MTA Procurement

DATE: 2/28/2025

NON-CONSTRUCTION CONTRACT SOLICITATION NOTICE

MTA- HQ IS NOW ADVERTISING FOR THE FOLLOWING:

SSE #:0000501268	**OPENING/DUE DATE: 03/31/2025**
TYPE OF SOLICITATION: IFB	**DOCUMENT AVAILABILITY DATE: 2/28/2025**

SOLICITATION TITLE: Petroleum Storage Tank System Repair, Replacement and Testing for NYCT DOB, MTABC, MTA BRTUN, NYCT DOS

DESCRIPTION: The Contractor shall provide on-site tank systems repair and testing services at ALL New York City Transit (NYCT) – Department of Subway (DOS), Department of Buses (DOB) and MTA Bus Company (MTABC), MTA Bridge and Tunnels Authority (BRTUN), MTA Long Island Rail Road (LIRRD) locations within the five (5) boroughs of New York City, the City of Yonkers and the Counties of Nassau and Suffolk as directed by the Authority for 48 months from the date of Notice of Award. The Contractor will perform Normal and Emergency Service calls as directed by the respective MTA Project Manager.

Funding: **Operating** 100%
Est $ Range: $10M - $50M

Goals: None
Contract Term: 4 Years

PLEASE SEE ATTACHED PROJECT OVERVIEW FOR ADDITIONAL INFORMATION

() PRE-BID CONFERENCE:	**DATE:**	**TIME:**
() SITE TOUR	**DATE: N/A**	**TIME: N/A**

FOR MORE INFORMATION, PLEASE CONTACT

PROCUREMENT REPRESENTATIVE: Zumrad Rashidova **EMAIL: zumrad.rashidova-consultant@mtahq.org**

ATTACHMENT A

SCOPE OF WORK

FOR

MTA NEW YORK CITY TRANSIT AUTHORITY (NYCTA):

DEPARTMENT OF BUSES (DOB)

MTA BUS CO. (MTABC)

MTA BRIDGES AND TUNNELS (MTA B&T)

NYCTA DEPARTMENT OF SUBWAYS (DOS)

MTA LONG ISLAND RAILROAD (LIRRD)

ATTACHMENT A – SCOPE OF WORK

MASTER TECHNICAL SPECIFICATIONS

For Tank Repair and Testing

MTA NEW YORK CITY TRANSIT AUTHORITY (NYCTA)

DEPARTMENT OF BUSES (DOB)

MTA BUS CO. (MTABC)

MTA BRIDGES AND TUNNELS (MTA B&T)

NYCTA DEPARTMENT OF SUBWAYS (DOS)

MTA LONG ISLAND RAILROAD (LIRRD)

NOTE: Agency specific detailed requirements can be found in the Scopes of Work for NYCT DOB/MTABC, MTA BRTUN, NYCT DOS and LIRRD attached hereafter in Sections I, II, III, IV, V respectively.

Introduction:

The Contractor shall provide on-site tank systems repair and testing services at ALL New York City Transit (NYCT) – Department of Subway (DOS), Department of Buses (DOB) and MTA Bus Company (MTABC), MTA Bridge and Tunnels Authority (BRTUN), MTA Long Island Rail Road (LIRRD) locations within the five (5) boroughs of New York City, the City of Yonkers and the Counties of Nassau and Suffolk as directed by the Authority for 48 months from the date of Notice of Award. The Contractor will perform Normal and Emergency Service calls as directed by the respective MTA Project Manager.

General Requirements:

Contractor shall provide all labor, equipment, tools and material necessary to complete the work as directed by the Authority's respective Project Manager, including but not limited to repair or replacement of concrete pads, paving, removal and disposal of, or transfer of existing fuel from tank(s) etc.

The Contractor shall be required to provide proper equipment and tools to perform the Work.

All work shall comply with applicable Federal, DEC, EPA, New York State, New York City and New York City Transit and Long Island Railroad / MTA policies, codes, practices, rules, regulations and statutes, whichever standard is most stringent.

The Contractor must be a NYC Licensed Tank Installer (FDNY W-16 License and/or up-to-date tank installer license); in addition, the contractor / sub-contractor must possess a NYC Master Electrician License.

All Work shall be done under the direction and coordination of the Authority's respective Project Manager and shall be done to the satisfaction of the Authority.

All work shall be performed in accordance with manufacturer recommendations or nationally recognized standards.

The Contractor shall familiarize itself with all Authority's tank's system, equipment, models and work environments prior to performing necessary services at no additional cost to the Authority.

Contractor must be an Authorized Service Contractor (ASC) / Distributor of the following manufacturers including but not limited to:

- Gasboy
- Veeder Root
- Red Jacket
- Signage replacement as needed
- Manhole & fibrolites covers repaired/replaced
- Troubleshoot, repair and/or design of electrical controls of tank systems and ancillary components, as requested. Master Electrician and PE on staff to file and submit drawings.
- Perform state-required aboveground tank system Integrity Testing/Inspections including engineering report, as requested.

As required by the Authority's Project Manager, the Contractor shall remove, transport and dispose of any unusable liquid petroleum product (e.g., lube, diesel, heating oil - contaminated), contaminated water/petroleum product from the tanking system (including fill box, tank sumps, fuel tanks, dispenser sumps, etc.). In addition, tank bottom sludge shall be removed as part of this task. Cost will be assumed to be the same unit price for removal of any sludge along with the liquid petroleum product. In addition, all water used for hydrostatic tests (fill spill buckets, tank and dispenser sumps, etc.) shall be removed and disposed of from the site at no additional cost to the Authority.

General Description of Work:

The Contractor shall provide all labor, equipment, tools and other apparatus necessary to remove various quantities of heating, lube oil, waste oil, or other petroleum / chemical products, from the Authority's storage tanks, on an as required basis when determined by the Project Manager. The Contractor shall be responsible to provide all permits and certifications as required by Federal, State, or Local law to perform the Work.

Packaging and transportation of flammable waste must be in accordance with the New York City Fire Prevention Code and New York State Department of Conservation (NYSDEC). All vehicles must have permits and drivers must have certificates of fitness issued by the New York City Fire Department of transporting combustible material. In addition, any similar local requirements for areas outside New York City through or to which the waste will be taken must be complied with.

If needed and as directed by the PM and/or in the event that the Work at any location is not complete in one (1) day, due to any reason the Contractor shall provide and install temporary steel cover plates suitable to withstand traffic loading and shall, as required, relocate, remove and/or adjust the location of the cover plates after placement at the job site. Temporary steel cover plates shall be secured in place, if required, by means of strap welding. The Contractor shall provide caution tape, safety cones, netting, safety fencing, etc., for open excavations. When at such time the Work continues, up to and until completion, the Contractor shall again erect, remove, relocate and/or adjust the location of the caution tape, safety cones, netting, and safety fencing, etc., to maintain the job site as required for the work.

Special Note on Concrete demolition over tanks and piping at Authority's sites:

Concrete demolition over tanks and piping at Authority's sites/facilities shall be performed via saw cutting the affected areas and removing concrete in "cubes" to minimize vibration related damage from heavy hydraulic demo hammers. It is also acceptable to utilize manually operated air and electric driven chipping hammers (jack-hammers) to perform concrete demolition over tanks and piping. Backhoe mounted hydraulic demo-hammers are not acceptable in demolishing concrete. During the demolition, Contractor shall follow all OSHA requirements to minimize the dust condition.

SECTION I

MTA NEW YORK CITY TRANSIT AUTHORITY (NYCTA)

DEPARTMENT OF BUSES (DOB),

MTA BUS CO. (MTABC)

TECHNICAL SPECIFICATIONS

TANK SYSTEM REPAIR

CLASS A- Tank System Repair – Department of Buses (DOB) and MTA Bus Co. (MTABC)

I. PROJECT DESCRIPTION

The Contractor(s) will provide onsite repairs and testing services for the Underground (UST) and Aboveground (AST) storage tanks at MTA NYCT DOB and MTA Bus Company. Facilities are located within the five (5) boroughs of New York City and in the City of Yonkers. The contract period is for thirty-six (36) months from the Notice of Award. The Contractor is to maintain a twenty-four (24) hour, seven (7) day a week Phone Access Number for regular service and emergencies during the contract period. The phone number will have a NYC area code or a toll-free telephone number. To expedite the response for service the contractor will employ Tank Repair qualified personnel to answer the calls. The Contractor will perform Normal and Emergency Service calls as directed by the Project Manager. Normal service calls require a 48-hour response time. Emergency service calls require a two-hour response time by the Contractor.

The Contractor will provide labor, equipment and material for the services required under this contract as directed by the Authorities Project Manager.
Work is to include the following:

- AST& UST modifications, installations, removals & abandonments.
- Modify and or repair tanks, manways, manway openings to accommodate new equipment
- Modify and or repair both above-ground and below-ground piping to accommodate new devices
- Modify and or repair piping for replacement of check valves fittings etc.
- Manhole repair and replacements
- Concrete tank pad repair or replacement
- Asphalt repair or replacement
- Transfer and or disposal of fuel from tanks as required for completion of repairs

Contractor is to prepare an estimate for services required. This estimate is to be approved by the Authorities Project Manager prior to issuing a work order.

- Removal / **CLOSURE** of Aboveground Storage Tanks (AST) and Underground Storage Tanks (UST) and related equipment, including marine gas-free certification, as requested.
- Installation and testing of above ground storage tank systems.
- Repair and/or modify tanks, manways, openings, as well as modifications to accommodate new equipment.
- Modify above ground and below ground piping systems to accommodate changes of equipment and installation of new devices on the systems and provide as-built drawings/plans, as requested.
- Repair / replace piping, valves, check valves, fittings etc. in tank manways, pump rooms and filter rooms.
- Troubleshoot and replace or repair various pumps or pump systems (diesel, gasoline, heating oil, water, Antifreeze, etc.) Including mechanical line leak detectors.
- Repair / replace fiberglass piping, primary and secondary, as well as the associated flexible connectors as required.
- Fill box repairs / replacement or modification to update / accommodate new equipment.
- Tank cleaning, product transfer and/or disposal that may be required to carry out any of the above.
- Dispenser repair/replacement as needed.
- Contractor must be an Authorized Service Contractor (ASC) / Distributor of the following manufacturers including but not limited to:
  - Gasboy
  - Veeder Root
  - Red Jacket

- Signage replacement as needed.
- Manhole covers repaired/replaced.
- Troubleshoot, repair and/or design of electrical controls of tank systems and ancillary components, as requested. Master Electrician and PE on staff to file and submit drawings.
- Perform state-required aboveground tank system Integrity Testing/Inspections including engineering report, as requested.

All Work shall comply with all applicable Federal, New York State, New York City and Authority codes, practices, rules, regulations and statutes, whichever standard is most stringent. All Work shall be done under the direction and coordination of the Authority's Project Manager and shall be done to the satisfaction of the Authority as set forth in Article 109 of the Contract. The Contractor is required to be certified to handle the Authority's Veeder Root equipment as it affects the Contractor's work and other Authority contractors or with Authority personnel, on an as needed basis. Contractor's personnel must possess Veeder Root technician certifications. All Veeder Root equipment under warranty shall be handled as such.

II. REPAIR OF TANK SYSTEMS

General Requirements for Confined Space / Permit Required Confined Space entry:

Contractor must ensure personnel have appropriate training and equipment if they plan to make entry into any tank or component thereof which may be considered a confined / permit required confined space.

Equipment may be but not limited to:

- Body harnesses
- Tripods
- Appropriately calibrated and bump tested five gas meters
- Ventilation blowers
- Respiratory protection

A. INSPECTION AND REPAIR OF THE CLA VAL VALVES OR OTHER MECHANICAL OVERFILL PROTECTION

SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to clean, repair and test the Cla Val valves or other overfill prevention valves for proper operation, the scope of work includes, but is not limited to the following:

Lock out the fill box connected to the overfill prevention valve(s).

1. Remove and check the diaphragm(s) if applicable and clean or replace if necessary, as per manufacturer specifications.
2. Clean or replace all screens and pipes as required by the Notice to Proceed as issued by the Project Manager based on manufacturer's recommendations or as required by the Authority's Project Manager.
3. Restore the overfill prevention valve/s to operating condition and test to Authority's site personnel's satisfaction and manufacturer's recommendations.

B. REPAIR/REPLACEMENT OF FLEXIBLE CONNECTORS

CLASS A- Tank System Repair – Department of Buses (DOB) and MTA Bus Co. (MTABC)

SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to repair/replace the flexible connectors, the Scope of Work shall include, but not limited to the following:

The Contractor shall replace with Authority approved "flex connectors" or upon site-specific conditions, hard piping will be approved in place of the flex connectors.

1. Remove as required the concrete slab at points where defective flexible connectors are located on Authority furnished Contract drawings, which will be supplied on an as needed basis for each site. Remove the backfill (pea gravel) to expose the pipes.
2. Isolate the primary pipe and drain the product to a container. Dispose of the petroleum / chemical product. Remove outer wall flexible boots in the trench and make a visual inspection.
3. If the visual inspection shows signs of product, test with appropriate pressure to locate leak.
4. Remove and replace the flexible connectors if found leaking as per Notice to Proceed.
5. Re-test line at 1 ½ times the working pressure or as directed by the ECMD after repair to insure no additional leaks.
6. Re-install the secondary boots/connector/s.
7. Re-test outer wall at no greater than 5 psi. to make sure that secondary containment pipe is tight.
8. Backfill with removed pea gravel and restore the concrete, rebar and areas affected by the work to original condition.

NOTE: Contractor shall locate new flexible connector in same location unless directed differently by Project Manager.

C. REPAIR OR REWORK OF "FILL BOXES"
SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to repair or rework Fill Boxes, the Scope of Work shall include, but not be limited to the following:

1. Removal of defective drain valve inside the fill box and replace with manufactures original type.
2. The Contractor shall replace the fill box with same model or Authority approved equivalent.
3. Standing Water Test
4. Witness a delivery of product after repair to assure the new installed valve is not leaking and will drain product back into the tank

D. REPAIR/REPLACEMENT OF TANK SUMP ENCLOSURES

SCOPE OF WORK:

In the event that the approved Work Order calls for the repair/replacement of sump enclosures on UST tanks, the scope of work shall include, but not be limited to the following:

1. The Contractor shall perform an inspection to determine the size configuration and area(s0 in need of repair ECMD along with the Contractor will evaluate if the sump is repairable (bulk head fittings replaced, patched, etc).

2. If sump is determined by Project Manager not to be cost effective to be repaired, Contractor shall submit a Work Order estimate and time frame to replace the existing sump(s), covers, frames, electrical wiring,

and conduit penetrations along with all associated piping. This proposal will also include the cost for excavation and restoration of the site back to its original condition.

3. Contractor shall complete a standing water test on sump and perform a line test on the discharge primary and secondary lines that will be witnessed by Authority personnel after installation or repair of sumps is complete to ensure tightness. Contractor shall provide written test results to Project Manager within two (2) Business Days. Updated / revised as built drawings will be provided to the Authority detailing any upgrades, replacements or additions of equipment to the tank system within fourteen (14) business days from completion of said work.

III. CLEANING, REMOVAL AND DISPOSAL OF UNUSABLE PETROLEUM / CHEMICAL PRODUCTS

General Requirements for Confined Space / Permit Required Confined Space entry:

Contractor must ensure personnel have appropriate training and equipment if they plan to make entry into any tank or component thereof which may be considered a confined / permit required confined space.

Equipment may be but not limited to:

- Body harnesses
- Tripods
- Appropriately calibrated and bump tested five gas meters
- Ventilation blowers
- Respiratory protection

A. GENERAL DESCRIPTION OF WORK

In the event that the approved Work Order calls for the cleaning, removing and the disposal of unusable liquid petroleum / chemical products from storage tanks, the Scope of Work shall include, but not be limited to the following:

The Contractor shall provide all labor, equipment, tools and other apparatus necessary to remove various quantities of heating, lube oil, waste oil, or other petroleum / chemical products, from the Authority's storage tanks, on an as required basis when determined by the Project Manager. The Contractor shall be responsible to provide all permits and certifications as required by Federal, State, or Local law to perform the Work.

If additional information on the nature of a substance is required, it will be the responsibility of the Contractor to take samples for chemical analysis or other assessments and provide written results within seven (7) days from sample collection date.

B. REMOVAL AND DISPOSAL OF NONUSABLE PETROLEUM / CHEMICAL PRODUCTS

As required by the Project Manager, the Contractor will need to remove, transport, and dispose of any unusable liquid petroleum / chemical product (e.g., lube, diesel, heating oil, contaminated water, waste oil, antifreeze, methanol, etc). Tank bottoms and sludge shall be removed as part of this task. Cost will be assumed to be the same unit price for removal of any sludge along with the liquid petroleum / chemical product.

Packaging and transportation of hazardous waste must be in accordance with the New York City Fire Prevention Code, New York State Department of Conservation (NYSDEC), US Department of Transportation (US DOT),

New York State Department of Transportation (NYS DOT) and US Environmental Protection Agency requirements. All vehicles must have permits and drivers must have certificates of fitness issued by the New York City Fire Department of transporting combustible material. In addition, any similar local requirements for areas outside New York City through or to which the waste will be taken must be complied with.

IV. TRANSFER OF USABLE PETROLEUM / CHEMICAL PRODUCTS

In the event that the approved Work Order calls for the transfer of usable petroleum / chemical products, the Scope Of Work shall include, but not be limited to the following technical specifications for the transfer of usable petroleum / chemical product from any Authority facility to any other facility as directed by the Project Manager within the geographical area serviced by the Authority.

a. Usable product shall be removed from the tank by means of a vacuum tanker truck designed for this purpose. All components of the pumping system shall be explosion proof and non-sparking.

b. The Contractor's truck shall be clean and free of any product previously contained in the tank. The driver shall open all inspection ports for visual inspection by the onsite Authority representative before beginning any Work.

c. The suction nozzle shall remain a minimum of four (4) inches from the bottom of the tank. The remainder of the product shall be considered unusable and will be disposed of separately.

d. The product shall be transferred to the designated location and delivered to the tanks designated by the Project Manager. Unless otherwise directed, the product shall be delivered through the tanks fill port/box.

e. The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to remove the fuel.

f. The Contractor shall have proper bills of lading or hazardous waste manifests with signature space for the on-site supervisor from the original location and a signature space for the receiving location. The manifest shall also include the volume of fuel being transferred.

g. Product may also be transferred from one tank to another at the same site. The method shall be approved by Project Manager prior to commencing.

h. If the Contractor must enter a manway to perform the transfer (removal), all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this Work.

i. The Contractor shall be responsible for all spills related to any portion of the Work. Contractor must have a written spill response plan approved by the Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

j. The Contractor must have all necessary permits reviewed and approved by the Office of System Safety.

V. TANK CLEANING

CLASS A- Tank System Repair – Department of Buses (DOB) and MTA Bus Co. (MTABC)

General Requirements for Confined Space / Permit Required Confined Space entry:

Contractor must ensure personnel have appropriate training and equipment if they plan to make entry into any tank or component thereof which may be considered a confined / permit required confined space.

Equipment may be but not limited to:

- Body harnesses
- Tripods
- Appropriately calibrated and bump tested five gas meters
- Ventilation blowers
- Respiratory protection

In the event that the approved Work Order calls for the Contractor to remove unusable petroleum / chemical products, the Scope Of Work shall include, but not be limited to the following technical specifications for the cleaning and removal of petroleum / chemical product/sludge from tanks at any Authority facility; including facilities of affiliates and subsidiaries as directed by the Project Manager:

a. The Contractor shall have proper bills of lading or hazardous waste manifests to transport any waste/hazardous waste material. Copies of the documents shall be supplied to the Project Manager no later than the following day.

b. The Contractor shall have documentation of acceptance of waste materials by a facility legally permitted to treat or dispose of those materials. Such documentation shall be supplied to the Project Manager within seven (7) days following delivery to the site. In addition, a letter of intent from the facility and hauler acknowledging agreement to accept the waste material shall be furnished to the Project Manager not more than fourteen (14) days prior to transporting any waste material.

c. The Contractor must follow all applicable confined space entry procedures in order to enter any tank to perform the required cleaning. The Contractor must supply all equipment required to perform this Work.

d. The Contractor must obtain at its own cost all necessary permits required by NYCFD, NYCDEP, NYSDEC, NYSDOT and EPA for the subject Work. All permits must be submitted, reviewed and approved by the Authority's Office of System Safety.

e. All tank work must be performed by licensed tank installers.

f. The Contractor upon award of the Contract shall supply to the Project Manager for approval, all procedures related to all phases of the Work under this Contract before any Work is permitted to begin.

g. Usable product shall be removed from the tank as per the applicable specification for product transfer before the tanks are to be cleaned.

h. Product testing of unusable product shall be analytically tested as directed by Project Manager. Test parameters shall be defined by Project Manager and may include G.C. Fingerprint sulfur content water content, hydrocarbon speciation, specific gravity, and others. Contractor shall provide written test results within seven (7) days from sample collection date.

i. The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access the tank(s) for cleaning.

j. The Contractor shall gain access to the tank(s) via the existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, floats, electronic equipment, suction lines, bolts, manway covers and gaskets, etc. encountered. Upon completion of the Work, all equipment must be returned to its original operating condition. All manway gaskets must be replaced with new gaskets reuse of old gaskets is not permitted.

k. All product in lines shall be drained back to the tank where possible or shall be removed from the lowest point of the piping. All products in the lines shall be removed and disposed of as sludge.

l. The tank and all associated piping shall be purged of flammable vapors before entry to the tank can be made. Purging of the tank shall be by the use of steam, inert gas or another approved method. If steam is to be used for either purging or cleaning the tank or piping, the discharge nozzle and all conductive insulated object subject to impingement or condensation shall be bonded to the tank or be grounded to prevent static charge build up. If solid carbon dioxide (dry ice) is used it shall be crushed dry ice introduced into the tank and evenly distributed at a rate of 1.5 lb. per 100 gallons of tank volume. Vapor removal can also be accomplished by the use of a venturi type air mover driven by compressed air or class 1, group D type electric motor. In all cases the vapor shall be discharged at a minimum of 12’ above grade level. Where tanks are located indoors the vapor is to be vented to the exterior of the building.

m. The interior of the tank shall be tested for Low Explosive Level and oxygen content prior to any entrance to the tank. The tank shall be tested at least three (3) different levels, top, middle, and bottom.

Work will not proceed until readings are below 10% of the Low Explosive Level. Monitoring shall remain continuous while Work is being performed in the tank. Personnel entering the tank shall be required to wear personnel air quality monitors at all times. Ventilation of the tank shall be continuous and consistent while personnel are inside performing any Work. The atmosphere inside the tank must not constitute anything immediately dangerous to life and health (IDLH) as defined by OSHA. If this is not possible, the person(s) entering the tank or component thereof must be provided with appropriate respiratory protection fit for use in an IDLH atmosphere as defined by OSHA in 29 CFR 1910.134.

n. The tank/piping shall be cleaned by the use of high-pressure rinse or other approved method. All sludge shall be removed by means of a vacuum truck or stored in new 55 gal. DOT approved drums. If drums are used, they shall be sealed watertight to prevent water infiltration or leakage of the contents. Drums shall be labeled in accordance with all applicable state and federal regulations and removed upon completion of the Work.

o. Upon completion of the cleaning Work the tank shall be squeegeed, sponged or mopped dry to insure no residual water or product remains. All cleaning materials must be properly drummed and disposed of by the Contractor.

p. Upon completion of all Work, if directed by Project Manager, the Contractor shall perform a tightness test on the tank and associated piping to insure tank tightness. Approved methods are vacutect, petrotite or other methods approved by the Authority. The Contractor will also be responsible for re-priming the entire system and placing it back in proper working order.

q. The Contractor shall be responsible for all spills related to any portion of their Work. The Contractor shall have a written spill response plan submitted and approved by the Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

r. If tanks are to be closed, or associated fuel dispensing stations are to be decommissioned / closed / removed, the Contractor shall provide closure affidavits within seven (7) business days from completion of closure / removal activities.

VI. GENERAL REQUIREMENTS

A. HIGH EARLY STRENGTH CONCRETE

High early strength concrete shall contain type III Portland cement in ready mix or site batch. The compressive strength of high early strength concrete shall be 3,500 pounds per square inch after seventy-two (72) hours cure. The design mix shall be subject to the approval of the Project Manager. Rods and bars shall conform to ASTM A616, grade 60.

B. STEEL PLATE

In the event that the Work at any location is not complete in one (1) day, due to any reason, the Contractor shall provide and install temporary steel cover plates suitable to withstand traffic loading and shall, as required, relocate, remove and/or adjust the location of the cover plates after placement at the job site. Temporary steel cover plates shall be secured in place, if required, by means acceptable to the Project Manager. The Contractor shall provide caution tape, safety cones, netting, safety fencing, etc., for open excavations. When at such time the Work continues, up to and until completion, the Contractor shall again erect, remove, relocate and/or adjust the location of the caution tape, safety cones, netting, and safety fencing, etc., to maintain the job site as required for the Work.

Special Note on Concrete demolition over tanks and piping in NYCT bus depots:

Concrete demolition over tanks and piping in Authority bus depots shall be performed via saw-cutting the affected areas and removing concrete in "cubes" to minimize vibration related damage from heavy hydraulic demo hammers. It is also acceptable to utilize manually operated air and electric driven chipping hammers (jack-hammers) to perform concrete demolition over tanks and piping. Backhoe mounted hydraulic demo-hammers are not acceptable in demolishing concrete over tanks and piping systems.

C. WET SAW CUTTING

1. Mark delineation of worksite before saw-cutting.
2. Cut concrete and/or asphalt. Average depths up to 16"-18" - to be verified beforehand by core drilling.
3. Some locations may have depths exceeding 18" up to 24" in depth.
4. The Contractor shall be required to provide proper equipment and tools to perform the Work.
5. Inclusive on street, roadway and sidewalk.

D. SAFETY

1. Contractor is required to submit all chemical products (i.e., cleaning agents) to be used in Authority facilities to the Office of System Safety for preview and approval.
2. Contractor and its personnel shall adhere to the New York City Transit Confined Space Entry Policy and Instruction 10.19.1 prior to entering any tank.
3. Health and Safety plans shall be provided and include a silica exposure plan as well as a lead exposure plan.

SECTION II

MTA NEW YORK CITY TRANSIT AUTHORITY (NYCTA)

DEPARTMENT OF BUSES (DOB),

MTA BUS CO. (MTABC)

TECHNICAL SPECIFICATIONS

TANK SYSTEM TESTING

CLASS B- Tank System Testing – Department of Buses (DOB) and MTA Bus Co. (MTABC)

PROJECT DESCRIPTION

The Contractor shall provide tank system testing services at MTA New York City Transit (NYCT) and MTA Bus Company (MTABC) locations within the five (5) boroughs of New York City and the City of Yonkers as directed by the Authority for forty-eight (48) months from the Notice of Award. Reporting distance of Contractor shall be within seventy miles radius of New York City.

Project Description

The Contractor shall perform periodic testing on the Authority's aboveground and underground petroleum and chemical bulk storage tank systems. All aspects of work performed on tank storage systems shall comply with applicable Federal, New York State, New York City and New York City Transit Authority/MTA BC policies, rules, regulations, and statutes, whichever is most stringent. Unless otherwise indicated, tests must be performed in accordance with the most current version of the Petroleum Equipment Institute Publication RP1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities" as referenced in 40 CFR Part 280. The forms (or equivalent) in the appendices to RP1200 are to be used for the test reports.

The Contractor shall provide all labor, tools, equipment (including personal protective equipment not associated with confined space entry), material, travel, lodging, etc. necessary to complete the task as directed by the Authority. All costs associated with performing the task shall be included in the unit prices in the price schedule.

Repair and / or replacement of failed components will be performed under Class B, line items 1 thru 6 and Item 23.

General Requirements

Coordination of Testing and Contractor Check-In

The Project Manager shall issue a release number along with the test location and types of tests to the Contractor before work commences. The contractor shall begin performing the work within five business days from the issuance of the release number in coordination with the Environmental Compliance and Management (EC&M) group.

The Contractor shall report to the required location and sign in and out in the Plant and Equipment (P&E) logbook.

Personnel Certifications and Qualifications

All personnel must be certified by the manufacturer of components to be tested, repair or replaced and/or by the manufacturer of the equipment used to test the components. The contractor shall provide copies of the certifications to the Authority for review and approval prior to the award of the contract and thereafter when certificates are renewed or when new personnel are proposed to perform testing.

Personnel working on a Veeder Root system or component thereof must possess or be supervised by personnel who possess current Veeder Root Certified Technician certification.

A Master Electrician and a New York State licensed professional engineer (PE) shall be available on staff or through a subcontractor or consultant.

Any installation, alteration, testing, replacement or repair of liquid motor fuel storage and dispensing system component shall be done by FDNY certificate of license holder or under the general supervision of a person holding such license.

Parts and Warranties

The Contractor shall be responsible for informing the Project Manager of parts which require replacement and maintain spare parts sufficient to service the Authority's needs as dictated by the Project Manager. All replacement parts shall be new original equipment manufacturer (OEM) parts and covered under warranty. If OEM replacement parts are no longer available, the Contractor may provide comparable parts of the same quality and functionality with the approval of the Project Manager.

The Contractor must attach the parts supplier invoices to the payment package.

All parts that have been replaced are to be provided to Authority personnel as directed by EC&M.

The Contractor shall honor all valid parts warranties for existing parts regardless of whether the Contractor installed the parts.

Restoration Subsequent to Testing

The Contractor shall restore systems to normal operating conditions upon completion of the work and test the operation of the systems by dispensing product in the presence of an MTA representative into a bus or proving can to ensure

normal operating pressure and flow rate from each lane. This must be performed prior to the Contractor leaving the work site to ensure the system has returned to normal operating pressure and flow rate. Verification of this process must be included on the Contractor's service reports. Under no circumstances shall test boots and secondary containment fittings not be returned to the normal operating configuration.
The contractor shall ensure that the system status of Veeder Root tank monitoring system has been restored to pretesting conditions. The system status must be printed from the panel prior to and after each test and attached to the service reports.
The Contractor shall restore the work area to its original condition upon completion of the work (e.g., remove barricades, debris).

Reporting of Test Failures

The following actions must be taken when test failures occur:

- Notify the PM and EC&M immediately by telephone and follow up with email.
  Replace and retest the component, whenever possible, or isolate and lockout/tagout the equipment as directed by EC&M and provide recommendations for addressing the failures.

Management of Contaminated Water from Hydrostatic Testing

Removal of debris or liquid (water, petroleum products or chemical products) from spill buckets and sumps is part of the testing procedures. Absorbent pads used to clean petroleum or chemical products shall be bagged for storage at the test location for disposal by the Authority. Whenever possible, test water shall be reused for additional hydrostatic testing at the same facility as directed by the Authority. When test water cannot be reused, the contractor shall pump water as directed by the Authority directly into the indoor oil water separator (OWS) or into a container (e.g., tote or drums) to be provided by the Authority. Transfer of test water by the Contractor into and out of sumps and spill buckets shall be included in the requirements for hydrostatic testing**.**

Spill Prevention & Control and Health & Safety Requirements

Prior to award of the contract, the Contractor shall provide a Spill Prevention & Control and Health & Safety Plan to the Authority for review and approval. The plan shall adhere to and address all applicable requirements including, but not limited to, the following:

- Procedures for securing work areas to prevent unauthorized entry.
- Procedures for confined space entry. The Authority considers all containment sumps as confined space. The contractor shall use the alternate procedures specified in OSHA's confined space regulation, 29 CFR 1910.146 paragraph (c) (5) (ii) for entering sumps. The contractor is responsible to inform their subcontractor and ensure compliance with the confined space requirement.
- Training requirements and copies of certifications.
- A description of personal protection equipment (PPE) and other safety devices utilized in accordance with latest OSHA requirements.
- Lockout/tagout procedures to de-energize equipment in accordance with latest OSHA requirements.
- A list chemical proposed for usage, the application method, and Safety Data Sheets (SDSs). All chemicals must be reviewed and approved by the Authority. Chemicals shall not be brought onto the property without prior written approval.

Test Reports and Service Reports

The Contractor shall provide a cloud-based compliance management platform that enables NYCT DOB and MTABC to review all UST/AST testing and compliance-related responsibilities in the appendices to RP1200. It must be compatible with and/or equivalent to *"PASS Training & Compliance* "cloud/web base management platform (or equivalent), including the following:

CLASS B- Tank System Testing – Department of Buses (DOB) and MTA Bus Co. (MTABC)

- Digital completion of any manufacturer and regulatory specific functionality test forms and store results into a PDF document stored in the platform.
- Reporting and workflow capabilities that are directly tied to data collected during testing.
- Automatic generation of action items based on test results and track to completion.
- Accessibility to testing and/or inspection results for each MTABC & NYCTA DOB facility, with the ability to print and/or download results in a PDF.
- Generation of a digital accessible compliance binder, complete with release detection results, testing, maintenance tasks, NOV management, service/repair reports, approved invoices, and tracking reminders for each MTABC & NYCTA DOB facility.
- Email notifications of failed components, expiration of annual and tri-annual functionality tests, 5YR AST Chemical Bulk Storage inspections, 10YR AST Petroleum Bulk Storage tank inspections of each MTABC & NYCTA DOB facility, and any other required testing.
- Scheduling & dispatch capabilities
- Service reports and invoices.
- Action items & work order management
- Calendar views to help present inspections, tests, and paperwork deadlines in a format acceptable to NYCT DOB and MTA BC.
- Suspected or known causes of failure, when applicable
- Components replaced and the reason
- Test results subsequent to replacement of components
- Verification of system restoration, including Veeder Root Console (VRC) communication Ethernet and/or phone lines.
- Veeder Root System printouts prior to and subsequent to testing in pdf format.

The test reports and service reports are to be signed by the Contractor's designated Project Manager and the on-site representative of the Authority specified by EC&M. The reports must be submitted to the Project Manager and EC&M within two business days after completion of any test(s) via cloud/web base compliance platform and/or email.

Regular and Overtime Labor Rates

Regular labor rates for testing, repair and replacement are between the hours of 7am to 4 pm. Overtime labor rates will apply for repair and replacement work performed beyond the timeframe for regular labor rates only when authorized, in writing, by the Project Manager or EC&M.

Invoices and Payments

Copies of corresponding typed, legible service report, test reports, and parts supplier invoices must be submitted with each invoice on a monthly basis.

Types of Test / Work
All Work to be performed under Class B

If requested by EC&M, the Contractor shall schedule testing with the FDNY. In addition to printing the system status prior to and after each test, the Contractor is required to print the system configuration from the Veeder Root console prior to and after each test and attach copies to the service reports. The following are to be verified/tested to confirm proper operability for each tank:

- Monitoring system configuration including confirmation of Veeder Root Sensor Maps and correct labeling of sensors and probes (e.g., tank number from state tank registration, sensor location)
- Battery backup for monitoring system
- Tank probes and tank alarms

CLASS B- Tank System Testing – Department of Buses (DOB) and MTA Bus Co. (MTABC)

- Leak sensors
- Shear valves
- Emergency shutoff devices (ESDs)
- Alarm annunciators

The Contractor shall prepare and submit affidavits to the FDNY to remedy violations for any test failures as directed by EC&M.
Item 1: Regular rate for Technician to repair and / or replace sensors, probes, battery backup, alarm annunciators, or other component as directed by EC&M.
Item 2: Regular rate for Electrician to repair and / or replace sensor wire connections, alarm annunciators, or other components as directed by EC&M.
Item 3: Regular rate for Plumber to repair and / or replace overfill prevention devices, ALLDs, or other components as directed by EC&M.
Item 4: Overtime rate for Technician to repair and / or replace sensors, probes, battery backup, alarm annunciators, or other components.
Item 5: Overtime rate for Electrician to repair and / or replace sensor wire connection, alarm annunciators, or other components as directed by EC&M.
Item 6: Overtime rate for Plumber to repair and / or replace overfill prevention devices, ALLDs, or other components as directed by EC&M.
Item 7: Create new Veeder Root Sensor Map after completion of a functionality testing if none exists. Based on confirmation of Veeder Root Sensor Map from field technician, a two-dimension (2D) Veeder Root Sensor Map shall be created in CAD software in a format that is compatible with AutoCAD. The Veeder Root sensor maps must be similar in layout and contain at least the information shown on the current sensor maps that are in use. A draft AutoCAD compatible sensor map, accompanied by a PDF version shall be submitted to the authority within a week of the completion of functionality testing for review and comments. If comments are made to the draft the Contractor must return a revised version of the drawing within three business days from the date comments received from the authority. EC&M has final approval of the completed Veeder Root Sensor Map.
Item 8: Update the existing Veeder Root sensor map after completion of a functionality test if required. Based on confirmation of Veeder Root Sensor Map from field technician, a two-dimension (2D) Veeder Root Sensor Map shall be updated in CAD software in a format that is compatible with AutoCAD. The Veeder Root Sensor Maps must be similar in layout and contain at least the information shown on the current sensor maps that are in use. A draft AutoCAD compatible sensor map, accompanied by a PDF version shall be submitted to the authority within a week of completion of functionality testing for review and comments. If comments are made to the draft the Contractor must return a revised version of the drawing within three business days from the date comments received from the authority. EC&M has final approval of the completed Veeder Root Sensor Map.
Item 9: Leak Detection and Prevention Systems. If required by EC&M, the contractor shall schedule testing with the FDNY. The equipment tested under item 9 is a subset of the equipment tested during an FDNY functionality test:

- Monitoring system configuration including confirmation of Veeder Root Sensor Maps and correct labeling of sensors and probes (e.g., tank number from state tank registration, sensor location)
- Battery backup for monitoring system
- Tank probes and tank alarms
- Leak sensors
- Shear valves
- Emergency shutoff devices (ESDs)
- Alarm annunciators

Item 10: Inspections of Aboveground Chemical Bulk Storage Systems in accordance with 6 NYCRR Part 598.7(c). The work must be performed by an American Petroleum Institute (API) 653 certified inspector in accordance with a

nationally recognized standard that meets the regulatory inspection requirements, such as API 510 or The Steel Tank Institute (STI) SP001.

Item 11: Inspections of Aboveground Petroleum Bulk Storage Tanks in accordance with 40 CFR Part 112. The work must be performed by an STI certified SP001 AST tank system inspector or an API 653 certified inspector with an STI SP001 adjunct certification in accordance with STI SP001.

Item 12: Annual Inspection of Chemical Bulk Storage (CBS), Aboveground Tanks (ASTs) in accordance NYCRR Part 598.7(b) and other sections mentioned in that section. The work must be performed by a New York State Professional Engineer (PE) or under direct supervision of a PE.

Item 13 & 14: Triennial Hydrostatic or Vacuum Testing of Single Walled Fill Port Spill Buckets.

Item 15 & 16: Triennial Hydrostatic or Vacuum Testing of Single Walled Containment Sumps.

Item 17: Triennial Low Liquid Level Hydrostatic Testing of Single Walled Containment Sumps in accordance USEPA alternative test procedures for meeting the requirements in 40 CFR 280.35.

Item 18: Annual Inspection and TESTING OF OVERFILL PREVENTION ALERT SYSTEMS.

Item 19: Annual Testing of Automatic Line Leak Detector (ALLDs).

Item 20: Miscellaneous work that does not have a line-item EC&M will provide a scope of work. The Contractor will provide an estimate based on the scope of work within two weeks. The final price will negotiated between Contractor and the authority.

Items 21 & 22: Daily and weekly rates for confined space equipment.

Item 23: Supply parts required for replacement at contractors cost plus or minus mark-up or discount as directed by EC&M.

Item 24: Basket lift / scissor lift / rental of equipment - Daily rate.

Item 25: Diesel Fuel Sampling - Items Required

All equipment costs are to be included in the unit test price.

1. Plastic bottles with screw cap:
    - HDPE with foam lined cap – Easy Vac, Inc. Item BOT 201-16 (or equivalent)
    - 38mm thread size, Opaque straight wall
    - Capacity: 480ml / 16 oz

2. Tubing – Easy Vac, Inc. Item TUB ¼ X 500 (or equivalent)
    - ¼" x 500' Reel Poly Tube

3. Hand pump – Easy Vac, Inc. Vampire Fluid Sampling Pump - Item PUM 38-X (or equivalent)
    - 38 mm thread size

4. Plastic Ties, eye protection, and other PPE
5. Snips
6. Permanent Marker
7. Nitrile gloves
8. HY-LiTE 2 system – testing machine, rapid detection system (or equivalent)
9. Rapid Microbial Test For Fuel Systems (Complies with ASTM D7463 ATP Test Method) Test Kits / "Pens" HY-LiTE Fuel Test Kit (or equivalent)
10. ATP Free Swabs
11. Dip stick
12. Ice Pak and cooler for transport of test kits/pens from office to site
13. Spill Pads
14. FQS 1.5 Microbicide (or equivalent)
15. Funnel

Activities to be conducted for fuel testing during functionality testing:

CLASS B- Tank System Testing – Department of Buses (DOB) and MTA Bus Co. (MTABC)

1. When the inventory probe is removed from the tank, use a dipstick with tubing attached to the bottom one inch of the dipstick to obtain a bottom sample of the fuel from the tank.
2. Utilize the test kit (Rapid Microbial Test For Fuel Systems (Complies with ASTM D7463 ATP Test Method) Fuel Test Kit HY-LiTe) to test the fuel for microbial activity. Double the reading on the instrument.
3. If any readings are greater than 5,000, add microbicide to the fill port for the tank(s) in accordance with the instructions (FQS 1.5 Microbicide).
4. Restore the site to original conditions.
5. Report all findings to the PM immediately.

Activities to be conducted for fuel testing when functionality tests are not taking place:

1. Inform the PM of the names of all personnel who are on site when you arrive on site.
2. Follow all H&S requirements specified in the contract for functionality testing and for the test kits and microbicide.
3. Obtain a bottom sample of the fuel through the dipstick portal. Use a dipstick with tubing attached to the bottom one inch of the dipstick to obtain a bottom sample of the fuel from the tank.
4. Follow steps 2-5 listed above for physical work on site during functionality testing.
5. If any readings are greater than 5,000, add microbicide to the fill port for the tank(s) in accordance with the instructions (FQS 1.5 Microbicide).
6. Restore the site to original conditions.
7. Report all findings to the PM immediately.

Frequency

Quarterly (including during functionality testing) and on an as-needed basis.

Retesting fuel after microbicide treatment

1. Retesting of the fuel may be required to be conducted 24 hours after the delivery following treatment as per the PM.
2. Inform the PM of the names of all personnel who are on site when you arrive on site.
3. Follow all H&S requirements specified in the contract for functionality testing and for the test kits and microbicide.
4. Obtain a bottom sample of the fuel through the dipstick portal. Use a dipstick with tubing attached to the bottom of the dipstick to obtain a bottom sample of the fuel from the tank.
5. Follow steps 2-5 listed above for physical work on site during functionality testing.
6. If any readings are greater than 5,000, add microbicide to the fill port for the tank(s) in accordance with the instructions (FQS 1.5 Microbicide).
7. Restore the site to original conditions.
8. Report all findings to the PM immediately.

Disposal Requirements for Microbicide container and diesel fuel samples

1. Follow the manufacturer's instructions as per the SDS and on the container's label.

Completely empty the 16 fluid ounce sample bottles in the used oil drops and cap the empty bottles and disposal of them in the trash.

SECTION III

MTA BRIDGE AND TUNNELS (BRTUN)

TECHNICAL SPECIFICATIONS

TANK SYSTEM REPAIR AND TESTING

CLASS C – Tank System Repair and Testing – MTA BRIDGE & TUNNELS (BRTUN)

PROJECT DESCRIPTION:

The Contractor shall provide on-site tank systems repair, replacement and testing services at any MTA Triborough Bridge and Tunnel Authority (TBTA) locations within the five (5) boroughs of New York City as directed by the Project Manager for forty-eight (48) months from the Notice of Award. The Contractor is to maintain a twenty-four (24) hour, seven (7) day a week service/emergency "call in line" utilizing a NYC area code or a toll-free telephone number that is staffed by technically qualified personnel. The Contractor shall perform Normal and Emergency Service calls as directed by the Project Manager.

PROJECT OVERVIEW:

The Contractor shall perform all necessary modifications, installations, removals, repairs and testing to the Authority's petroleum & bulk fluid tanks, components and piping; providing all labor, equipment, tools and material necessary to complete the Work as directed by the Project Manager, including but NOT limited to repair or replacement of concrete pads, paving, removal and disposal of, or transfer of existing fuel from tank(s), provide piping and accessories and connect fuel system(s) to facility and backfill excavations. The Contractors' Work scope shall include but not be limited to performing the following as approved by the Project Manager in a Work Order:

- Removal/CLOSURE of Aboveground Storage Tanks (AST) and Underground Storage Tanks (UST) and related equipment, including marine gas-free certification, as requested.
- Installation and testing of above ground storage tank systems.
- Precision Testing of UST & AST systems. Minimum of three (3) certified tank testers on staff.
- FDNY required functionality test every two (2) years and blockage tests (Vapor Recovery).
- Testing and Repair of line leak detectors, overfill prevention valves, fill-port spill buckets, Secondary Containment piping & sumps.
- Repair and testing of oil water separators including all ancillary equipment.
- Helium Pin Point testing (locates leaks in secondary piping).
- Hydrostatic and pressure testing of primary lines.
- Repair and/or modify tanks, manways, openings, as well as modifications to accommodate new equipment.
- Modify above ground and below ground piping systems to accommodate changes of equipment and installation of new devices on the systems and provide as-built drawings/plans, as requested.
- Repair/replace piping, valves, check valves, penetrations, fittings etc. in tank manways, pump rooms and filter rooms.
- Troubleshoot and replace or repair various pumps or pump systems (diesel, gasoline, heating oil, water, Antifreeze, etc.) including mechanical line leak detectors.
- Repair/replacement of fiberglass piping, primary and secondary, as well as the associated flexible connectors, as required.
- Fill box repairs/replacement or modification to update/accommodate new equipment.
- Tank cleaning, product transfer and/or disposal that may be required to carry out any of the above.

CLASS C – Tank System Repair and Testing – MTA BRIDGE & TUNNELS (BRTUN)

Dispenser repair/replacement as needed. Contractor must be an Authorized Service Contractor (ASC)/Distributor in the following:

- Gasboy
- Dresser Wayne
- Veeder Root / FMS
- Red Jacket
- Signage replacement as needed.
- Manhole & Fiberlite-type covers repaired/replaced.

Troubleshoot, repair and/or design of electrical controls of tank systems and ancillary components, as requested. Master Electrician and PE on staff to file and submit drawings.

Perform state-required aboveground tank system Integrity Testing/Inspections including engineering report, as requested.

All Work shall comply with all applicable Federal, New York State, New York City and New York City Transit Authority codes, practices, rules, regulations and statutes, whichever standard is most stringent. All Work shall be done under the direction and coordination of the Authority's Project Manager and shall be done to the satisfaction of the Authority as set forth in Article 109 of the Contract. The Contractor is required to be certified to handle the Authority's Veeder Root equipment as it affects the Contractor's work and other Authority contractors or with Authority personnel, on an as needed basis. All Veeder Root equipment under warranty shall be handled as such.

PART I

TANK SYSTEM TESTING:

1. PRECISION TANK SYSTEM TESTING:

In the event that the approved Work Order calls for precision tank system testing, the Work shall be performed as follows:

- Perform a Non-Volumetric precision tank test using the New York State Department of Environmental Conservation (DEC) approved test methods and procedures stated in 6NYCRR Part 613.5 (a).
- A written report shall be submitted to the Authority for each precision tank test. The report shall include the information required by DEC 6NYCRR Part 613.5 (4) (I).
- Each test that is authorized by the Notice to Proceed shall be witnessed by a manager from the Authority's Environmental Compliance & Management Division (ECMD) and the Fire Department, if necessary. This written report shall be submitted to the Authority's ECMD site personnel, as assigned, no more than two (2) Business Days after actual test is completed.

A. Complete Tank System

The scope of work for a complete tank system, tank and applicable lines, shall include, but not be limited to the following:

Note - Examples of applicable lines could be vent lines for diesel tanks as well as discharge, suction and vent lines on heating oil tanks.

- Barricade/secure the Work area to ensure safety.
- Turn off power to pumps and dispensers.
- Measure tank for correct dimensions, product and water height.
- Plug all openings on top of tank system.
- Perform Tank Test as stated in 6NYCRR Part 613.5 (a), as a system test including the piping connected to the tank. If the tank system passes the precision tank test, remove all prior installed plugs and restore tank back to operating condition. If UST fails the test, Contractor shall notify the Authority's site personnel and the Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by ECMD. No additional Work shall be performed, unless it had been previously approved on the Notice to Proceed, or until the Contractor submits an additional written Work Order estimate and it is approved by the Project Manager in a Notice to Proceed.
- Restore system to normal operating condition including dispensing product from the dispensers to make sure the pressure has returned to normal operating pressure and flow rate.

B. Partial Tank System

The scope of work for Precision Tank Testing for a tank or pair of tanks shall include the following:

1. Barricade/secure the Work area to ensure safety.
2. Turn off power to pumps and dispensers.
3. Measure tank for correct dimensions, product and water height.
4. Plug all openings on top of tank system.
5. Perform Tank Test as stated in 6NYCRR Part 613.5 (a), as a system test including the piping connected to the tank.
6. Pump product from the dispensers to make sure the pressure has returned to normal operating pressure.

If the isolated tank passes the precision tank test, remove all prior installed plugs and restore tank back to operating condition. If UST fails the test, Contractor shall notify the Authority's site personnel and the Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by ECMD. No additional Work shall be performed, unless it had been previously authorized by the Notice to Proceed, or until the Contractor submits a written work estimate and it is approved by the Project Manager in a Notice to Proceed.

2. LINE TESTING - SCOPE OF WORK:

A. Discharge Line

In the event that the approved Work Order calls for line testing, unless directed otherwise by Authority Project Manager, the Work shall be performed as follows:

The scope of work for pressure testing a discharge line includes, but is not limited to the following:

1. Barricade/secure the area of Work to ensure safety.
2. Isolate piping as required e.g. close the shear valve at the bottom of dispenser unit, remove the test port from the shear valve, and release the pressure from the pipe.
3. Install line-testing equipment for the test.
4. Close the gate valve on the discharge pipe downstream of the pump.
5. Apply 1½ times above normal working pressure on the pipe. ECMD will advise Contractor of specific working pressure at the site.
6. Hold pressure for one (1) hour as per Fire Department. If pipe passes the test, disconnect equipment, install the test plug back on the shear valve and open the shear valve.
7. If the test passes, turn the pump(s) on and check if re-installed test plug isn't leaking. Remove barricades from working zone.
8. If the test fails, notify the Authority's SITE personnel and Authority's office of ECMD and the Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by ECMD. No additional Work can be performed, unless it was previously authorized by the Notice to Proceed or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.
9. A written report shall be submitted to the Authority for each line test.

B. Non – Charged Lines

The scope of work for pressure testing any other piping (lines) that are non-charged, such as Vent, Fill, Suction and Stage 1 & 2 Piping on Gasoline systems, unless directed otherwise by the Project manager, is as follows:

1. Barricade/secure the Work area to ensure safety.
2. Disconnect the pipe from the tank inside the sump and plug it.
3. Apply 20-psi hydro as per Fire Department on the line using the nipple at the beginning of the fill line. If line holds the pressure for one (1) hour, slowly release the pressure, reconnect the fill line and Authority will coordinate a product delivery, and the Contractor may be required to witness the delivery to make sure that line is not leaking in place of connection.
4. If the test fails, notify the Authority's site personnel, Authority's office of ECMD and the Project Manager. Isolate, secure and lock-out/tag-out failed system and/or portions thereof, as directed by ECMD. No additional Work can be performed, unless it was previously authorized by the Notice to Proceed or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

C. Vent, Suction, Secondary, or Stage #1 or #2 Lines

1. Pipes shall be isolated from the tank farm (disconnect piping in sump pit).
2. Test with 20psi hydro as per Fire Department or another pressure as specified by ECMD for one (1) hour (e.g. no greater than 5psi for all secondary piping).
3. If pipe passes the test, disconnect equipment; install piping back to tank system.
4. If the test fails, notify the Authority's site personnel, Authority's office of ECMD and the Project Manager. No additional Work can be performed, unless it was previously authorized by the

Notice to Proceed or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

3. HELIUM TEST TO NARROW DOWN LEAKS ON SECONDARY PIPING - SCOPE OF WORK:

In the event that the approved Work Order calls for helium testing, the scope of work includes, but is not limited to the following:

When there is a possible leak on the secondary piping, before systematically excavating the buried pipes, the containment pipe should be filled with helium gas. By drilling small holes through the concrete, the raising helium gas will indicate approximately where the leak is by using a quantitative, calibrated gas detector.

1. Barricade/secure the Work area to ensure safety.
2. Fill the annular space between the primary and secondary pipe with helium gas at low pressures, in accordance with the manufacturer's recommendations for piping pressures.
3. Drill holes through the concrete or pavement along the pipe run and sniff utilizing a helium gas detector to locate the helium; in order to narrow down the location of the leak, provide additional helium to the annular space as required. Use extreme care not to drill through buried conduits or damage the fuel pipes.
4. Let the area clear of helium, and then re-pressurize the line with helium to see if the leak is still in the same location. Because this is not an exact test, the Contractor shall reconfirm the test by a double check of the location by re-testing.
5. Restore the location to the original condition and remove and dispose of any waste or debris, in accordance with the terms of the Contract.

4. NEW YORK FIRE DEPARTMENT FUNCTIONALITY TEST - SCOPE OF WORK:

In the event that the approved Work Order calls for New York Fire Department Functionality testing, the Work shall be performed as follows:

1. Perform a functionality test using Fire Code "functionality testing." The Contractor shall perform the functionality test on Underground Storage Tanks (UST) systems containing gasoline and diesel products.
2. A Pre-Functionality Test will be performed if the Project Manager requests it.
3. The Pre-Functionality test will follow Fire Code on "functionality testing," and be performed prior to the actual test to insure the equipment is operational. The pre-test will be performed on the mechanical line leak detectors by simulating the leak through the shear valves; pretesting does not include sensors and probes. If they fail the test, the Contractor is to notify Authority site personnel, Authority's office of ECMD and the Project Manager.
4. Written results of functionality and pre-functionality tests shall be provided to ECMD within 48 hours of test.

NOTE: Any changes enacted to FDNY Rules (Fire Code) during the Contract term shall be enforceable at time of enactment.

The scope of work for functionality testing shall include, but is not limited to the following:

1. Contractor to provide Work Order estimate for approval by the Authority.

CLASS C – Tank System Repair and Testing – MTA BRIDGE & TUNNELS (BRTUN)

Note: Contractors shall provide a Veeder Root Certified Technician who will coordinate the testing of all sump sensors, tank probes, annular sensors (MUST RETURN TO CORRECT TANK POSITION W/PULL STRING, IF APPLICABLE), overfill annunciator(s), dispenser sensors, Emergency Shutdown Device and related equipment and checking Veeder Root panel for proper operation. Contractor will also arrange for a FDNY representative to be on site. The certified technician will properly notify the Authority's 3rd party 24/7 Veeder monitoring service (AKA FMS, Simplicity, and Gilbarco) before and after testing.

2. The Contractor will perform the functionality test on the system as required by FDNY.
3. Contractor shall repair any defects which are discovered as part of the functionality test. Affidavits shall be provided to the Fire Department to remove violations.
4. Re-tests shall be scheduled and performed when required.
5. Restore the system to original operating condition.

5. STAGE II GASOLINE VAPOR RECOVERY TEST - (BLOCKAGE TEST) - SCOPE OF WORK:

In the event that the approved Work Order calls for Stage II Gasoline Vapor Recovery Testing, the scope of work includes, but not limited to the following:

The Stage II Gasoline Vapor Recovery Test (also known as Blockage Test) is a test of the system that collects the gasoline vapor. When a delivery of gasoline is made there is a hose hook up located near the tank that the delivery truck connects to. The air/vapor in the tank that is displaced by the inflow of gasoline ends up in the empty gasoline truck, thus reducing gasoline pollution to the environment.

1. Barricade the Work area to ensure safety.
2. Perform the Stage II Vapor Recovery Test as described by NYS Department of Environmental Conservation regulations 6NYCRR Part 230.2 (k) sections 1 and 2, or the applicable regulations. Provide all necessary equipment to perform the test and access the site. The test includes dynamic backpressure, liquid blockage, and pressure test of the tank.
3. Each test result shall be presented in written report and shall include the information required under NYS Department of Environmental Conservation regulations 6NYCRR Part 230.2 (k) sections 1 and 2. The Contractor shall be required to submit this report to NYSDEC and a copy to Project Manager within ten (10) days.
4. In the event any part of the test fails, the Contractor shall provide a written Work Order estimate and a recommendation for repairs to the system the NYSDEC will be notified by the Authority if a tank fails a tightness test, and spill number will be assigned, as per the NYSDEC regulations.
5. Restore the location to the original condition and remove and dispose of any waste or debris created in connection with the test in accordance with the terms of the Contract.
6. In the case of the East New York location only, the Contractor is to additionally provide a manlift for the Stage II Gasoline Vapor Recovery Testing. In the case of the East New York location only, Contractor's cost for providing a manlift for the Stage II Gasoline Vapor Recovery Testing shall be billed to the Authority through Item 5A of the Price Schedule. All other labor material and equipment to conduct this test at any other site is to be comprehensively priced under Item 6H of the Price Schedule.

CLASS C – Tank System Repair and Testing – MTA BRIDGE & TUNNELS (BRTUN)

6. ULTRASONIC TANK TESTING:

In the event that the approved Work Order calls for Ultrasonic Tank Testing, the Work shall be performed as follows:

1. PERSONNEL QUALIFICATION: Certified Nondestructive Tester, Level 11 competence in accordance with the guidelines specified by the American Society for Nondestructive Testing, Recommended Practice No. SNT-TC-1A: "Personnel Qualification and Certification in Nondestructive Testing."

2. TESTING PROCEDURE:

a) Ultrasonic tank testing is conducted to determine tanks plate thickness.

b) Original wall thickness shall be established by using the maximum plate thickness if identification plate or drawings are not available.

c) Ultrasonic thickness gauging shall be done using a 2' X 2' grid pattern or quadrant for tanks up to 10 feet in diameter, 5' X 3' grid pattern for tanks with diameters greater than 10 feet and up to 20 feet.

Tanks over 20 feet in diameter but less than 40 feet in diameter shall be tested using a 7' X 3' grid pattern. Tanks 40 feet or greater in diameter shall be tested using a 14' X 3' grid pattern. (First figure in size of grid pattern or quadrant represents circumferential dimension and second figure long seam dimension).

3. SCOPE OF WORK REQUIREMENTS:

a) **Walls**: Measurements for tank walls shall be divided into quadrants as designated in paragraph 3 of **GENERAL PRACTICES**. Any additional area of the tank wall which is less than three feet by three feet shall be measured and treated as additional quadrants.

b) **Heads, Roof & Floor:** Measurements shall be divided into four (4) equal sections by establishing a horizontal and vertical diameter lines as axes. Each section shall be divided into three foot by three-foot quadrants beginning at the axis center point and extending outward on each axis line. Any additional areas with less than three feet by three feet shall be measured and treated as additional quadrants.

c) **Quadrant Gauging:** Thickness gauging measurements shall be taken at the beginning and center of the first quadrant, the center and end of the last quadrant and in the center of each quadrant in between. Thickness readings of 75% or less of the original wall metal thickness shall require further gauging as prescribed from subdivided quadrant gauging. Thickness readings greater than 75% of the original wall metal thickness shall establish the measurement reported for the quadrant.

d) **Gauging Quadrant Subdivisions:** Quadrants whose center gauge measurements is 75% or less of the original wall metal thickness shall be further divided into nine (9) equal subdivisions, except for

perimeter subdivisions of head, roof and floor quadrants, which may be less than or equal in size. Thickness gauging measurements shall be taken in the center of each subdivision. The subdivision thickness readings shall be averaged and the results shall establish the measurements reported for the quadrant.

e) **Thin Wall Target Area Gauging:** Areas whose thickness gauging measurement is less than 50% of original plate thickness shall be entirely scanned until greater than 50% or original plate thickness is found.

f) **Perforations:** Perforations shall be identified as to location and size. Measurements shall be taken around the perimeter of the perforation.

7. INTERSTITIAL TANK SPACE TESTING:

In the event that the approved Work Order calls for Interstitial Tank Testing, the Work shall be performed as follows:

The Contractor shall test the interstitial tanks with pressure as per manufacturer's instructions, **EXCEPT IN CASES WHERE THE INTERSTITIAL SPACE IS FILLED WITH BRINE**.

SCOPE OF WORK REQUIREMENTS:

Contractor will be responsible for the removal of and restoration of the interstitial sensors the day of testing.

1. Install testing manifold on interstitial riser and connect other end to primary. Attach air compressor to primary to supply 5 psi and hold for thirty (30) minutes. Never connect air compressor directly to the annular space.
2. Restore the tank farm including the removed sensors in their original positions and check the Leak Monitoring system for alarms.
3. Test results shall be forwarded to the Project Manager within two (2) working days.

8. Aboveground Tank System Integrity Testing/Inspections:

1. Contractor will perform an assessment and evaluation of aboveground tanks and piping systems and ancillary equipment in accordance with NYCRR Part 598.7 to assess structural soundness and operability. All testing must be performed by a qualified technician who is familiar with and trained by the manufacturer or a representative in the performance of the tests.
2. The inspection includes one (1) or more of the following, as directed:
    - Visual structural inspection of representative sections of tanks and pipes for corrosion, thinning, and structural damage.
    - Interstitial testing of ASTs in accordance with DEC acceptable standards

- Inspection and assessment of all ancillary equipment such as gauges, pressure/vacuum safety valves, safety interlocks, flow valves and pumps for proper operation
- Ultrasonic testing of tank wall thickness in accordance with the DEC acceptable industry standards such as Steel Tank Institute (STI)

3. The Contractor will prepare a report certified by an Engineer that will include results of tests and inspections, and report on the condition of piping, tank and ancillary equipment, expected life of services and need for repair.

9. Cathodic Protection Yearly Testing:

In the event that the approved Work Order calls for cathodic testing, the scope of work includes, but is not limited to the following:

1. Contractor shall furnish all necessary labor, materials, and equipment to perform tests and troubleshooting on both impressed current and sacrificial anode cathodic protection systems for both PBS and/or piping systems.
2. Testing shall be performed in accordance with all applicable Federal, State and Local regulations including, but not limited to, NYSDEC publication 6 NYCRR part 613 and US EPA publication 40 CFR Part 280.
3. Contractor shall hold all the necessary licenses in order to perform the necessary work.
4. All tank systems and/or piping systems that utilize either an impressed current or sacrificial anode cathodic protection system shall be inspected by a certified National Association of Corrosion Engineer (NACE) cathodic protection tester. The criteria used to determine that a cathodic protection system is adequate shall be in accordance with NACE Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partial Buried or Submerged Liquid Storage Systems".
5. Test results and written report shall be forwarded to the Project Manager within 5 days after the test.
6. The Contractor is responsible to restore all tank systems and/or piping to their original operating conditions after the test.

10. Ground Water Sampling:

In the event that the approved Work Order calls for ground water sampling, the scope of work includes, but is not limited to the following:

1. Testing shall be performed in accordance of United States Environmental Protection Agency (USEPA) July 30, 1996 Low Stress Purging and Sampling Procedure (Low Flow SOP).
2. Ground water analysis must be done by Certified Laboratory and compared to NYSDEC Division of Water and Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
3. Testing shall be performed in accordance with STARS 8270 & 8021.
4. Sampling shall be performed within 48 hours of request.
5. Test results and written report shall be forwarded to the Project Manager within 4 weeks of testing.

11. LOW LIQUID LEVEL UST CONTAINMENT SUMP TESTING:

In the event that the approved Work Order calls for low liquid level UST containment sump testing, the scope of work includes, but is not limited to the following:

1. Testing shall be performed in accordance of Low Liquid Level Hydrostatic Testing of Single Walled Containment Sumps in accordance USEPA alternative test procedures for meeting the requirements in 40 CFR 280.35.

12. OVERFILL PREVENTION DEVICES TESTING:

In the event that the approved Work Order calls for overfill prevention device testing, the scope of work includes, but is not limited to the following:

1. Testing shall be performed in accordance of United States Environmental Protection Agency (USEPA) Overfill Prevention Equipment Inspections.
2. Overfill prevention equipment installed must be inspected for proper operation at installation and then once every three years.

13. UNDER DISPENSER CONTAINMENT (UDC) AND ALL PIPING SUMPS TESTING:

In the event that the approved Work Order calls for under dispenser containment and all piping sumps testing, the scope of work includes, but is not limited to the following:

1. Testing shall be performed in accordance of United States Environmental Protection Agency (USEPA) 2015 UST regulations at 40 CFR 280.20 that UDC must be liquid tight on its sides, bottom, and at any penetrations.
2. Containment sumps must be tested once every 3 years to ensure the equipment is liquid tight.

PART II

REPAIR OF TANK SYSTEMS:

A. INSPECTION AND REPAIR OF THE CLA VAL VALVES OR OTHER MECHANICAL OVERFILL PROTECTION - SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to clean and test the Cla Val valves for proper operation, the scope of work includes, but is not limited to the following:

1. Provide safety equipment if it is a confined space.

2. Lock out the fill box connected to the Cla Val valve(s).
3. Remove and check the diaphragm(s) and clean or replace if necessary as per manufacturer specifications.
4. Clean or replace all screens and pipes as required by the Notice to Proceed as issued by the Project Manager based on manufacturer's recommendations or as required by the Authority's Project Manager.
5. Restore the Cla Val valve/s to operating condition and test to Authority's site personnel's satisfaction and manufacturer's recommendations.

B. REPAIR/REPLACEMENT OF FLEXIBLE CONNECTORS:

SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to repair/replace the flexible connectors, the Scope of Work shall include, but not limited to the following:

- The Contractor shall replace with Authority approved "flex connectors" or upon site-specific conditions, hard piping will be approved in place of the flex connectors.
- Remove as required the concrete slab at points where defective flexible connectors are located on Authority furnished Contract drawings, which will be supplied on an as needed basis for each site.
- Remove the backfill (pea gravel) to expose the pipes.
- Isolate the primary pipe and drain the product to a container. Dispose of the petroleum product. Remove outer wall flexible boots in the trench and make a visual inspection.
- If the visual inspection shows signs of product, test with appropriate pressure to locate leak.
- Remove and replace the flexible connectors if found leaking as per Notice to Proceed.
- Re-test line at 1 ½ times the working pressure or as directed by the ECMD after repair to insure no additional leaks.
- Re-install the secondary boots/connector/s.
- Re-test outer wall at no greater than 5 psi. to make sure that secondary containment pipe is tight.
- Backfill with removed pea gravel and restore the concrete, rebar and areas affected by the work to original condition.

NOTE: Contractor shall locate new flexible connector in same location unless directed differently by Project Manager.

C. REPAIR OR REWORK OF "FILL BOXES":

SCOPE OF WORK:

In the event that the approved Work Order calls for the Contractor to repair or rework Fill Boxes, the Scope of Work shall include, but not be limited to the following:

- Removal of defective drain valve inside the fill box and replace with manufactures original type.

- The Contractor shall replace the fill box with same model or approved equivalent.
- Standing Water Test
- Witness a delivery of product after repair to assure the new installed valve is not leaking and will drain product back into the tank

D. REPAIR/REPLACEMENT OF TANK SUMP ENCLOSURES:

SCOPE OF WORK:

In the event that the approved Work Order calls for the repair/replacement of sump enclosures on UST tanks, the scope of work shall include, but not be limited to the following:

- The Contractor shall perform an inspection to determine the size configuration and areas in need of repair ECMD along with the Contractor will evaluate if the sump is repairable (bulk head fittings replaced, patched, etc.).

- If sump is determined by Project Manager not to be cost effective to be repairable, Contractor shall submit a Work Order estimate and time frame to replace the existing sump(s), covers, frames, electrical wiring, and conduit penetrations along with all associated piping. This proposal will also include the cost for excavation and restoration of the site back to its original condition.

- Contractor shall complete either a standing water or vacuum test on sump, depending on type of sump and perform a line test on the discharge primary and secondary lines that will be witnessed by Authority personnel after installation or repair of sumps is complete to ensure tightness. Contractor shall provide written test results to Project Manager within two (2) business days.

PART III

CLEANING, REMOVAL AND DISPOSAL OF NON HAZARDOUS CONTAMINATED (UNUSABLE) PETROLEUM PRODUCTS

A. GENERAL DESCRIPTION OF WORK

In the event that the approved Work Order calls for the cleaning, removing and the disposal of unusable liquid petroleum products from storage tanks, the Scope of Work shall include, but not be limited to the following:

- The Contractor shall provide all labor, equipment, tools and other apparatus necessary to remove various quantities of diesel, heating, lube oil, waste oil, or other petroleum products, from the Authority's storage tanks, on an as required basis when determined by the Project Manager. The

Contractor shall be responsible to provide all permits and certifications as required by Federal, State, or Local law to perform the Work.

- If additional information on the nature of a substance is required, it will be the responsibility of the Contractor to take samples for chemical analysis or other assessments.

B. REMOVAL AND DISPOSAL OF NONUSABLE PETROLEUM PRODUCTS

As required by the Project Manager, the Contractor will need to remove, transport, and dispose of any unusable liquid petroleum product (e.g., lube, diesel, heating oil, contaminated water waste oil). Tank bottoms and sludge shall be removed as part of this task. Cost will be assumed to be the same unit price for removal of any sludge along with the liquid petroleum product.

Packaging and transportation of flammable waste must be in accordance with the New York City Fire Prevention Code. All vehicles must have permits and drivers must have certificates of fitness issued by the New York City Fire Department of transporting combustible material. In addition, any similar local requirements for areas outside New York City through or to which the waste will be taken must be complied with.

PART IV

TRANSFER OF USABLE PETROLEUM PRODUCTS

1. **Transfer to another Authority facility:** In the event that the approved Work Order calls for the transfer of usable petroleum products, the Scope of Work shall include, but not be limited to the following technical specifications for the transfer of usable petroleum product from any Authority facility to any other facility as directed by the Project Manager within the geographical area serviced by the Authority.

- Usable product shall be removed from the tank by means of a vacuum tanker truck designed for this purpose. All components of the pumping system shall be explosion proof and non-sparking.

- The Contractor's truck shall be clean and free of any product previously contained in the tank. The driver shall open all inspection ports for visual inspection by the onsite Authority representative before beginning any Work.

- The suction nozzle shall remain a minimum of four (4) inches from the bottom of the tank. The remainder of the product shall be considered unusable and will be disposed of separately.

CLASS C – Tank System Repair and Testing – MTA BRIDGE & TUNNELS (BRTUN)

- The product shall be transferred to the designated location and delivered to the tanks designated by the Project Manager. Unless otherwise directed, the product shall be delivered through the tanks fill port/box.

- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to remove the fuel.

- The Contractor shall have proper shipping manifests with signature space for the on-site supervisor from the original location and a signature space for the receiving location. The manifest shall also include the volume of fuel being transferred.

- Product may also be transferred from one tank to another at the same site. The method shall be approved by Project Manager prior to commencing.

- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this Work.

- The Contractor shall be responsible for all spills related to any portion of the Work. Contractor must have a written spill prevention/response plan approved by the Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

- The Contractor must have all necessary permits reviewed and approved by the Office of System

2. **Transfer from tank to tank within an Authority facility:** In the event that the approved Work Order calls for the transfer of usable petroleum products between tanks within a facility, the Scope of Work shall include, but not be limited to the following technical specifications:

- Usable product shall be removed from the tank by means of pump and hose designed for this purpose. All components of the pumping system shall be clean, explosion proof and non-sparking.

- The suction nozzle shall remain a minimum of four (4) inches from the bottom of the tank, unless otherwise directed. The remainder of the product shall be considered unusable and will be disposed of separately.

- The product shall be transferred to a tank designated by the Project Manager. Unless otherwise directed, the product shall be delivered through the tank's fill port/box or a suitable opening.

- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to transfer the fuel.

- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this Work.

- The Contractor shall be responsible for all spills related to any portion of the Work. Contractor must have a written spill prevention/response plan approved by the Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

PART V

TANK CLEANING

In the event that the approved Work Order calls for the Contractor to transfer unusable petroleum products, the Scope of Work shall include, but not be limited to the following technical specifications for the cleaning and removal of petroleum product/sludge from tanks at any Authority facility; including facilities of affiliates and subsidiaries as directed by the Project Manager:

a) The Contractor shall have proper shipping manifests to transport any waste/hazardous waste material. Copies of the manifests shall be supplied to the Project Manager not later than the day following their preparation.

b) The Contractor shall have documentation of acceptance of waste materials by a facility legally permitted to treat or dispose of those materials. Such documentation shall be supplied to the Project Manager within seven (7) days following delivery to the site. In addition, a letter of intent from the facility and hauler acknowledging agreement to accept the waste material shall be furnished to the Project Manager not more than fourteen (14) days prior to transporting any waste material.

c) The Contractor must follow all applicable confined space entry procedures in order to enter any tank to perform the required cleaning. The Contractor must supply all equipment required to perform this Work.

d) The Contractor must obtain at its own cost all necessary permits required by NYCFD, NYCDEP, NYSDEC and EPA for the subject Work. All permits must be submitted, reviewed and approved by the Authority's Office of System Safety.

e) All tank Work must be performed by licensed tank installers.

f) The Contractor upon award of the Contract shall supply to the Project Manager for approval, all procedures related to all phases of the Work under this Contract before any Work is permitted to begin.

g) Usable product shall be removed from the tank as per the applicable specification for product transfer before the tanks are to be cleaned.

h) Product testing of unusable product shall be analytically tested as directed by Project Manager. Test parameters shall be defined by Project Manager and may include G.C. Finger print sulfur content water content, hydrocarbon speciation, specific gravity, and others.

i) The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access the tank(s) for cleaning.

j) The Contractor shall gain access to the tank(s) via the existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, floats, electronic equipment, suction lines, bolts, manway covers and gaskets encountered. Upon completion of the Work, all equipment must be returned to its original operating condition. All manway gaskets must be replaced with new gaskets reuse of old gaskets is not permitted.

k) All product in lines shall be drained back to the tank where possible or shall be removed from the lowest point of the piping. All products in the lines shall be removed and disposed of as sludge.

l) The tank and all associated piping shall be purged of flammable vapors before entry to the tank can be made. Purging of the tank shall be by the use of steam, inert gas or another approved method. If steam is to be used for either purging or cleaning the tank or piping, the discharge nozzle and all conductive insulated object subject to impingement or condensation shall be bonded to the tank or be grounded to prevent static charge build up. If solid carbon dioxide (dry ice) is used it shall be crushed dry ice introduced into the tank and evenly distributed at a rate of 1.5 lb. per 100 gallons of tank volume. Vapor removal can also be accomplished by the use of an eductor type air mover driven by compressed air or class 1, group D type electric motor. In all cases the vapor shall be discharged at a minimum of 12’ above grade level. Where tanks are located indoors the vapor is to be vented to the exterior of the building.

m) The interior of the tank shall be tested for Low Explosive Level and oxygen content prior to any entrance to the tank. The tank shall be tested at least three (3) different levels, top, middle, and bottom. Work will not proceed until readings are below 10% of the Low Explosive Level. Monitoring shall remain continuous while Work is being performed in the tank. Personnel entering the tank shall be required to wear personnel air quality monitors at all time. Continuous ventilation of the tank shall be continuous and consistent while personnel are inside performing any Work. Proper levels of breathable air must be maintained in the tank at all times while Work is in progress. If this is not possible the person entering the tank must have a continuous supply of air from an approved breathable air compressor or a SCBA.

n) The tank/piping shall be cleaned by the use of high-pressure rinse or other approved method. All sludge shall be removed by means of a vac truck or stored in new 55 gal. drums. If drums are used, they shall be sealed water tight to prevent water infiltration or leakage of the contents. Drums shall be labeled in accordance with all applicable state and federal regulations and removed upon completion of the Work.

o) Upon completion of the cleaning Work the tank shall be squeegeed, sponged or mopped dry to insure no residual water or product remains. All cleaning materials must be properly drummed and disposed of by the Contractor.

p) Upon completion of all Work, if directed by Project Manager, the Contractor shall perform a tightness test on the tank and associated piping to insure tank tightness. Approved methods are vacutect, petrotite or other methods approved by the Authority. The Contractor will also be responsible for re-priming the entire system and placing it back in proper working order.

q) The Contractor shall be responsible for all spills related to any portion of their Work. The Contractor shall have a written spill prevention/response plan submitted and approved by the Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

PART VI

IN-SITU FUEL/TANK CLEANING

a) The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access the tank(s) for the purpose of non-intrusive tank cleaning and fuel filtration utilizing agitating push-pull fuel circulation, filtration and waste removal.

b) The Contractor shall gain access to the tank(s) via the existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, floats, electronic equipment, suction lines, bolts, manway covers and gaskets encountered. Upon completion of the Work, the contractor shall field-test “cleaned fuel” to ensure quality, and all equipment must be returned to its original operating condition. All manway gaskets must be replaced with new gaskets; reuse of old gaskets is not permitted.

c) The contractor shall provide all equipment including, but not limited to, fuel pumps, hoses, agitating circulation wands, filters, waste-its drums, box-truck for on-site equipment mobilization, storage and transport.

d) The Contractor shall be responsible for all spills related to any portion of their Work. The Contractor shall have a written spill prevention/response plan submitted and approved by the

Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

PART VII

GENERAL REQUIREMENTS

A. HIGH EARLY STRENGTH CONCRETE

High early strength concrete shall contain type III Portland cement in ready mix or site batch. The compressive strength of high early strength concrete shall be 3,500 pounds per square inch after seventy-two (72) hours cure. The design mix shall be subject to the approval of the Project Manager. Rods and bars shall conform to ASTM A616, grade 60.

B. STEEL PLATE

In the event that the Work at any location is not complete in one (1) day, due to any reason, the Contractor shall provide and install temporary steel cover plates suitable to withstand traffic loading and shall, as required, relocate, remove and/or adjust the location of the cover plates after placement at the job site. Temporary steel cover plates shall be secured in place, if required, by means acceptable to the Project Manager. The Contractor shall provide caution tape, safety cones, netting, safety fencing, etc., for open excavations. When at such time the Work continues, up to and until completion, the Contractor shall again erect, remove, relocate and/or adjust the location of the caution tape, safety cones, netting, and safety fencing, etc., to maintain the job site as required for the Work.

Special Note on Concrete demolition over tanks and piping in NYCT bus depots:

Concrete demolition over tanks and piping in Authority bus depots shall be performed via saw cutting the affected areas and removing concrete in “cubes” to minimize vibration related damage from heavy hydraulic demo hammers. It is also acceptable to utilize manually operated air and electric driven chipping hammers (jack-hammers) to perform concrete demolition over tanks and piping. Backhoe mounted hydraulic demo-hammers are not acceptable in demolishing concrete over tanks and piping systems.

C. SAW CUTTING

- Mark delineation of worksite before saw cutting.
- Cut concrete and/or asphalt. Average depths up to 16”-18” - to be verified beforehand by core drilling.
- Some locations may have depths exceeding 18” up to 24” in depth.
- The Contractor shall be required to provide proper equipment and tools to perform the Work.
- Inclusive on street, roadway and sidewalk.

D. CONFINED SPACE ENTRY

- Contractor is required to submit all chemical products (i.e., cleaning agents) to be used in Authority facilities to the Office of System Safety for preview and approval.
- Contractor and its personnel shall adhere to the New York City Transit Confined Space Entry Policy and Instruction 10.19.1 prior to entering any tank.

E. OSHA 10 HOUR CERTIFICAITON (TBTA)

- Contractor is required to ensure all employees hold the required OSHA 10 Hour Certifications. Copies of OSHA 10 cards shall be submitted to the Authority on the first time when applying for Authority ID.

F. WORK TRUCKS (TBTA)

- Contractor shall provide all necessary personnel, equipment, and vehicles to perform the repairs (plumbing truck / electrical truck, ect.) in the applicable labor rate. Specialized equipment like dumpsters, back hoes, ect... can be billed as per section E1 of the price schedule.

G. Travel Time (TBTA)

- The Authority does not compensate the contractor separately for travel time and or tolls. These expenses are to be included in the hourly labor rate.

PART VIII

WARRANTY

A. Term of Warranty: The Contractor warrants and guarantees the Work unconditionally for a period of six months following the date of acceptance of the Work by the Authority. The Contractor shall repair any defective or failed Unit and shall repair or replace any damaged or defective parts or components, so that the Work conforms to the Technical Specifications. The Contractor shall accept the Authority's records with respect to the date the Unit was placed in service.

B. Manufacturer's Warranty: All repairs needed to keep the Unit(s) and associated parts in a safe operating order shall be performed by the Contractor with factory original parts and will carry an original Manufacturer's Warranty above the Contractor's warranty of twelve months for any repair or replacement part installed by the Contractor. The Contractor shall accept the Authority's records with respect to the date the Unit was placed in service.

C. Repairs: In the event that any Work covered by the warranty provisions fails during the warranty term, the Contractor shall perform all necessary repairs and replacements to the Contractor without additional cost or expense to the Authority. The Contractor shall accept the Authority's records with respect to the date the Unit was placed in service.

LICESNES AND PERMITS

The Contractor shall obtain and maintain, during the term of this Contract, all licenses, certifications, permits, authorizations, or any documents required by Federal, State (including without limitation 6 NYCRR 613.5(a)(3)), City, County, and Municipal governments, wherever necessary to perform the Work. In addition, and without limiting the forgoing, Contractor shall possess, during the term of this Contract, all applicable permits and certifications required by the Fire Department of New York, to perform Work hereunder. At the Authority's request, the Contractor shall supply the Authority with evidence that such applicable licenses, permits, authorizations or other required documents have been obtained. In addition, the Contractor shall have, and maintain during the term of this Contract, and the Contractor warrants all of the Work to be in accordance with, the highest levels of certification, for any activities covered in this Contract, that have been established for its functions and for its locality. The Contractor shall not allow any representative to conduct any work without furnishing proper certifications and have received notification from the authority to conduct such work.

SECTION IV

MTA NEW YORK CITY TRANSIT AUTHORITY (NYCTA)

DEPARTMENT OF SUBWAYS (DOS)

TECHNICAL SPECIFICATIONS

TANK SYSTEM REPAIR AND TESTING

CLASS D – Tank System Repair and Testing - Department of Subways (DOS)

101. PROJECT DESCRIPTIONS

To the total satisfaction of the New York City Transit - Department of Subways, the Contractor shall provide on-site tank systems repair and testing services at all New York City Transit (NYCT) – Department of Subway locations within New York City's five boroughs for 48 months from the date of Notice of Award. All work shall comply with applicable Federal, DEC, EPA, New York State, New York City and New York City Transit / MTA policies, codes, practices, rules, regulations and statutes, whichever standard is most stringent. The Contractor must be a NYC Licensed Tank Installer (FDNY W-16 License and/or up-to-date tank installer license); in addition, the contractor / sub-contractor must possess a NYC Master Electrician License. All work shall be completed under the direction and coordination of NYCT-DOS and completed to the satisfaction of NYCT-DOS. All work shall be performed in accordance with manufacturer recommendations or nationally recognized standards. The Contractor shall familiarize itself with all NYCT tank's system, equipment, models, and work environments prior to performing necessary services at no additional cost to NYCT. **ALL SERVICE MUST BE COORDINATED THROUGH NYCT CONTRACT MANAGEMENT OFFICE.**

The existing tanks are outlined on the inventory list (see attachment # 1, only to provide an idea about DOS tanks) for solicitation purpose. During the term of the Contract, the New York City Transit – DOS shall have right to add or delete any units/location of the same or different tank models at the original prices set forth under this contract.

102. PROFESSIONAL REQUIREMENTS

The Contractor must be certified by the original equipment manufacturer (OEM) and/or can be judged by NYCT as professionally/technically qualified to provide equipment repair/testing services under this Contract. The Contractor is required to ensure all employees are properly trained in accordance with all regulatory requirements and internal policy instruction to perform the testing. All service personnel delegated or trained by the Contractor must demonstrate a minimum of five *(5)* years of certified experience and professional competence. All workers/technicians/mechanics/plumbers/operators/electricians employed by the Contractor must hold up-to-date license / certifications to complete the assign task. As part of the contractual obligations, the Contractor shall maintain and furnish to the Project Manager or his/her designee, an equipment repair history report upon request. Contractor must wear NYCT approved PPE at all times during the testing, inspection & repair service, **NO EXECPTION**. The Contractor should provide all PPE to all employees at no additional cost to NYCT. If needed, the contractor shall be responsible to obtain permit from other local/city/state agency including but not limited to DOT, DEC, FDNY to complete the job/service at no additional cost to NYCT.

Track Safety Training: The Contractor shall be required to attend a Track Safety Training at no additional cost to NYCT. The training is a one-day course at P.S. 248 Learning Center located in Brooklyn NY (86th & Ave U). Contract Management Office will coordinate the training day and time. The training will include walking through NYC subway active tracks. The participants must be dressed down (jeans and work boots) and bring a flashlight, MTA approved contractor vest,

safety glasses and hard hat. Contractor must submit the names of his/her employees as soon as the contract is awarded. The track safety training card is valid for 2 years and employees will need to attend another training before it expires. The Contractor must notify the Project Manager three (3) months before the expiration date so the track safety training class can be scheduled on-time. Note: NYCT will only arrange the schedule for training and Contractor shall be responsible to pay his/her employee for the day including PPE, travels, parking, tolls, etc.

Environmental Health and Safety Plan (EHSP): Prior to award of the contract, the Contractor and all subcontractors shall provide an EHSP to the Authority for approval, the plan shall include requirements specified in NYCT Policy Instructions. The Authority considers all containment sumps to be confined space. Contractor shall address confined space compliance in their EHSP. Prior to start of work, the Contractor shall barricade/secure the work area and shall be responsible to supply their employees with all appropriate personal protection equipment (PPE) and safety devices to secure work area, including confined space equipment. The Contractor must de-energize systems utilizing lockout/tag out procedures in accordance with OSHA requirements. The Contactor is required to submit all chemical products (cleaning agents) Safety Data Sheets (SDS) to be used in NYCT facilities to the NYCT Office of System Safety for review and approval. Contractor shall provide a spill prevention and control plan to the Authority for review and approval.

103. SCOPE OF WORK

103-A: Introduction

As directed by the Project Manager, the Contractor shall perform all necessary modifications, repairs, tank system upgrades, new installations, removals, repairs, testing, etc. to all NYCT-DOS petroleum & bulk fluid tanks, Oil Water separators, waste oil tanks system and its components including but not limited to piping, fuel cleaning, electrical, pumps system etc. Contractor shall provide all labor, equipment, tools, and material necessary to complete the work as directed by the Project Manager, including but not limited to repair or replacement of concrete pads, paving, removal, and disposal of, or transfer of existing fuel from tank(s). Unless otherwise authorized, all repair/testing/upgrade service shall be completed during normal business hours (Mon-Fri; 7:00am-5:00Pm; except NYCT observed holidays) and/or as directed by the Project Manager or his/her designee. Over time rates as indicated in the price schedule will be applied when work is performed outside of the normal working hours. The Scope of Work (SOW) may include, but not limited to, the following activities:

103-B: General Requirements

The Contractor's work shall include but is not limited to performing the following.

- Removal/closure of Above/Under Ground Storage Tanks (AST & UST) and related equipment, including marine gas-free certification, as requested.
- Inspection, repair and testing of above/under-ground storage tank's systems or waste oil tanks.
- New installation of above/under-ground tanks including waste oil tanks or pumps system including all ancillary equipment.

CLASS D – Tank System Repair and Testing - Department of Subways (DOS)

- Precision tank testing of Under-ground & Above ground Storage Tank systems.
- FDNY required functionality test every 2 years (or as directed by the Project Manager) and blockage tests (Vapor Recovery).
- Annual functionality, Line Leak detectors & Mechanical Overfill test.
- Testing and repair of line leak detectors, overfill prevention valves, fill ports, spill buckets, secondary containment piping and sumps.
- Repair, upgrade, testing and new installation of oil water separators including all ancillary equipment.
- Helium Pinpoint testing (locating leaks in secondary piping) as needed.
- Hydrostatic and pressure testing of primary lines as needed.
- Repair, and/or modify tanks, manways, openings, as well as modifications to accommodate new equipment.
- Modify above and below grade piping systems to accommodate changes of equipment and installation of new devices on the systems and provide as-built drawings/plans as requested. If needed and requested, Vendor shall file the new installation/upgrade with FDNY including all necessary drawings/documents.
- Repair/replace piping, valves, check valves, fittings, penetrations, etc. in tank manways, pump rooms and filter rooms.
- Troubleshoot and replace or repair various pumps or pump systems (diesel, gasoline, heating oil, water, antifreeze, etc.) including mechanical line leak detectors.
- Repair/replacement of fiberglass piping, primary and secondary, as well as the associated flexible connectors as required.
- Fill box repairs/replacement or modification to update/accommodate new equipment.
- Tank cleaning, product transfer/disposal that may be required to carry out any of the above.
- New electrical installation, troubleshoot, repair, upgrade of electrical control of tank systems and ancillary components as requested. Work must be supervised by a master license electrician.
- Perform design work including preparation of filing drawings to FDNY, signed, and sealed by a professional engineer and preparation of as-Built drawings.
- A daily service report must need to provide to on-site personnel after each service/testing. In addition, an electronic copy of daily service report must be sent to Project Manager within one (1) business day after completion of each service/testing.
- **High Early Strength Concrete:** High early strength concrete shall contain type Ill Portland cement in ready mix or site batch. The compressive strength of concrete shall be 4,000 pounds per square inch after 72 hours cure. The design mix shall be subject to the approval of the Project Manager. Rods and bars shall conform to ASTM A616, grade 60 or as required by NYCT standards.
- The Contractor shall be required to provide proper equipment and tools to perform the work in street, roadway, and sidewalk.
- Dispenser repair/replacement as needed. Contractor must be an Authorized Service Contractor (ASC) / Distributor in the following:
    - Gasboy

  - Veeder Root
  - Red Jacket
  - Signage replacement as needed.
  - Manhole & fibrolites covers repaired/replaced.
- If needed and as directed by the PM, the Contractor shall provide and install temporary steel cover plates suitable to withstand traffic loading and shall, as required, relocate, remove and/or adjust the location of the cover plates after placement at the job site. Temporary steel cover plates shall be secured in place, if required, by means of strap welding. The Contractor shall provide caution tape, safety cones, netting, safety fencing, etc., for open excavations. When at such time the work continues, up to and until completion, the Contractor shall again erect, remove, relocate and/or adjust the location of the caution tape, safety cones, netting, and safety fencing, etc., to maintain the job site as required for the work.

  Special Note on Concrete demolition over tanks and piping in NYCT sites:
  Concrete demolition over tanks and piping in NYCT sites/facilities shall be performed via saw cutting the affected areas and removing concrete in "cubes" to minimize vibration related damage from heavy hydraulic demo hammers. It is also acceptable to utilize manually operated air and electric driven chipping hammers (jackhammers) to perform concrete demolition over tanks and piping. Backhoe mounted hydraulic demo-hammers are not acceptable in demolishing concrete. During the demolition, Contractor shall follow all OSHA requirements to minimize the dust condition.

103-C: Repair Services

Repair Service shall be performed by an employee of the Contractor, who is fully trained and certified in the operation and maintenance of the equipment to yield satisfactory equipment performance. For all repair service, Contractor shall invoice based on service on-site time and materials with mark-up rate as set in the contract price schedule.

- **Emergency Repair Service:** As determined by the Project Manager and/or his/her designee, in the event of an emergency, the Contractor shall always ensure the availability of adequate qualified personnel to provide repair service within four (4) hours upon notification (verbal/written) by Project Manager or his/her designee, twenty-four (24) hours a day, 365 days a year. The contractor shall provide all necessary labor, tools, and materials to complete the task. The Contractor is to maintain a twenty-four-hour, seven days a week service/emergency "call in line" utilizing an NYC area code or a toll-free telephone that is staffed by technically qualified personnel of the Contractor. The Contractor must provide the emergency contact number to the Project Manager as soon as receiving the Notice of Award.

- **Non-Emergency Repair Service:**
  - **Site Survey:** As directed by Project Manager, the Contractor shall schedule a field visit to prepare a scope of work and estimate. The Contractor must schedule the survey within one (1) business day upon receiving the request (written/verbal) from Project Manager or his/her designee. The cost for each survey is listed in

Contract price schedule which includes everything (i.e. labor, plumbing truck, draft drawings, cut-sheet, travel, tools, parking, tolls, administrative cost etc.) to complete the scope of work and price estimate. The Contractor shall submit the proposal within two (2) business days from the date of survey. Upon approval by Project Manager, an official Notice to Proceed (NTP) will be issued to the Vendor. The Contractor must schedule and start the work within three (3) business days or as directed by Project Manager after receiving the NTP.

- **Work Order:** The Project Manager shall request a survey/repair/testing service throughout the contract period. All requests will be sent with a work order number including description of issue/work/scope. Upon receiving the work order request (verbal/written), the Contractor shall schedule the work within one (1) business day. If the Contractor resolves the issue within same day, an NTP will not be required. For any reason, if the issue can't be fixed within same day or scope is different than the work order then the Contactor **must** submit a written proposal to the Project Manager within one (1) business day to repair/resolve the issue. If the PM disagrees with the estimate, then PM shall request (verbally/written) a revised cost proposal from the Contractor. The contractor shall furnish its revised written estimate, which shall be reviewed by the PM for approval. Upon approval by Project Manager, an official Notice to Proceed (NTP) will be issued to the Vendor. The Contractor must schedule and start the work within three (3) business days after receiving the NTP.
- The Contractor is responsible to track (service time/materials) each project and update Project Manager in a timely manner. If the Scope of Work changes during the project, which necessitate an unanticipated increase with the Contractor's costs, then the Contractor shall advise the PM of the reason for the increase. The PM shall have the final determination whether such an increase is reasonable. The PM may direct completion of the initial Work Order or shall deliver to the Contractor a change order for the additional work.
- The Contractor proposal may include but not limited to the following:
    - Work Order number, Location of the site
    - Tank numbers and products
    - Date and time of survey/inspection, if applicable
    - Description of work to be done (site sketches as required by PM)
    - All required labor, material, equipment and testing costs, in accordance with the price schedule (all costs shall be provided in sufficient detail as required by the PM). Contractor **must** indicate the line-item numbers which are listed in price schedule.
    - Time and completion of work (number of days).
    - List of subcontractors, if applicable
    - If decided by the Project Manager, the scope of work may also include design and PE sealed and signed drawings showing all the proposed upgrades and installed equipment. The Contractor is to provide three (3) hard copies of all the drawings (sealed & signed by PE) and a pdf copy, in addition, an electronic copy in CADD format (if requested)

- Supply cut-sheets, equipment/material pricing as requested by the Project Manager.

103-D: <u>Testing Services</u>

As directed by Project Manager, the Contractor shall perform a scheduled testing of all underground diesel and gasoline petroleum tank systems and/or as needed to all other DOS tanks systems (AST/UST). The unit cost for each test is listed in Contract price schedule section which includes everything to complete the test i.e., labor, plumbing truck, tools, parking, tolls etc. If any additional work needs to be done to pass the test, then the Contractor shall proceed (with Project Manager approval) with the repair on the same day. In this case, Contractor shall invoice <u>only</u> the additional hours & materials to complete the repair in addition to the unit price (test) which will cover the cost for additional repair. If the repair can't be done within same day, then the Vendor shall send a written proposal to the Project Manager and follow the repair procedures as descried in section 103-C. A list of testing is as follows:

1. **Functionality, Line Leak detection & Mechanical Overfill Test (Annual):** As required by Project Manager, the Contractor shall perform an Annual Functionality & Mechanical Overfill test in approximately 10 locations (about 22 tanks) including line leak detection test in only 2 locations (5 tanks). As requested by Project Manager, the Contractor must send a schedule for all locations within one (1) business day to perform the test. The test must be scheduled within two (2) weeks from the original request date. The scope of work may include, but is not limited to the following:
   - Veeder Root certified technician shall perform the tests. The technician must notify the Authority's third party Veeder Root monitoring service (e.g., FMS) before and after testing is conducted. Print out the system configuration on the Veeder Root console before and after testing which must be included with the daily service/test report.
   - Test tank system electronic and mechanical components and ensure that they are installed and operating in accordance with manufacture's specifications and/or FDNY regulations:
     - Monitoring system configuration
     - Battery back-up for monitoring systems
     - Tank probes
     - Leak sensors. Confirm configuration mapping of sensors and verify the sensor are correctly labeled to indicate their locations.
     - Shear/check valves
   - Test & ensure Emergency Safety/service devices (ESDs) are in good operation. The actions include but not limited to the following:
     - Ensure the system in fully powered in normal operating condition.
     - Activate ESD
     - Ensure power has been disconnected from dispensers, pumps, power/control/signal circuits and all other non-intrinsically safe electrical equipment in the classified area.

        - Reset the ESD
    - Ensure power has been reestablished and ESDs are labeled.
    - Contractor must provide the report, testing results, checklist including but is not limited to the following: location, PBS certification number, tank ID etc. within same/one business day after each test.
    - If needed, affidavits shall be provided to the FDNY to remedy violations issued during functionality tests.
    - **Line Leak Detector (LLDs):** Most of the NYCT tank systems are suctions line systems while only a few locations have the discharge systems. Vendor shall perform a line leak detection test in these locations (at this time only 2 locations; 5 tanks).
    - **Mechanical Overfill Test:** The contractor must perform an annual testing on the Mechanical Overfill protection system by following all local, states, federal guidelines.

2. **Functionality Test Witness by FDNY (every 2 years):** As directed by Project Manager, the Contractor must schedule with FDNY to perform a 2 years' functionality test. Contractor shall perform a pre-functionality test one week before the FDNY witness test. The Pre-Functionality test will follow the Fire Code on "functionality testing," and be performed to ensure the equipment is operational and will pass during the witness test. The scope of work shall include but not limited to as described in section 103-D (1) and/or as per FDNY requirements. The Mechanical Overfill test is not required during the FDNY witness test but it must need to be performed during pre-test. The unit cost of FDNY witness test is set in Contract Price schedule.
   Note: any changes enacted to FDNY Rules (Fire Code) during the Contract term shall be enforceable at time of enactment.

3. **Hydro Test (every 3 years/as needed):** As directed by Project Manager, the Contractor must schedule the hydrostatic test for all DOS diesel & gasoline UST tanks by following DEC guidelines. Depending on the site, the test includes single/double walled containment/tank sumps, dispenser sumps, fill port spill boxes. The unit cost for each item is set in the contract price schedule.
4. **Line Testing (as needed):** As directed by Project Manager, the contractor shall perform a line testing to all (primary & secondary) fill, discharge, and suction line (pipes, spouts, vents, valves, fittings & connections). The test should follow all applicable local, state, city, NYCT code, rules & regulation. The scope of work may include but is not limited to the following:
    - Barricade/secure the area of work to ensure safety.
    - **Discharge Line:** The scope of work may include but is not limited to the following and/or as per manufactures recommendation or as directed by Project Manager.
        - Isolate piping as required e.g., close the shear valve at the bottom of dispenser unit, remove the test port from the shear valve, and release the pressure from the pipe.
        - Install line-testing equipment for the test.

- Close the gate valve on the discharge pipe downstream of the pump.
- Apply 1½ times above normal working pressure on the pipe.
- Hold pressure for one (1) hour as per Fire Department. If pipe passes the test, disconnect equipment, install the test plug back on the shear valve and open the shear valve.
- If the test passes, turn the pump(s) on and check if re-installed test plug isn't leaking. Remove barricades from working zone.
- If the test fails, notify the Authority's site personnel and Project Manager. Isolate, secure and lock-out/tag-out the failed system and/or portions thereof, as directed by NYCT. No additional Work can be performed unless it was previously authorized or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

- **Non-Charged Line:** Perform pressure testing of any other piping (lines) that are non-charged, such as vent, fill, suction & stage 1 & 2 on gasoline systems as per manufactures recommendation and/or as directed by Project Manager. The scope may include but is not limited to the following:
  - Disconnect the pipe from the tank inside the sump and plug it
  - Apply 20-psi hydro as per Fire Department on the line using the nipple at the beginning of the fill line. If line holds the pressure for one (1) hour, slowly release the pressure, reconnect the fill line and Authority will coordinate a product delivery, and the Contractor may be required to witness the delivery to make sure that line is not leaking at the connection.
  - If the test fails, notify the Authority's site personnel and Project Manager. Isolate, secure and lock-out/tag-out failed system and/or portions thereof, as directed by NYCT. No additional Work can be performed unless it was previously authorized or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.
- **Vent, Suction, Secondary or Stage # 1 or #2 Lines:** The scope of work may include but is not limited to the following and/or as per manufactures recommendation or as directed by Project Manager.
  - Pipes shall be isolated from the tank farm (disconnect piping in sump pit).
  - Test with 20psi hydro as per Fire Department or another pressure as specified by ECMD for one hour (e.g., no greater than 5 psi for all secondary piping).
  - If pipe passes the test, disconnect equipment; install piping back to tank system.
  - If the test fails, notify the Authority's site personnel and the Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by NYCT. No additional Work can be performed unless it was previously authorized or until the Contractor

submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

5. **Precision Tank Testing (as needed):** As directed by Project Manager, the Contractor shall perform Precision tank testing to all DOS tanks by following manufactures recommendations. The scope of work may include but is not limited to the following:
   - Perform a Non-Volumetric precision tank test using the New York State Department of Environmental Conservation (DEC) approved test methods and procedures.
   - A written report shall be submitted to the Authority for each precision tank test. The report shall include the information required by DEC.
   - Barricade/secure the Work area to ensure safety.
   - Measure tank for correct dimensions, product, and water height.
   - Plug all openings on top of tank system.
   - Perform Tank Test as stated in DEC, as a system test including the piping connected to the tank. If the tank system passes the precision tank test, remove all prior installed plugs, and restore tank back to operating condition. If UST fails the test, Contractor shall notify the Authority's site personnel and the Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by NYCT. No additional Work shall be performed unless it had been previously approved or until the Contractor submits an additional written Work Order estimate and it is approved by the Project Manager in a Notice to Proceed.
   - Restore system to normal operating condition including dispensing product from the dispensers to make sure the pressure has returned to normal operating pressure and flow rate.

6. **Helium Test (as needed):** As directed by Project Manager, the contractor shall perform the helium testing to all DOS tanks by following all applicable City, State, local code, rules & regulations. The scope of work may include but is not limited as following:
   - Barricade/secure the work area to ensure the safety.
   - Fill the annular space between the primary and secondary pipe with helium gas at low pressures, in accordance with the manufacturer's recommendations for piping pressures.
   - Drill holes through the concrete or pavement along the pipe run and sniff utilizing a helium gas detector to locate the helium; to narrow down the location of the leak, provide additional helium to the annular space as required. Use extreme care not to drill through buried conduits or damage the fuel pipes.
   - Let the area clear of helium, and then re-pressurize the line with helium to see if the leak is still in the same location. Because this is not an exact test, the Contractor shall reconfirm the test by a double check of the location by re-testing.

- Restore the location to the original condition and remove and dispose of any waste or debris, in accordance with the terms of the Contract.

7. **Ultra Sonic Test (as needed):** As directed by Project Manager, the contractor shall perform the Ultrasonic testing to all DOS tanks by applicable Federal, New York State, New York City and New York City Transit / MTA policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the contract price schedule based on the tank size.

8. **Vacuum Test (as needed):** As directed by Project Manager, the contractor shall perform the Vacuum testing to all DOS tanks by following all applicable Federal, New York State, New York City and New York City Transit / MTA policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the contract price schedule based on the tank size.

9. **Pressure Test (as needed):** As directed by Project Manager, the Contractor shall perform the Pressure testing to all DOS tanks by following all applicable Federal, New York State, New York City and New York City Transit / MTA policies, practices, rules, regulations and statutes, whichever standard is most stringent. The unit cost for this test has been established in the Contract price schedule based on the tank size.

10. **Gasoline Vapor Recovery Test (as needed):** As directed by Project Manager, the Contractor shall perform the Gasoline Vapor recovery testing of all DOS tanks by following all applicable Federal, New York State, New York City and New York City Transit / MTA policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the Contract price schedule based on the tank size. An acceptable method for testing must be utilized for Stage I or Il Vapor Recovery Systems in according to the NYSDEC regulations.

11. **Above Ground Tank System Integrity Testing/Inspections (as needed):** As directed by the Project Manager, the Contractor shall perform the integrity testing or inspection of all DOS AST tanks. The scope of work may include but is not limited to the following:
    - Perform an assessment and evaluation of aboveground tanks & piping systems and ancillary equipment in accordance with NYCRR 598.7 or applicable city, state, federal, local code to assess structural soundness & operability.
    - All testing must be performed by a qualified technician who is familiar with and trained by the manufacturer or a representative in the performance of the tests.
    - The inspection includes one or more of the following or as directed,
        - Visual structural inspection of representative sections of tanks and pipes for corrosion, thinning, and structural damage
        - Interstitial testing of ASTs in accordance with DEC acceptable standards

- Inspection and assessment of all ancillary equipment such as gauges, pressure/vacuum safety valves, safety interlocks, flow valves and pumps for proper operation
- If needed, Ultrasonic testing of tank wall thickness in accordance with the DEC acceptable industry standards such as Steel Tank Institute (STI)

- The Contractor will prepare a report certified by a licensed Engineer that will include results of tests and inspections, and report on the condition of piping, tank, and ancillary equipment, expected life of services and need for repair.

12. **Overfill Prevention System Testing (as needed):** As directed by the Project Manager, the Contractor shall perform Overfill presentation device testing or inspection of all DOS tanks systems. This test is not part of the Annual functionality test, which is described above, and Vendor shall invoice as a regular repair service call as described in section 103-D instead of additional test whenever required by NYCT. The Contractor shall invoice for this test based on time on-site and materials being used with mark-up rates as stated in the price schedule. The Contractor must submit the supplier's receipt with the invoice packages.

13. **Interstitial Tank Space Testing (as needed):** If the approved Work Order calls for Interstitial Tank Testing, the work performed may include, but is not limited to the following:
    - The Contractor shall test the interstitial tanks with pressure as per manufacturer's instructions, EXCEPT IN CASES WHERE THE INTERSTITIAL SPACE IS FILLED WITH BRINE. Contractor will be responsible for the removal of and restoration of the interstitial sensors the day of testing.
    - Install testing manifold on interstitial riser and connect another end to primary. Attach air compressor to primary to supply 5 psi and hold for thirty (30) minutes. Never connect air compressor directly to the annular space.
    - Restore the tank farm including the removed sensors in their original positions and check the Leak Monitoring system for alarms.
    - Test results shall be forwarded to the Project Manager within one (1) working day.
    - The Contractor shall invoice for this test based on time on-site and materials being used with mark-up rates as stated in the price schedule. The Contractor must submit the supplier's receipt with the invoice packages.

103-E: Removal and Disposal

- **Unusable Petroleum Products or Water:** As required by the project manager, the Contractor shall remove, transport, and dispose of any unusable liquid petroleum product (e.g., lube, diesel, heating oil, contaminated water/petroleum product) from the tanking system (including fill box, tank sumps, fuel tanks, dispenser sumps, etc.). In addition, tank bottom sludge shall be removed as part of this task. Cost will be assumed

to be the same unit price for removal of any sludge along with the liquid petroleum product. In addition, all water used for hydrostatic tests (fill spill buckets, tank, and dispenser sumps, etc.) shall be removed and disposed from the site at no additional cost to the NYCT.

The Contractor shall provide all labor, equipment, trucks, drums, tools, and other apparatus necessary to remove various quantities of heating oil, lube oil, waste oil, or other petroleum products, water from the NYCT's storage tanks/sumps, on an as required basis when determined by the Project Manager. The Contractor shall be responsible to provide all permits and certifications as required by Federal, State, or Local law to perform the work at no additional cost to NYCT. Per gallon unit cost should include to complete (as describe above) the task, however, the labor only (no plumbing truck) charges (removal of covers, access to tank, etc.) for the Contractor on-site, will be processed hourly as per the labor rates in the price schedule. The Contractor shall not charge any plumbing truck for this task. The Contractor can use any method to remove/dispose the product by following all applicable code, rules & regulations.

Note: If the unusable petroleum products/water is removed from the tank itself then NYCT will pay the Vacuum truck in addition to the per gallon rate. In this case, Vendor must need a written approval from Project Manager prior to start the work. All other removal will be charged based on per gallon rate as stated in the price schedule.

- **Contaminated/Non-Contaminated Soil/Concrete/Fill:** As required by the project manager, the Contractor shall remove, transport, and dispose of any Contaminated/Non-Contaminated Soil/Concrete/Fill from the job site. The unit cost per cubic yard has been listed in the Contract price schedule section. The unit cost shall include everything including plumbing truck, labor, travel, tolls, parking etc. to complete this task.

- Packaging and transportation of flammable waste must be in accordance with the New York City Fire Prevention code. All vehicles must have permits and drivers must have certificates of fitness issued by the New York City Fire Department of transporting combustible material. In addition, any similar local requirements for areas outside New York City through or to which the waste will be taken must be complied with.

103-F: Transfer of Usable Petroleum Products

Transfer to another NYCT facility: If the approved Work Order calls for the transfer of usable petroleum products, the scope of work shall include, but not be limited to the following technical specifications for the transfer of usable petroleum product from any MTA New York City Transit facility to any facility as directed by the Project Manager, within the geographical area serviced by New York City Transit.

- Usable product shall be removed from the tank by means of a vacuum tanker truck designed for this purpose. All components of the pumping system shall be explosion proof and non-sparking.
- The Contractor's truck shall be clean and free of any product previously contained in the tank. The driver shall open all inspection ports for visual inspection by the Project Manager before beginning any work.
- The suction nozzle shall remain a minimum of 4 inches from the bottom of the tank. The remainder of the product shall be considered unusable and will be disposed of separately.
- The product shall be transferred to the designated location and delivered to the tanks designated by The Project Manager; the product shall be delivered through the tanks fill port/box.
- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to remove the fuel.
- The Contractor shall have proper shipping manifests with signature space for the on-site supervisor from the original location and a signature space for the receiving location. The manifest shall also include the volume of fuel being transferred.
- Product may also be transferred from one tank to another at the same site. The method shall be approved by Project Manager prior to commencing.
- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this work.
- The Contractor shall be responsible for all spills related to any portion of his work. (The Contractor must have a written spill response plan approved by the NYCT Office of System Safety before beginning any work.) The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.
- The Contractor must have all necessary permits reviewed and approved by the NYCT Office of System Safety.

Transfer from tank to tank within NYCT facility: If the approved Work Order calls for the transfer of usable petroleum products between tanks within a facility, the Scope of Work shall include, but not limited to the following technical specifications:

- Usable product shall be removed from the tank by means of pump and hose designed for this purpose. All components of the pumping system shall be clean, explosion proof and non-sparking.
- The suction nozzle shall remain a minimum of four (4) inches from the bottom of the tank, unless otherwise directed. The remainder of the product shall be considered unusable and will be disposed of properly.
- The product shall be transferred to a tank designated by the Project Manager. Unless otherwise directed, the product shall be delivered through the tanks fill port/box or a suitable opening.
- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to transfer the fuel.
- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this work.

- The Contractor shall be responsible for all spills related to any portion of the Work. Contractor must have a written spill prevention/response plan approved by the NYCT Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

103-G: Invasive and Non-Invasive Tank Cleaning

- **Invasive Tank Cleaning:** Tank cleaning invoices will be based on time; material & equipment being used. If the approved Work Order requires, the Contractor shall clean and remove petroleum product/sludge from tanks at any MTA-New York City Transit facility including facilities of affiliates and subsidiaries as directed by the Project Manager. The scope of work may include but is not limited to the following:
    - The Contractor shall have proper shipping manifests to transport any waste/hazardous waste material. Copies of the manifests shall be supplied to the Project Manager no later than the day following their preparation.
    - The Contractor shall have documentation of acceptance of waste materials by a facility legally permitted to treat or dispose of those materials. Such documentation shall be supplied to the Project Manager within seven (7) days following delivery to the site. In addition, a letter of intent from the facility and hauler acknowledging agreement to accept the waste material shall be furnished to the Project Manager not more than fourteen (14) days prior to transporting any waste material.
    - The Contractor must follow all applicable confined space entry procedures to enter any tank to perform the required cleaning. The Contractor must supply all equipment required to perform this work.
    - The Contractor must obtain at his own cost all necessary permits required by NYCFD, NYCDEP, NYSDEC AND EPA for the subject work. All permits must be submitted, reviewed, and approved by MTA-New York City Transit and NYCT Office of System Safety (if needed).
    - All tank work must be performed by licensed tank installers.
    - The Contractor upon award of the Contract shall supply to the Project Manager for approval, all procedures related to all phases of work under this Contract before any work is permitted to begin.
    - Usable product shall be removed from the tank as per the applicable specification for product transfer before the tanks are to be cleaned.
    - The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access the tank(s) for cleaning.
    - The Contractor shall gain access to the tank(s) via the existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, floats, electronic equipment, suction lines, bolts, manway covers and gaskets encountered. Upon completion of the work, all equipment must be returned to its original operating condition. All manway gaskets must be replaced with new gaskets - reuse of old gaskets is not permitted.
    - All product in lines shall be drained back to the tank where possible or shall be removed from the lowest point of the piping. All products in the lines shall be removed and disposed of as sludge.
    - The tank and all associated piping shall be purged of flammable vapors before entry to the tank can be made. Purging of the tank shall be using steam, inert

gas, or another approved method. If steam is to be used for either purging or cleaning the tank or piping, the discharge nozzle and all conductive insulated object subject to impingement or condensation shall be bonded to the tank or be grounded to prevent static charge build up. If solid carbon dioxide (dry ice) is used, it shall be crushed dry ice introduced into the tank and evenly distributed at a rate of 1.5 lb. per 100 gallons of tank volume. Vapor removal can also be accomplished using an educator type air mover driven by compressed air or class 1, group D type electric motor. In all cases the vapor shall be discharged at a minimum of 12' above grade level. Where tanks are located indoors, the vapor is to be vented to the exterior of the building.

- The interior of the tank shall be tested for LEL and oxygen content prior to any entrance to the tank. The tank shall be tested at least three (3) different levels, top, middle, and bottom. Work will not proceed until readings are below 10% of the LEL. Monitoring shall remain continuous while work is being performed in the tank. Personnel entering the tank shall be required to wear personnel air quality monitors at all times. Continuous ventilation of the tank shall occur while personnel are inside performing any work. Proper levels of breathable air must be maintained in the tank at all times while work is in progress. If this is not possible the person entering the tank must have a continues supply of air from an approved breathable air compressor or a SCBA.
- The tank/piping shall be cleaned using high-pressure rinse or other approved method. All sludges shall be removed by means of a vac truck or stored in new 55 gal. drums. If drums are used, they shall be sealed watertight to prevent water infiltration or leakage of the contents. Drums shall be labeled in accordance with all applicable state and federal regulations and removed upon completion of the work.
- Upon completion of the cleaning work, the tank shall be sponged or mopped dry to ensure no residual water or product remains. All cleaning materials must be properly drummed and disposed of by the Contractor.
- Upon completion of all work, if directed by Project Manager, the Contractor shall perform a tightness test on the tank and associated piping to insure tank tightness. Approved methods are VacuTect, PetroTite or other methods approved by NYCT. The Contractor will also be responsible for re-priming the entire system and placing it back in proper working order.
- The Contractor shall be responsible for all spills related to any portion of his work. The Contractor shall have a written spill response plan submitted and approved by the NYCT Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

- **Non- Invasive Tank Cleaning:** Tank cleaning invoices shall be based on time; material & equipment being used. The scope may include but is not limited to the following:
  - The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access tank(s) for the purpose of non-intrusive tank cleaning and fuel filtration utilizing agitating push-pull fuel circulation, filtration, and waste removal.
  - The Contractor shall gain access to the tank (s) via existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, electronic

equipment, suction, lines, bolts, manway covers and gaskets encountered. Upon completion of the Work, the contractor shall field-test "cleaned fuel" to ensure quality, and all equipment must be returned to its original condition. All manway gaskets must be replaced with new gaskets - reuse of old gasket is not permitted.

- The Contractor shall provide all equipment including, but not limited to, fuel pumps, hoses, agitating circulation wands, filters, waste-it drums, box truck for on-site equipment mobilization, storage, and transport.
- The Contractor shall be responsible for all spills related to any portion of their Work. The Contractor shall have a written spill prevention/response plan submitted and approved by the NYCT Office of System Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.
- As requested by Project Manager, the Contractor shall clean the storage tanks with or without biocide treatment.
- If the Project Manager deems fuel treatment is necessary, the Contractor shall introduce a pre-approved micro biocide product into the tanks 24 hours and/or manufacturer requirements or current rules/regulation before tank cleaning. Contractor shall submit a safety data sheet (SDS) and a description of the application method to the Project Manager for approval at least two weeks prior to using the product.

103-H: Confined Space Entry:

Contractor and its personnel shall adhere to OSHA and to the New York City Transit Confined Space Entry Policy and Instruction 10.19.1 requirements or up-to-date procedures prior to entering the tank, sump etc. Containment sumps shall be considered a confined space when either of the following limits exist, measured in the stated sequence, at any point of the storage tank sump:

- Atmospheric Oxygen level of sump space is less than 19.5% or greater than 23.5%
- Lower Explosive Level is greater than 10%.
- Carbon mono-oxide is more than 35 PPM.
- Hydrogen sulfide more than 10 PPM or when the proposed work introduces toxic or explosive environment.

Note: Air monitoring must be performed prior to entry to the tank sump and the tank sump must be monitored continuously while a person is working within the space.

If the space contains air that is unsafe to breathe or present other safety hazards, controlling contractor shall use the procedures specified in OSHA's confined space regulation, 29 CFR 1910.146 paragraph (c) (5) (ii) for entering sumps. The controlling contractor must share information with each entry employer (subcontractor) entering the space. Controlling contractor shall coordinate the activities of entry employers when multiple entities are either in the same space or their activities might conflict and introduce a hazard.

103-J: Tank Closure:

All tank closing invoices will be based on time, material & equipment being used. If the approved Work Order calls for a tank closing, the Scope of Work shall include, but is not limited to the following technical specifications:

- Contractor shall have all required equipment, supplies, licenses, and manpower to perform all the work.
- All the Work is to be completed to the satisfaction of the Project Manager and all applicable regulatory requirements.
- Evacuate and disconnect all piping, including all fill lines and discharge lines associated with the system, of product and sludge.
- Upon request, the Contractor shall fill the tanks and all associated underground piping with an inert approved solid material, such as sand or concrete slurry. All voids within the UST shall be filled. Before and after photographs shall be submitted to the Project Manager.
- A notarized affidavit of tank closure shall be submitted to Project Manager as a proof of closure at no additional cost to NYCT.
- Upon request, the Contractor shall fill all tank top sumps with concrete to grade.
- Upon request, the Contractor shall punch holes in the AST or make them unfit for storage by following all rules and regulations. ASTs must be stenciled with the date of permanent closure. Before and after photographs shall be submitted. ASTs must be protected from floatation. If requested, Contractor shall dispose ASTs as refuse and provide proof of proper disposal receipt/manifest to NYCT.

Site characterization report:

Site characterization report shall be submitted to a Project Manager for UST Tank closure as per NYSDEC and NYCT Underground Storage Tank and Environmental Remediation Program before permanent closure is completed, the facility must measure for the presence of a release where contamination is most likely to be present at the UST system location.

104. PROVISION OF PARTS

The Contractor shall utilize only OEM-authorized and/or as directed by Project Manager components/parts/grease/lubricants for installation/inspection/repair of equipment and supply a detailed listing of all parts installed in equipment on a *task-by-task* basis.
All parts/materials that are used MUST be documented on Contractor Daily Service Report and signed/initials by NYCT Field Personal. Invoice for each part/ material must be submitted along with invoice to the Project Manager.

Note: Parts/Materials must be authorized by NYCT before using. If needed, Contractor is responsible to provide Safety Date Sheet (SDS)

105. QUALITY ASSURANCE PROVISIONS

- Prior to rendering testing /repair services, the Contractor shall familiarize itself with NYCT work environments. Any deficiencies, malfunctions and safety hazards identified during the equipment testing procedures shall be immediately documented and corrected for the Project Manager's approval prior to being released.

- Should the equipment require further assessment and/or repair at the Contractor's facility, the associated de-installation/pick-up/delivery/reinstallation expenses shall be completely borne by the Contractor (at no cost to NYCT) with an approval by Project Manager.
- It is imperative that all equipment be inspected/tested/maintained/repaired in a professional manner to comply with performance criteria set forth by OEM and adhere to the New York State Department of Labor's Code; EPA & DEC code, rules & regulation; NYCT code & compliance.
- All workmanship, parts and materials furnished for all the WORK shall be unconditionally warranted against failures or defects for a period of one year after the Unit is placed in service. The Contractor shall accept the NYCT's records with respect to the date the Unit was placed in service. If any work covered by the warranty provisions fails during the warranty period, the Contractor shall repair or replace the work within one (1) business day with NO extra cost /expense to NYCT.

106. SUBCONTRACTS

- The Contractor may designate a Subcontractor for some SPECIAL work with a prior approval by NYCT Project Manager.
- Before effecting any Subcontractor for any portion of the project, the Contractor shall provide in writing to NYCT the name of the Subcontractor, the portion of the work, which such Subcontractor is to furnish, the place of business of such Subcontractor, and such other information as NYCT may require. There shall be no award of any subcontract unless and unit the proposed Subcontractor has been approved by NYCT.
- The Contractor shall fully and completely inform the Subcontractor of all provisions and requirements of this Contract relating either directly or indirectly to the work to be performed and the materials to be furnished under such subcontract. Every subcontract shall expressly stipulate that labor performed and materials furnished shall comply with the requirements of this Contract.
- For Subcontractor to qualify, the Subcontractor, in addition to the other requirements, shall prove to the satisfaction of the NYCT that he has the necessary licenses and/or certifications, facilities, skills, experiences, and ample financial resources to do the work in a satisfactory manner. To be considered skilled and experienced, the Subcontractor shall show that he has satisfactorily performed work of the same general type, which is required under this Contract. NYCT may require a Subcontractor to submit proof of qualification to do the work.
- Upon approval by the Project Manager, Contractor shall invoice to NYCT of Subcontractor work with a percentage (%) mark-up as stated on Contract Price schedules.

107. INVOICING

This is a time & material base contract. If there is not a unit price for specific service such as testing the tank, the invoice will be processed based on time on site and the material to accomplish the work (no travel or parking). Invoices MUST be submitted to the NYCT Project Manager with all Back-ups and only a copy of invoice to the MTA BSC in a timely manner upon completion of each service. The invoice shall be itemized; the labor names, titles and rates as provided in the price schedule, time in & out (hours), Contract details (Contract name & ID, PO #, NTP # if any), cost of parts and materials, percentage (%) markup or discount for parts and materials, and brief description of the work been performed. To get

payment, copies of supplier's invoices for all parts must be submitted to the Project Manager along with the invoice for his/her approval. The Contractor shall submit a copy of certified pay roll & complete 1269-G Form with each invoice.

Attachment # 1

Estimated DOS Tank List > 1000 gals			
Number	**Location**	**Number of Tank**	**Type of Tank**
1	Bergen Shop	3	Diesel, Gasoline & Heating Oil
2	Beach Channel Drive	1	Heating Oil
3	Corona Yard	1	Heating Oil
4	Coney Island Yard	7	Diesel & Heating Oil
5	Concourse Yard	2	Heating Oil
6	Cozine Iron Shop	2	Diesel & Heating Oil
7	CRF	2	Diesel & Heating Oil
8	Clifton Yard	1	Heating Oil
9	Jerome Yard	1	Heating Oil
10	130 LP	2	Heating Oil
11	Linden Yard	8	Diesel, Gasoline & Heating Oil
12	Livonia Yard	1	Heating Oil
13	Maspeth Warehouse	2	Diesel & Heating Oil
14	Pelham Yard	7	Diesel & Heating Oil
15	Power Bldg. #1	1	Heating Oil
16	Power Bldg. #2	1	Heating Oil
17	P.S. 248	2	Heating Oil
18	Police District 23	1	Heating Oil
19	Police District 32	1	Heating Oil
20	RCC	2	Heating Oil
21	Sitwell Station	1	Heating Oil
22	Tiffany Iron Shop	6	Diesel, Gasoline & Heating Oil
23	Tompkinsville	2	Diesel & Gasoline
24	38th St Yard	4	Diesel & Heating Oil
25	E 180th St Yard	2	Heating Oil
26	207th St Yard	5	Heating Oil
27	239th St Yard	3	Heating Oil
28	240th St Yard	1	Heating Oil
Total		**72**	

CLASS D – Tank System Repair and Testing - Department of Subways (DOS)

Note: Above Tank's list is only for solicitation purpose, NYCT-DOS has right to add or delete any tank or location at any time during the term of this contract. All tanks which are listed here are > 1000 gals; beside above list, there are many small above/underground tanks exist in the NYCTDOS system

SECTION V

MTA LONG ISLAND RAIL ROAD (LIRRD)

TECHNICAL SPECIFICATIONS

TANK SYSTEM REPAIR AND TESTING

CLASS E - Tank System Repair and Testing – MTA LONG ISLAND RAIL ROAD (LIRRD)

101. PROJECT DESCRIPTIONS

To the total satisfaction of the MTA Long Island Rail Road (LIRR), the Contractor shall provide on-site tank systems repair and testing services at all Long Island Rail Road locations within New York City's boroughs of Manhattan, Brooklyn and Queens, and the Counties of Nassau and Suffolk for 48 months from the date of Notice of Award. All work shall comply with applicable Federal, DEC, EPA, New York State, New York City and Long Island Railroad / MTA policies, codes, practices, rules, regulations and statutes, whichever standard is most stringent. The Contractor must be a NYC and NYS Licensed Tank Installer (FDNY W-16 License and/or up-to-date tank installer license); in addition, the contractor / sub-contractor must possess a NYC and NYS Master Electrician License. All work shall be completed under the direction and coordination of the LIRR and completed to the satisfaction of the LIRR. All work shall be performed in accordance with manufacturer recommendations or nationally recognized standards. The Contractor shall familiarize itself with all the LIRR tank's system, equipment, models and work environments prior to performing necessary services at no additional cost to the LIRR. **ALL SERVICE MUST BE COORDINATED THROUGH THE LIRR CORPORATE SAFETY DEPARTMENT (CSD). The Project Manager (PM) shall be a Corporate Safety Department employee, or their designee.**

The existing tanks are outlined on the inventory list (see attachment # 1, only to provide an idea about the LIRR tanks) for solicitation purpose. During the term of the Contract, the LIRR shall have right to add or delete any units/location of the same or different tank models at the original prices set forth under this contract.

102. PROFESSIONAL REQUIREMENTS

The Contractor must be certified by the original equipment manufacturer (OEM) and/or can be judged by the LIRR as professionally/technically qualified to provide equipment repair/testing services under this Contract. The Contractor is required to ensure all employees are properly trained in accordance with all regulatory requirements and internal policy instruction to perform the repairs and testing. All service personnel delegated or trained by the Contractor must demonstrate a minimum of five *(5)* years of certified experience and professional competence. All worker/technicians/Mechanics/Plumbers/Operators/electrician employed by the contractor must hold up-to-date licenses / certifications to complete the assign task. As part of the contractual obligations, the Contractor shall maintain and furnish to the Project Manager or his/her designees, an equipment repair history report upon request. Contractor must wear the LIRR approved PPE at all-time during the testing, inspection & repair service, **NO EXECPTION**. The Contractor should provide all PPE to all employee at no additional cost to the LIRR.

Track Safety Training: The Contractor shall be required at no cost to attend the LIRR's Contractor Safety Training. The training is a one-day course offered through the LIRR's Training Department which will coordinate the training day and time. Contractor must submit the names of his/her employees as soon as the contract is awarded. The track safety training card is valid for 1 year and contractor employees will need to attend another training before its expiration. The

contractor must notify the Project Manager three (3) weeks before the expiration date so the track safety training class can be scheduled on time. Note: The LIRR will only arrange and pay for the training and Contractor shall be responsible to pay his/her employee for their time.

Environmental Health and Safety Plan (EHSP): Prior to award of the contract, the Contractor and all subcontractors shall provide an EHSP to the Authority for approval, the plan shall include requirements specified in the LIRR Policy Instructions. The Authority considers all containment sumps to be confined space. Contractor shall address confined space compliance in their EHSP. Prior to start of work, the Contractor shall barricade/secure the work area and shall be responsible to supply their employees with all appropriate personal protection equipment (PPE) and safety devices to secure work area, including confined space equipment. The Contractor de-energize systems utilizing lockout/tag out procedures in accordance with OSHA requirements. The Contactor is required to submit all chemical products (cleaning agents) to be used in the LIRR facilities to the Corporate Safety Department for review and approval. Contractor shall provide a spill prevention and control plan to the Authority for review and approval.

103. SCOPE OF WORK

103-A: Introduction

As directed by the Project Manager, the Contractor shall perform all necessary modifications, repair, tank system upgrades, new installations, removals, repairs, testing, etc. to all the LIRR petroleum & bulk fluid tanks, O/W separators, waste oil tanks all system components including but not limited to piping, fuel clearing, electrical, pumps system etc. Contractor shall provide all labor, equipment, tools and material necessary to complete the work as directed by the Project Manager, including but not limited to repair or replacement of concrete pads, paving, removal and disposal of, or transfer of existing fuel from tank(s) and pertinent systems. Unless otherwise authorized, all repair/testing/upgrade service shall be completed during normal business hours (Mon-Fri; 7:00am-5:00pm; except the LIRR observed holidays) and/or as directed by the Project Manager or his/her designee. Over time rates as indicated in the price schedule will be applied when work is performed outside of the normal working hours. The Scope of Work (SOW) may include, but not limited to, the following activities:

103-B: General Requirements

The contractor's work shall include but is not limited to performing the following:

- Removal/closure of AST & UST's and related equipment, including marine gas-free certification, as requested.
- Inspection, repair and testing of above/under-ground storage tank's systems or waste oil tanks
- New installation of above/under-ground tanks including waste oil tanks or pumps system including all ancillary equipment
- Precision tank testing of Underground & Aboveground Storage Tank systems.
- NYSDEC and FDNY required functionality test as required per NYSDEC and FDNY (or as directed by the Project Manager) and blockage tests (Vapor Recovery).

CLASS E - Tank System Repair and Testing – MTA LONG ISLAND RAIL ROAD (LIRRD)

- Annual functionality, Line Leak detectors & Mechanical Overfill test
- Testing and repair of line leak detectors, overfill prevention valves, fill ports, spill buckets, secondary containment piping and sumps.
- Repair, upgrade, testing and new installation of oil water separators including all ancillary equipment.
- Helium Pin Point testing (locating leaks in secondary piping) as needed
- Hydrostatic and pressure testing of primary lines as needed.
- Repair, and/or modify tanks, manways, openings, as well as modifications to accommodate new equipment.
- Modify above and below grade piping systems to accommodate changes of equipment and installation of new devices on the systems and provide as-built drawings/plans as requested. If needed and requested, Vendor shall file the new installation/upgrade with NYSDEC and FDNY including all necessary drawings/documents
- Repair/replace piping, valves, check valves, fittings, penetrations, etc. in tank manways, pump rooms and filter rooms.
- Troubleshoot and replace or repair various pumps or pump systems (diesel, gasoline, heating oil, water, antifreeze, etc.) including mechanical line leak detectors.
- Repair / replacement of fiberglass piping, primary and secondary, as well as the associated flexible connectors as required
- Fill box repairs/replacement or modification to update/accommodate new equipment.
- Tank Cleaning, product transfer/disposal that may be required to carry out any of the above.
- New electrical installation, Troubleshoot, repair, upgrade of electrical control of tank systems and ancillary components as requested, work must be supervised by a master license electrician.
- Perform design work including preparation of filing drawings to FDNY, signed and sealed by a professional engineer and preparation of as-Built drawings.
- A daily service report must be provided to on-site personnel after each service/testing. In addition, an electronic copy of daily service report must be sent to the Project Manager within one (1) business day after completion of each service/testing.
- **High Early Strength Concreate:** High early strength concrete shall contain type Ill Portland cement in ready mix or site batch. The compressive strength of concrete shall be 4,000 pounds per square inch after 72 hours' cure. The design mix shall be subject to the approval of the Project Manager. Rods and bars shall conform to ASTM A616, grade 60 or as required by the LIRR standards.
- The Contractor shall be required to provide proper equipment and tools to perform the work in street, roadway and sidewalk.
- Dispenser repair/replacement as needed. Contractor must be an Authorized Service Contractor (ASC) / Distributor in the following:
    - Gasboy

  - Veeder Root
  - Red Jacket
  - Signage replacement as needed
  - Manhole & fibrolites covers repaired/replaced
- If needed and as directed by the PM the Contractor shall provide and install temporary steel cover plates suitable to withstand traffic loading and shall, as required, relocate, remove and/or adjust the location of the cover plates after placement at the job site. Temporary steel cover plates shall be secured in place, if required, by means of strap welding. The Contractor shall provide caution tape, safety cones, netting, safety fencing, etc., for open excavations. When at such time the Work continues, up to and until completion, the Contractor shall again erect, remove, relocate and/or adjust the location of the caution tape, safety cones, netting, and safety fencing, etc., to maintain the job site as required for the work.

Special Note on Concrete demolition over tanks and piping in the LIRR sites:
Concrete demolition over tanks and piping in the LIRR sites/facilities shall be performed via saw cutting the affected areas and removing concrete in "cubes" to minimize vibration related damage from heavy hydraulic demo hammers. It is also acceptable to utilize manually operated air and electric driven chipping hammers (jackhammers) to perform concrete demolition over tanks and piping. Backhoe mounted hydraulic demo-hammers are not acceptable in demolishing concrete. During the demolition, Contractor shall follow all OSHA requirements to minimize dust conditions.

103-C: Repair Services

Repair Service shall be performed by an employee of the Contractor, who is fully trained and certified in the operation and maintenance of the equipment to yield satisfactory equipment performance. For all repair service, the Contractor shall invoice based on the service's on-site time and materials, with the mark-up rate as set in the contract price schedule.

- **Emergency Repair Service:** As determined by the Project Manager and/or his/her designee, in the event of an emergency, the contractor shall ensure the availability of adequate qualified personnel at all times to provide repair service within four (4) hours upon notification (verbal/written) by Project Manager or his/her designee, twenty-four (24) hours a day, 365 days a year. The contractor shall provide all necessary labor, tools and materials to complete the task. The Contractor is to maintain a twenty-four-hour, seven days a week service/emergency "call in line" utilizing a NYC or Long Island area code or a toll-free telephone that is staffed by technically qualified personnel employed by the contractor. The Contractor must provide the emergency contact number to the Project Manager as soon as the Notice of Award is received.

- **Non-Emergency Repair Service:**
  - **Site Survey:** As directed by Project Manager, the contractor shall schedule a field visit to prepare a scope of work and estimate, no work to be performed. The contractor must schedule the survey within one (1) business day upon receiving

the request (written/verbal) from Project Manager or his/her designee. The cost for each survey is listed in Contract price schedule which include everything (i.e. labor, plumbing track, draft drawings, cut-sheet, travel, tools, parking, tolls, administrative cost etc.) to complete the scope of work and price estimate. The contractor shall submit the proposal within two (2) business days from the date of survey. Upon approved by Project Manager, an official Notice to Proceed (NTP) will be issued to the Vendor. The Contractor must schedule and start the work within three (3) business days or as directed by Project Manager after received the NTP.

- **Work Order:** The Project Manager shall request a survey/repair/testing service throughout the contract term. All requests will be sent with a work order number including a description of the issue/work/scope. Upon receiving the work order request (verbal/written), the contractor shall schedule the work within one (1) business day. The contractor shall resolve the issue within same day and a NTP will not be required. For any reason, if the issue can't be fixed within same day or scope is different than the work order, then the Contactor **must** submit a written proposal to the Project Manager within one (1) business day to repair/resolve the issue. If the PM disagrees with the estimate, then the PM shall request (verbally/written) a revised cost proposal from the contractor, the contractor shall furnish its revised written estimate, which shall be reviewed by the PM for approval. Upon approval by Project Manager, an official Notice to Proceed (NTP) will be issued to the Vendor. The Contractor must schedule and start the work within three (3) business days after received the NTP.
- The contractor is responsible to track (service time/materials) each project and update Project Manager in a timely manner. If the Scope of Work changes during the course of the project, which necessitates an unanticipated increase in the Contractor's costs, then the Contractor shall advise the PM of the reason for the increase. The PM shall have the final determination whether such an increase is reasonable. The PM may direct completion of the initial Work Order or shall deliver to the Contractor a change order for the additional work.
- The Contractor proposal may include but not limited to the following:
  - Work Order number, Location of the site
  - Tank numbers and products
  - date and time of survey/inspection, if applicable
  - Description of work to be done (site sketches as required by PM)
  - All required labor, material, equipment and testing cost, in accordance with the price schedule (all costs shall be provided in sufficient detail as required by the project manager). Contractor **must** indicate the line item number which are listed in price schedule
  - Time and completion of work (number of days).
  - List of subcontractors, if applicable
  - If decided by the Project Manager, the scope of work may also include design and PE sealed and signed drawings showing all the proposed

upgrades and installed equipment. The contractor is to provide three (3) hard copies of all the drawings (sealed & signed by PE) and a pdf copy, in addition, an electronic copy in CADD format (if requested)

- Supply cut-sheets, equipment/material pricing as requested by the Project Manager.

103-D: <u>Testing Services</u>

As directed by Project Manager, the Contractor shall perform a scheduled testing to all underground diesel and gasoline petroleum tank systems and/or as needed to all other LIRR tanks systems (AST/UST). The unit cost for each test is listed in Contract price schedule section which include everything to complete the test i.e. labor, plumbing truck, tools, parking, tolls etc. If any additional work needs to be done in order to pass the test, then the contractor shall proceed (with Project Manager approval) with the repair on the same day. In this case, the Contractor shall invoice <u>only</u> the additional hours & materials to complete the repair in addition to the unit price (test) which will cover the cost for additional repair. If the repair can't be done within the same day, then the Vendor shall send a written proposal to the Project Manager and follow the repair procedures as descried in section 103-C. A list of testing follows:

1. **Functionality, Line Leak detection & Mechanical Overfill Test (Annual):** As required by Project Manager, the Contractor shall perform an Annual Functionality & Mechanical Overfill test in approximately 10 locations (about 22 tanks) including line leak detection test in only 2 locations (5 tanks). As requested by Project Manager, the Contractor must send a schedule for all locations within one (1) business day to perform the test. The test must be scheduled within two (2) weeks from the original request date. The scope of work may include, but is not limited to the following:
   - Veeder Root certified technician shall perform the tests. The technician must notify the Authority's third party Veeder Root monitoring service (e.g., Sprague Oil) before and after testing is conducted. Print out the system configuration on the Veeder Root console before and after testing which must be included with the daily service/test report.
   - Ensure & test tank that system electronic and mechanical components are installed and operating in accordance with manufacturer's specifications and/or FDNY regulations:
     - Monitoring system configuration
     - Battery back-up for monitoring systems
     - Tank probes
     - Leak sensors, confirm configuration mapping of sensors and verify the sensor are correctly labeled to indicate their locations
     - Shear/check valves
   - Test & ensure Emergency devices (ESDs) are in good operation. The ESDs are include but not limited to the following:
     - Ensure the system in fully powered, in normal operating condition

        - Activate ESD
        - Ensure power has been disconnected from dispensers, pumps, power/control/signal circuits and all other non-intrinsically safe electrical equipment in the classified area.
        - Reset the ESD
    - Ensure power has been reestablished and ESDs are labeled
    - Contractor must provide the report, testing result, checklist including but not limited to the following: location, PBS certification number, tank Id etc. This report must be provided within same/one business day after each test.
    - If needed, affidavits shall be provided to the FDNY to remedy violations issued during functionality tests.
    - **Line Leak Detector (LLDs):** some of the LIRR tank systems are suctions line systems when only few locations have the discharge systems. Vendor shall perform a line leak detections test in these locations.
    - **Mechanical Overfill Test:** The contractor must perform an annual testing on the Mechanical Overfill protection system by following all local, states, federal guidelines.

2. **Functionality Test Witness by FDNY (every 2 years):** As directed by Project Manager, the Contractor must schedule with FDNY to perform a 2 years' functionality test. Contractor shall perform a pre-functionality test one week before the FDNY witness test. The Pre-Functionality test will follow the Fire Code on "functionality testing," and be performed to ensure the equipment is operational and will pass during the witness test. The scope of work shall include but not limited as described in section:103-D (1) section and/or as per FDNY requirements. The Mechanical Overfill test isn't required during the FDNY witness test but it must be performed during pre-test. The unit cost of FDNY witness test has been set in the Contract Price schedule.
   Note: any changes enacted to FDNY Rules (Fire Code) during the Contract term shall be enforceable at time of enactment.

3. **Hydro Test (every 3 years/as needed):** As directed by Project Manager, the Contractor must schedule the hydrostatic test for all LIRR diesel & gasoline UST tanks by following DEC guidelines. Depending on the site, the test includes single/double walled containment/tank sumps, dispenser sumps, fill port spill boxes. The unit cost for each item has set in the contract price schedule.
4. **Line Testing (as needed):** As directed by Project Manager, the contractor shall perform a line testing to all (primary & secondary) fill, discharge and suction line (pipes, spouts, vents, valves, fittings & connections). The test should follow all applicable local, state, City, codes, rules & regulations. The scope of work may include but is not limited to the following:
    - Barricade/secure the area of work to ensure safety
    - **Discharge Line:** The scope of work may include but is not limited to the following and/or as per manufactures recommendation or as directed by Project Manager:

- Isolate piping as required e.g. close the shear valve at the bottom of dispenser unit, remove the test port from the shear valve, and release the pressure from the pipe.
- Install line-testing equipment for the test
- Close the gate valve on the discharge pipe downstream of the pump
- Apply 1½ times above normal working pressure on the pipe.
- Hold pressure for one (1) hour as per Fire Department. If pipe passes the test, disconnect equipment, install the test plug back on the shear valve and open the shear valve.
- If the test passes, turn the pump(s) on and check if re-installed test plug isn't leaking. Remove barricades from working zone
- If the test fails, notify the Authority's site personnel and Project Manager. Isolate, secure and lock-out/tag-out of failed system and/or portions thereof, as directed by the LIRR. No additional Work can be performed, unless it was previously authorized or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

- **Non-Charged Line:** Perform pressure testing on any other piping (lines) that are non-charged, such as vent, fill, suction & stage 1 & 2 on gasolines systems as per manufactures recommendation and/or as directed by Project Manager. The scope may include but is not to limited to the following:
  - Disconnect the pipe from the tank inside the sump and plug it
  - Apply 20-psi hydro as per Fire Department on the line using the nipple at the beginning of the fill line. If line holds the pressure for one (1) hour, slowly release the pressure, reconnect the fill line and Authority will coordinate a product delivery, and the Contractor may be required to witness the delivery to make sure that line is not leaking at the place of connection.
  - If the test fails, notify the Authority's site personnel and Project Manager. Isolate, secure and lock-out/tag-out failed system and/or portions thereof, as directed by the LIRR. No additional Work can be performed, unless it was previously authorized or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.
- **Vent, Suction, Secondary or Stage # 1 or #2 Lines:** The scope of work may include but not limited to the following and/or as per manufactures recommendation or as directed by Project Manager.
  - Pipes shall be isolated from the tank farm (disconnect piping in sump pit).
  - Test with 20psi hydro as per Fire Department or another pressure as specified by ECMD for one hour (e.g. no greater than 5 psi for all secondary piping).
  - If pipe passes the test, disconnect equipment; install piping back to tank

system.

- If the test fails, notify the Authority's site personnel and the Project Manager. No additional Work can be performed, unless it was previously authorized or until the Contractor submits a written Work Order estimate and obtains a Notice to Proceed from the Project Manager.

5. **Precision Tank Testing (as needed):** As directed by Project Manager, the Contractor shall perform Precision tank testing to all LIRR tanks by following manufactures recommendations. The scope of work may include but is not limited to the following:
   - Perform a Non-Volumetric precision tank test using the New York State Department of Environmental Conservation (DEC) approved test methods and procedures.
   - A written report shall be submitted to the Authority for each precision tank test. The report shall include the information required by the DEC.
   - Barricade/secure the Work area to ensure safety
   - Measure tank for correct dimensions, product and water height.
   - Plug all openings on top of tank system.
   - Perform Tank Test as stated in DEC guidance, as a system test including the piping connected to the tank. If the tank system passes the precision tank test, remove all prior installed plugs and restore tank back to operating condition. If UST fails the test, Contractor shall notify the Authority's site personnel and the Project Manager. Isolate, secure and lock-out/tag-out the failed system and/or portions thereof, as directed by the LIRR. No additional Work shall be performed, unless it had been previously approved or until the Contractor submits an additional written Work Order estimate and it is approved by the Project Manager in a Notice to Proceed.
   - Restore system to normal operating condition including dispensing product from the dispensers to make sure the pressure has returned to normal operating pressure and flow rate.

6. **Helium Test (as needed):** As directed by Project Manager, the contractor shall perform the helium testing to all LIRR tanks by following all applicable City, State, local code, rules & regulations. The scope of work may include but is not limited as follows:
   - Barricade/secure the work area to ensure safety
   - Fill the annular space between the primary and secondary pipe with helium gas at low pressures, in accordance with the manufacturer's recommendations for piping pressures.
   - Drill holes through the concrete or pavement along the pipe run and sniff utilizing a helium gas detector to locate the helium; in order to narrow down the location of the leak, provide additional helium to the annular space as required. Use extreme care not to drill through buried conduits or damage the fuel pipes.

- Let the area clear of helium, and then re-pressurize the line with helium to see if the leak is still in the same location. Because this is not an exact test, the Contractor shall reconfirm the test by a double check of the location by re-testing.
- Restore the location to the original condition and remove and dispose of any waste or debris, in accordance with the terms of the Contract

7. **Ultra Sonic Test (as needed):** As directed by Project Manager, the contractor shall perform the Ultrasonic testing to all LIRR tanks by applicable Federal, New York State, New York City and LIRR policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the contract price schedule based on the tank size.

8. **Vacuum Test (as needed):** As directed by Project Manager, the contractor shall perform the Vacuum testing to all LIRR tanks by following all applicable Federal, New York State, New York City and LIRR policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the contract price schedule based on the tank size.

9. **Pressure Test (as needed):** As directed by Project Manager, the contractor shall perform the Pressure testing to all LIRR tanks by following all applicable Federal, New York State, New York City and LIRR policies, practices, rules, regulations and statutes, whichever standard is most stringent. The unit cost for this test has been established in the contract price schedule based on the tank size

10. **Gasoline Vapor Recovery Test (as needed):** As directed by Project Manager, the contractor shall perform the Gasoline Vapor recovery testing to all LIRR tanks by following all applicable Federal, New York State, New York City and LIRR policies, practices, rules, regulations and statutes, whichever standard is most stringent. A unit cost for this test has been established in the contract price schedule based on the tank size. An acceptable method for testing must be utilized for Stage I or II Vapor Recovery Systems in according to the NYSDEC regulations.

11. **Above Ground Tank System Integrity Testing/Inspections:** As directed by the Project Manager, the Contractor shall perform the integrity testing or inspection on the above ground tank system to all LIRR AST tanks. The scope of work may include but not limited to the following:
    - Perform an assessment and evaluation of aboveground tanks & piping systems and ancillary equipment in accordance with NYCRR 598.7 or applicable city, state, federal, local code to assess structural soundness & operability.
    - All testing must be performed by a qualified technician who is familiar with and trained by the manufacturer or a representative in the performance of the tests

- The inspection includes one or more of the following or as directed,
  - Visual structural inspection of representative sections of tanks and pipes for corrosion, thinning, and structural damage
  - Interstitial testing of ASTs in accordance with DEC acceptable standards
  - Inspection and assessment of all ancillary equipment such as gauges, pressure/vacuum safety valves, safety interlocks, flow valves and pumps for properoperation
  - If needed, Ultrasonic testing of tank wall thickness in accordance with the DEC acceptable industry standards such as Steel Tank Institute (STI)
- The contractor will prepare a report certified by an Engineer that will include results of tests and inspections, and report on the condition of piping, tank and ancillary equipment, expected life of services and need for repair

12. **Overfill Prevention System Testing (as needed):** As directed by the Project Manager, the Contractor shall perform Overfill prevention device testing or inspection for all LIRR tanks systems. This test is not part of the Annual functionality test as described above and the Vendor shall invoice as a regular repair service call as described in section 103-D instead of an additional test whenever required by the LIRR. The Contractor shall invoice for this test based on time on-site and materials being used with mark-ups rate as stated in the price schedule. The contractor must submit the supplier's receipt with the invoice packages.

13. **Interstitial Tank Space Testing:** In the event that the approved Work Order calls for Interstitial Tank Testing, the work to be performed may include, but is not limited to the following:
    - The Contractor shall test the interstitial tanks with pressure as per manufacturer's instructions, EXCEPT IN CASES WHERE THE INTERSTITIAL SPACE IS FILLED WITH BRINE. Contractor will be responsible for the removal of and restoration of the interstitial sensors the day of testing.
    - Install testing manifold on interstitial riser and connect other end to primary regulator. Attach air compressor to primary to supply 5 psi and hold for thirty (30) minutes. Never connect air compressor directly to the annular space.
    - Restore the tank farm including the removed sensors in their original positions and check the Leak Monitoring system for alarms.
    - Test results shall be forwarded to the Project Manager within one (1) working days.
    - The contractor shall invoice for this test based on time on-site and materials being used with mark-ups rate as stated in the price schedule. The contractor must submit the supplier's receipt with the invoice packages.

CLASS E - Tank System Repair and Testing – MTA LONG ISLAND RAIL ROAD (LIRRD)

103-E: Removal and Disposal

- **Unusable Petroleum Products or Water:** As required by the project manager, the Contractor shall remove, transport and dispose of any unusable liquid petroleum product (e.g., lube, diesel, heating oil - contaminated), contaminated water/petroleum product from the tanking system (including fill box, tank sumps, fuel tanks, dispenser sumps, etc.). In addition, tank bottom sludge shall be removed as part of this task. Cost will be assumed to be the same unit price for removal of any sludge along with the liquid petroleum product. In addition, all water used for hydrostatic tests (fill spill buckets, tank and dispenser sumps, etc.) shall be removed and disposed of from the site at no additional cost to the LIRR.

  The Contractor shall provide all labor, equipment, trucks, drums, tools and other apparatus necessary to remove various quantities of heating, lube oil, waste oil, or other petroleum products, water from the LIRR's storage tanks/sumps, on an as required basis when determined by the Project Manager. The Contractor shall be responsible to provide all permits and certifications as required by Federal, State, or Local law to perform the work. Per gallon unit cost should be used to complete (as describe above) the task, however, the labor charges (removal of covers, access to tank, etc.) for the contractor on-site, will be processed hourly as per the labor rates in the price schedule. The Contractor can use any method to remove/dispose the product by following all applicable code, rules & regulations.

  Note: If the unusable petroleum products/water are removed from the tank itself then the LIRR will pay for the Vacuum truck in addition to the per gallon rate. In this case, Vendor must provide a written approval from Project Manager. All other removal will be charged based on per gallon rate as stated in the price schedule.

- **Contaminated/Non-Contaminated Soil/Concrete/Fill:** As required by the project manager, the Contractor shall remove, transport and dispose of any Contaminated/Non-Contaminated Soil/Concrete/Fill from the job site. The unit cost per cubic yard has been listed in the contract price schedule section. The unit cost shall include everything including p truck, labor, travel, tolls, parking etc. to complete this task.

- Packaging and transportation of flammable waste must be in accordance with the New York City Fire Prevention code. All vehicles must have permits and drivers must have certificates of fitness issued by the New York City Fire Department of transporting combustible material. In addition, any similar local requirements for areas outside New York City through or to which the waste will be taken must be compiled with.

103-F: Transfer of Usable Petroleum Products

Transfer to another the LIRR facility: In the event that the approved Work Order calls for the transfer of usable petroleum products, the scope of work shall include, but not

be limited to the following technical specifications for the transfer of usable petroleum product from any LIRR facility to any facility as directed by the Project Manager, within the geographical area serviced by the LIRR.

- Usable product shall be removed from the tank by means of a vacuum tanker truck designed for this purpose. All components of the pumping system shall be explosion proof and non-sparking.
- The Contractors truck shall be clean and free of any product previously contained in the tank. The driver shall open all inspection ports for visual inspection by the Project Manager before beginning any work.
- The suction nozzle shall remain a minimum of 4 inches from the bottom of the tank. The remainder of the product shall be considered unusable and will be disposed of separately.
- The product shall be transferred to the designated location and delivered to the tanks designated by the Project Manager; the product shall be delivered through the tanks fill port/box.
- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to remove the fuel.
- The Contractor shall have proper shipping manifests with signature space for the on-site supervisor from the original location and a signature space for the receiving location. The manifest shall also include the volume of fuel being transferred. All signatures are required before payment will be made.
- Product may also be transferred from one tank to another at the same site. The method shall be approved by Project Manager prior to commencing.
- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed- The Contractor must supply all equipment required to perform this work.
- The Contractor shall be responsible for all spills related to any portion of his work. (The Contractor must have a written spill response plan approved by the Corporate Safety Department before beginning any work.) The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.
- The Contractor must have all necessary permits reviewed and approved by the Corporate Safety Department.

Transfer from tank to tank within the LIRR facility: In the event that the approved Work Order calls for the transfer of usable petroleum products between tanks within a facility, the scope of Work shall include, but not limited to the following technical specifications:

- Usable product shall be removed from the tank by means of pump and hose designed for this purpose. All components of the pumping system shall be clean, explosion proof and non-sparking.
- The suction nozzle shall remain a minimum of four (4) inches from the bottom of the tank, unless otherwise directed. The remainder of the product shall be considered unusable and will be disposed of properly.

- The product shall be transferred to a tank designated by the Project Manager. Unless otherwise directed, the product shall be delivered through the tanks fill port/box or a suitable opening.
- The contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to transfer the fuel.
- If the Contractor must enter a manway to perform the removal, all applicable confined space entry procedures must be followed. The Contractor must supply all equipment required to perform this work.
- The Contractor shall be responsible for all spills related to any portion of the Work. Contractor must have a written spill prevention/response plan approved by the Corporate Safety Department before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

103-G: Invasive and Non-Invasive Tank Cleaning

- **Invasive Tank Cleaning:** Tank cleaning invoices will be based on time, material & equipment on site. In the event that the approved Work Order calls for it, the Contractor shall clean and removal of petroleum product/sludge from tanks at any LIRR facility including facilities of affiliates and subsidiaries as directed by the Project Manager. The scope of work may include but not limited to the following:
    - The Contractor shall have proper shipping manifests to transport any waste/hazardous waste material. Copies of the manifests shall be supplied to the Project Manager not later than the day following their preparation. Hazardous Waste Manifests must be signed by Corporate Safety Department Personnel.
    - The Contractor shall have documentation of acceptance of waste materials by a facility legally permitted to treat or dispose of those materials. Such documentation shall be supplied to the Project Manager within seven (7) days following delivery to the site. In addition, a letter of intent from the facility and hauler acknowledging agreement to accept the waste material shall be furnished to the Engineer not more than fourteen (14) days prior to transporting any waste material.
    - The Contractor must follow all applicable confined space entry procedures in order to enter any tank to perform the required cleaning. The contractor must supply all equipment required to perform this work.
    - The Contractor must obtain at his own cost all necessary permits required by NYCFD, NYCDEP, NYSDEC AND EPA for the subject work. All permits must be submitted, reviewed and approved by the LIRR's Corporate Safety Department.
    - All tank work must be performed by licensed tank installers.
    - The Contractor upon award of the contract shall supply to the Project Manager for approval, all procedures related to all phases of work under this contract before any work is permitted to begin.
    - Usable product shall be removed from the tank as per the applicable specification for product transfer, before the tanks are to be cleaned

CLASS E - Tank System Repair and Testing – MTA LONG ISLAND RAIL ROAD (LIRRD)

- The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access the tank(s) for cleaning.
- The Contractor shall gain access to the tank(s) via the existing manway covers. The Contractor shall be responsible for the removal of any piping, valves, floats, electronic equipment, suction lines, bolts, manway covers and gaskets encountered. Upon completion of the work, all equipment must be returned to its original operating condition. All manway gaskets must be replaced with new gaskets. The reuse of old gaskets is not permitted.
- All product in lines shall be drained back to the tank where possible or shall be removed from the lowest point of the piping. All products in the lines shall be removed and disposed of as sludge.
- The tank and all associated piping shall be purged of flammable vapors before entry to the tank can be made. Purging of the tank shall be by the use of steam, inert gas or another approved method. If steam is to be used for either purging or cleaning the tank or piping, the discharge nozzle and all conductive insulated object subject to impingement or condensation shall be bonded to the tank or be grounded to prevent static charge build up. If solid carbon dioxide (dry ice) is used it shall be crushed dry ice introduced into the tank and evenly distributed at a rate of 1.5 lb. per 100 gallons of tank volume. Vapor removal can also be accomplished by the use of an agitator type air mover driven by compressed air or class 1, group D type electric motor. In all cases the vapor shall be discharged at a minimum of 12' above grade level. Where tanks are located indoors the vapor is to be vented to the exterior of the building.
- The interior of the tank shall be tested for LEL, VOC, Hydrogen Sulfide, Carbon Monoxide and oxygen content prior to any entrance to the tank. The tank shall be tested at least three (3) different levels; top, middle, and bottom. Work will not proceed until readings are below 10% of the LEL. Monitoring shall remain continuous while work is being performed in the tank. Personnel entering the tank shall be required to wear personnel air quality monitors at all times. Continuous ventilation of the tank shall be maintained while personnel are inside performing any work. Proper levels of breathable air must be maintained in the tank at all times while work is in progress. If this is not possible the person entering the tank must have a continues supply of air from an approved breathable air compressor or a SCBA.
- The tank/piping shall be cleaned by the use of high-pressure rinse or other approved method. All sludge shall be removed by means of a vac truck or stored in new 55 gal. Drums. If drums are used, they shall be sealed watertight to prevent water infiltration or leakage of the contents. Drums shall be labeled in accordance with all applicable state and federal regulations and removed upon completion of the work.
- Upon completion of the cleaning work the tank shall be sponged or mopped dry to ensure no residual water or product remains. All cleaning materials must be properly drummed and disposed of by the Contractor.
- Upon completion of all work, if directed by Project Manager, the Contractor shall perform a tightness test on the tank and associated piping to insure tank tightness. Approved methods are Vacutect, Petrotite or other methods

approved by the LIRR. The contractor will also be responsible for re-priming the entire system and placing it back in proper working order.

- The Contractor shall be responsible for all spills related to any portion of his work, the contractor shall have a written spill response plan submitted and approved by the Corporate Safety Department before beginning any Work. The contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

- **Non- Invasive Tank Cleaning:** Tank cleaning invoices shall be based on time; material & equipment is being used. The scope may include but is not limited to the following:
  - The Contractor shall have all necessary tools and manpower to remove manhole covers and any tank fittings to access tank(s) for the purpose of non-intrusive tank cleaning and fuel filtration utilizing agitating push-pull fuel circulation, filtration, and waste removal.
  - The Contractor shall gain access to the tank(s) via existing manway covers. The Contractor shall be responsible for the removal of any piping, valves electronic equipment, suction, lines, bolts, manway covers, and gaskets encountered. Upon completion of the Work, the contractor shall field-test "cleaned fuel" to ensure quality, and all equipment must be returned to its original condition. All manway gaskets must be replaced with new gaskets; reuse of old gasket is not permitted.
  - The Contractor shall provide all equipment including, but not limited to, fuel pumps, hoses, agitating circulation wands, filters, waste-it drums, box truck for on-site equipment mobilization, storage, and transport.
  - The Contractor shall be responsible for all spills related to any portion of their Work. The Contractor shall have a written spill prevention/response plan submitted and approved by Corporate Safety before beginning any Work. The Contractor will be responsible for all costs associated with any spills, its clean up and proper disposal of all waste.

103-H: Confined Space Entry:

Contractor and it personnel shall adhere to OSHA and to the LIRR Confined Space Entry Program requirements or up-to-date procedures prior to entering the tank, sump etc. Containment sumps shall be considered a confined space when either of the following limits exist, measured in the stated sequence, at any point of the storage tank sump:

- Atmospheric Oxygen level of sump space is less than 19.5% or greater than 23.5%
- Lower Explosive level is greater than 10%.
- Carbon monoxide is more than 35 PPM
- Hydrogen sulfide more than 10.0 PPM or When the proposed work introduces toxic or explosive environment.
- Volatile Organic Carbon / action level determined chemical of concern.

Note: Air monitoring must be performed prior to entry to the tank sump and the tank sump must be monitored continuously while a person is working within the space.

Should the space contain air that is unsafe to breathe or present other safety hazards, controlling contractor shall use the procedures specified in OSHA's confined space regulation, 29 CFR 1910.146 paragraph (c) (5) (ii) for entering sumps. The controlling contractor must share

information with each entry employer (subcontractor) entering the space. Controlling contractor shall coordinate the activities of entry employers when multiple entities are either in the same space or their activities might conflict and introduce a hazard.

104. PROVISION OF PARTS

The Contractor shall utilize only OEM-authorized and/or as directed by Project Manager components/parts/grease/lubricants for installation/inspection/repair of equipment and supply a detailed listing of all parts installed in equipment on a *task-by-task* basis.
All parts/materials that been used MUST be documented on Contractor Daily Service Report and signed/initials by the LIRR Field Personal. Invoice for each part/ material must be submitted along with invoice to the Project Manager.

Note: Parts/Materials must be authorized by the LIRR before using. If needed, Contractor is responsible to provide Material Safety Data Sheet (MSDS) / Safety Date Sheet (SDS)

105. QUALITY ASSURANCE PROVISIONS

- Prior to rendering testing /repair services, the Contractor shall familiarize itself with the LIRR work environments. Any deficiencies, malfunctions and safety hazards identified during the equipment testing procedures shall be immediately documented and corrected for the Project Manager's approval prior to being released.
- Should the equipment require further assessment and/or repair at the Contractor's facility, the associated de-installation/pick-up/delivery/reinstallation expenses shall be completely borne by the Contractor (at no cost to the LIRR) with an approval by Project Manager.
- It is imperative that all equipment be inspected/testing/maintained/repaired in a professional manner in order to comply with performance criteria set forth by OEM and adhere to the New York State Department of Labor's Code; EPA & DEC code, rules & regulation; the LIRR's rules, policies, programs, and procedures.
- All workmanship, parts and materials furnished for all the WORK shall be unconditionally warranted against failures or defects for a period of one year after the Unit is placed in service. The Contractor shall accept the LIRR's records with respect to the date the Unit was placed in service. In the event that any work covered by the warranty provisions fails during the warranty period, the Contractor shall repair or replace the work within One (1) business day with NO extra cost /expense to the LIRR.

106. SUBCONTRACTS

- The Contractor may designate a Subcontractor for some SPECIAL work with a prior approval by the LIRR Project Manager.
- Before effecting any subcontractor for any portion of the project, the Contractor shall provide in writing to the LIRR the name of the subcontractor, the portion of the work, which such Subcontractor is to furnish, the place of business of such Subcontractor, and such other information as the LIRR may require. There shall be no award of any subcontract unless and until the proposed Subcontractor has been approved by the LIRR.

- The Contractor shall fully and completely inform the Subcontractor of all provisions and requirements of this contract relating either directly or indirectly to the work to be performed and the materials to be furnished under such subcontract. Every subcontract shall expressly stipulate that labor performed and materials furnished shall comply with the requirements of this contract.
- In order for Subcontractor to qualify, the Subcontractor, in addition to the other requirements, shall prove to the satisfaction of the LIRR that they have the necessary licenses and/or certifications, facilities, skills, experiences, and ample financial resources to do the work in a satisfactory manner. To be considered skilled and experienced, the Subcontractor shall show that they have satisfactorily performed work of the same general type, which is required under this contract. The LIRR may require a Subcontractor to submit proof of qualification to do the work.
- Upon approval by the Project Manager, the Contractor shall invoice the LIRR with the Subcontractor work with a percentage (%) mark-up as stated on Contract Price schedules.

107. INVOICING

This is a time & material base contract, if there is not a unit price for a specific service such as testing the tank, the invoice will be processed based on time on site and the material to accomplish the work (no travel or parking). Invoices MUST be submitted to the LIRR Project Manager with all Back-ups for review and approval. Only after approval by the Project Manager may a copy of the invoice be sent to the MTA BSC. All billing must occur in a timely manner upon completion each service. The invoice shall be itemized; the labor names, titles and rates as provided in the price schedule, time in & out (hours), contract details (Contract name & ID, PO #, NTP # if any), cost of parts and materials, percentage (%) markup or discount for parts and materials, and brief description of the work that was performed. In order to get payment, copies of supplier's invoices for all parts must be submitted to the Project Manager along with the invoice for his/her approval. The Contractor shall submit a copy of certified pay roll & complete 1269-G Form with each invoice.

CLASS E - Tank System Repair and Testing – MTA LONG ISLAND RAIL ROAD (LIRRD)

Attachment #1

	Estimated LIRR Tank List > 1,000 gallons		
Number	Location	No. of Tanks	Type of Tank
1	Morris Park Yard	10	Lube Oil, Used Oil, Diesel
2	Long Island City Passenger Yard	2	Lube Oil, Diesel
3	Richmond Hill Yard	4	Lube Oil, Diesel
4	Hillside Maintenance Facility	7	Used Oil, Diesel
5	Port Jefferson Yard	3	Used Oil, Diesel
6	West Side Yard	5	Used Oil, Diesel
7	Harold Interlocking	2	Diesel
8	Holban Yard	7	Used Oil, Diesel, Gasoline, Kerosene, Heating Oil
9	Jamaica Station	2	Diesel
10	Valley Stream Yard	1	Diesel
11	VD Yard	1	Diesel
12	Mid-Suffolk Yard	3	Diesel, Gasoline
13	Mid-Day Storage Yard	1	Diesel
14	LIRR Madison Yard	5	Diesel
15	JCC	2	Diesel
16	Arch Street Yard	1	Used Oil
17	Penn Station	1	Diesel

Note: Above Tank's list is only for solicitation purpose, the LIRR- has right to add or delete any tank or location at any time during the term of this contract. Most tanks which are listed here are > 1000 gals; beside these listed, there are many small/day tanks that exist in the system