupera información por el nombre del individuo o por algún número de identificación, símbolo u otro identificador particular asignado al individuo."

17. **Procurement of Recovered Materials: (APLICA A CONTRATOS DE $10,000 o más)** The Contractor agrees to provide a preference for products and services that conserve natural resources that protect the environment and maximizes energy establishing an affirmative program for procurement of recovered materials identified as EPA guidelines.
"El Contratista acuerda proporcionar una preferencia por los productos y servicios que conservan los recursos naturales que protegen el medio ambiente y maximiza la energía estableciendo un programa afirmativo para la adquisición de materiales recuperados identificados como pautas de la EPA."

18. **Equal Employment Opportunity (EEO)** The Contractor agrees to obey all laws and regulations regarding discrimination for reasons of race, color, gender, natural origin or social condition, sexual orientation, age, political or religious belief or any other discriminatory cause in the provision of services contained in this contract. It will also have the responsibility to avoid creating a hostile environment, free of all types of harassment, to include sexual harassment; having the responsibility of notifying the Executive Officer for State Affairs or the person designated by PRNG immediately of any situation that arises to this effect. Failure to comply in this regard will cause the contract to be terminated without further notice. According to *Executive Order No. 11246, Amendment No. 11375, 41 CFR Part 60, Americans with Disabilities Act of 1990 (ADA) and 2 CFR Part 200*.
"El Contratista acuerda obedecer todas las leyes y regulaciones con respecto a la discriminación por motivos de raza, color, género, origen natural o condición social, orientación sexual, edad, creencias políticas oreligiosas o cualquier otra causa discriminatoria en la provisión de servicios contenidos en este contrato. También tendrá la responsabilidad de evitar crear un ambiente hostil, libre de todo tipo de acoso, para incluir el acoso sexual; tener la responsabilidad de notificar al Oficial Ejecutivo de Asuntos del Estado o la persona designada por PRNG de inmediato de cualquier situación que surja a este efecto. El incumplimiento a este respecto hará que el contrato se rescinda sin previo aviso. De acuerdo con la Orden Ejecutiva No. 11246, Enmienda No. 11375, 41 CFR Parte 60, estadounidenses con la Ley Americana de Discapacidades de 1990 (ADA) y 2 CFR Parte 200."

19. **Termination for Cause and Convenience** Any of the parties may rescind the contract at any moment, through written notification to the other party, fifteen (15) days in advance to the date on which the contractual resolution shall be effective. However, the requirement of prior notification will not apply when probable cause for arrest is determined against the Contractor, for any State or Federal crime, and for any of the grounds established in the contract. PRNG will be able to immediately terminate the contract in the event of negligence, abandonment of duties or non- fulfillment of any of the contractual obligations. Non-fulfillment, among other things, will include the Contractor not providing services required by PRNG after having requested them in writing or by any other approved means of communications.

NO services are to be paid for that are in violation to this clause, since it is understood that any official that request and/or accepts services from another part that is in violation to this disposition, is doing so without any

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appropriate legal authority.
"Cualquiera de las partes puede rescindir el contrato en cualquier momento, mediante notificación escrita a la otra parte, con quince (15) días de anticipación a la fecha en que la resolución contractual será efectiva. Sin embargo, el requisito de notificación previa no se aplicará cuando se determine la causa probable del arresto contra el Contratista, por cualquier delito del Estado o Federal y por cualquiera de los motivos establecidos en elcontrato. PRNG podrá rescindir inmediatamente el contrato en caso de negligencia, causa probable de arresto contra el Contratista, por cualquier delito del Estado Federal y por cualquiera de los abandonos de funciones o incumplimiento de cualquiera de las obligaciones contractuales. El incumplimiento, entre otras cosas, incluirá que el Contratista no brinde los servicios requeridos por PRNG después de haberlos solicitado por escrito o por cualquier otro medio de comunicación aprobado.

NO se pagarán servicios que infrinjan esta cláusula, ya que se entiende que cualquier funcionario que solicite y/ o acepte servicios de otra parte que infrinja esta disposición, lo hará sin ninguna autoridad legal adecuada."

20. **Contractual Legal Remedies Controversies and Pertinent Laws:** This contract will be governed by the laws of the Government of Puerto Rico and the United States of America. Should any disposition, cause or part of this contract be contested for any reason before a Court of Law and declared unconstitutional or null, such determination will not affect, undermine, or invalidated the remaining dispositions or clauses of this contract, rather, in its effect will limit only to the disposition declared unconstitutional or null. Both parties accept that the San Juan Superior Court (First Instance) will be the court with pertinent jurisdiction to elucidate any judicial action originating from this contract.
"Este contrato se regirá por las leyes del Gobierno de Puerto Rico y los Estados Unidos de América. Si alguna disposición, causa o parte de este contrato se impugna por algún motivo ante un Tribunal de Justicia y se declara inconstitucional o nulo, dicha determinación no afectará, socavará ni invalidará las disposiciones o cláusulas restantes de este contrato, sino que, en su efecto, limitará solo a la disposición declarada inconstitucional o nula. Ambas partes aceptan que el Tribunal Superior de San Juan (Primera Instancia) será el tribunal con jurisdicción pertinente para dilucidar cualquier acción judicial que se origine en este contrato."

21. **Drug Free Work Place** The Contractor certifies that it will maintain a drug free working environment. It also certifies the publication and distribution of material related to the prohibition of controlled substances and the penalties that these are subject to, and that prevention and detection of drug programs have been established. The Contractor will inform PRNG in case of a conviction for drugs in the workplace area and the disciplinary actions that Will be taken against any employee convicted for criminal offenses related to the use and abuse of controlled substances according to the"Drug Free Workplace Act".
"El Contratista certifica que mantendrá un ambiente de trabajo libre de drogas. También certifica la publicación y distribución de material relacionado con la prohibición de sustancias controladas y las sanciones a las que están sujetas y que se han establecido programas de prevención y detección de drogas. El Contratistainformará a PRNG en caso de una condena por drogas en el área de trabajo y las medidas disciplinarias *que setomarán contra cualquier empleado condenado por delitos relacionados con el uso y abuso de sustancias controladas de acuerdo con la "Ley de Lugar de Trabajo Libre de Drogas".*

Included by Legal Office Judge Advocate (JAG)

22. **Police Record Check** The Contractor agrees to submit to a background check prior to providing services to PRNG. The background check will be completed by PRNG and includes a criminal record check, verification against the national sex offenders register and any other verification that deem necessary in relationship with the services to be provided by the Contractor. The background checks must show no convictions or pending criminal charges that would render the Contractor to provide the services requested in the contract.
"El Contratista se compromete a someterse a una verificación de antecedentes antes de prestar servicios a PRNG. La verificación de antecedentes será realizada por la PRNG e incluye una verificación de antecedentes

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penales, verificación contra el registro nacional de ofensores sexuales y cualquier otra verificación que se considere necesaria con relación a los servicios que brindará el Contratista. Las verificaciones de antecedentes deben mostrar no condenas o cargos penales pendientes que harían que el Contratista no pueda brindar los servicios solicitados en el Contrato".

23. **Annual Threat Awareness and Reporting Program (TARP) Training** All Contractor's Employee will complete an annual Threat Awareness and Reporting Program (TARP) training provided by a Counterintelligence Agent, IAW (*DoDD 5240.06 Counterintelligence Awareness and Reporting*). The Contractor shall submit the certificates of completion of the training for each employee or a memorandum for record to the COR or Contracting Officer (if a COR is not assigned), within five (5) calendar days after completion of the training.
"Todos los Empleados del Contratista completaran una capacitación anual del Programa de Informes y Concientización sobre Amenazas (TARP) brindada por un Agente de Contrainteligencia, IAW "(DoDD 5240.06 Counterintelligence Awareness and Reporting). El Contratista deberá presentar los certificados de finalización de la capacitación para cada empleado o un memorando para su registro al COR o al Oficial de Contrataciones(si no se asigna un COR), dentro de los cinco (5) días calendario posteriores a la finalización de la capacitación."

We certify that we will comply with the clauses and conditions established by the laws and regulations.
Certificamos que cumpliremos con las cláusulas y condiciones establecidas por las leyes y reglamentos antes mencionados.

Compañía

Nombre

Firma

Puesto que Ocupa

Sello Corpativo de la Compañía

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Attachment 2

IMPERATIVE INCLUSION CLAUSES

CLÁUSULAS DE INCLUSIÓN IMPERATIVA EN TODO CONTRATO DE SERVICIOS PROFESIONALES O COMPRADOS (Carta Circular 001-2021)

Todos los contratos de servicios profesionales o comprados cuya cuantía exceda diez mil dólares ($10,000) deberán contener textualmente las siguientes cláusulas:

a. Cláusula de servicios interagenciales: Ambas partes contratantes reconocen y acceden a que los servicios contratados podrán ser brindados a cualquier entidad de la Rama Ejecutiva con la cual la entidad contratante realice e1 acuerdo interagencial o por disposición directa de la Secretaría de la Gobernación. Estos servicios se realizarán bajo los mismos términos y condiciones en cuanto a horas de trabajo y compensación consignados en este contrato. Para efectos de esta cláusula, el término entidad de la Rama Ejecutiva incluye a todas las agencias del Gobierno de Puerto Rico, así como a las instrumentalidades y corporaciones públicas y a la Oficina del Gobernador.

b. Cláusula de terminación: La Secretaría de la Gobernación tendrá la facultad para dar por terminado el presente contrato en cualquier momento.

c. Política de Revisión de Contratos de la Junta de Supervisión y Administración Financiera para Puerto Rico: Las Partes reconocen que el CONTRATISTA ha presentado la certificación titulada "Requisito de Certificación del Contratista, requerida de conformidad con la Política de Revisión de Contratos de la Junta de Supervisión y Administración Financiera para Puerto Rico, vigente a partir del 6 de noviembre de 2017 y según enmendada el 30 de octubre de 2020, firmada por el Director Ejecutivo del Contratista (u otro funcionario con una posición o autoridad equivalente para emitir tales certificaciones). Se incluye como anejo a este Contrato, copia firmada del "Requisito de Certificación del Contratista".