

**ITEM 04202.0499nn M - ABANDONMENT IN PLACE OF UNDERGROUND
PETROLEUM STORAGE TANKS**

A. DESCRIPTION

This work shall include the excavation, cleaning, purging and filling necessary for in place abandonment of petroleum storage tanks. It shall also include soil sampling and disposal of the wastes generated by tank cleaning.

B. MATERIALS

Clean sand.

C. EQUIPMENT

The Contractor shall supply one HNu Model 101 or a comparable model photoionization detector (PID) capable of detection of 0.2 ppm general organic vapor levels and one MSA Progard Multigas Detector or a comparable model explosion meter capable of monitoring the lower explosion limit (LEL) and oxygen. Both instruments shall have carrying cases, operating instructions, and all related equipment for operation and necessary calibration of the instruments.

D. CONSTRUCTION DETAILS

All of the Contractor's operations shall be performed in accordance with all applicable Federal, State, County and local rules and regulations.

1. Locations and Quantities

The locations and sizes of underground petroleum storage tanks to be abandoned in place are identified in the contract documents.

2. Pre-Abandonment Activities

a. Health and Safety Plan (HASP)

A HASP shall be prepared in accordance with the Standard Specifications as amended, Section 107-05A and shall include the following: name and address of the HASP preparer; site name and map; description of work; key personnel; training as per 29CFR1910.120 (E) (4); hazardous substance evaluation - types of chemicals; hazard assessment - physical and toxic effects; tank atmosphere monitoring procedures; PID monitoring procedures; personnel protective clothing (PPC) and equipment (PPE), disposal of PPC and PPE; safety rules; explosivity action levels; emergency procedures; emergency contacts and phone numbers; and directions to the hospital (with map).

b. Notifications

Within 30 days prior to the abandonment in place of each tank, the Contractor shall notify the appropriate regional New York State Department of Environmental Conservation (NYSDEC) office and the local fire department, in writing, of the scheduled work dates and locations. Copies of this correspondence shall be provided to the Engineer.

c. Waste Transporter and Disposal Facility Identification

Prior to starting work the Contractor shall identify the NYSDEC permitted Waste Transporter that will transport off-site petroleum contaminated or hazardous

**ITEM 04202.0499nn M - ABANDONMENT IN PLACE OF UNDERGROUND
PETROLEUM STORAGE TANKS**

wastes generated by the tank abandonment. The Contractor shall also identify the disposal facilities to which these materials will be shipped. If any product will be recycled, the proposed method shall be identified. The identified Waste Transporter, disposal facilities and recycling methods shall be submitted to the Engineer for approval prior to starting any work.

2. Emptying Tanks and Lines

Tanks and connecting lines shall be completely emptied. All product obtained shall be either disposed of in accordance with all applicable regulations or recycled at the Contractor's option. All water and tank bottoms obtained from this operation shall be disposed of in accordance with all applicable regulations. During the emptying operation the following restrictions shall apply:

- a. Smoking shall be banned in the area.
- b. All open-flame and spark producing equipment within the area shall be shut down.
- c. All electrical and internal combustion equipment, unless it is designed to be "explosive proof", shall be removed from the area.
- d. Only "non-sparking" tools shall be used.
- e. Static electricity shall be controlled.
- f. The work area shall be secured.

3. Lines

The fill (drop) tube shall be removed from the tank. The fill, gauge and product lines shall be disconnected from the tank. Open ends of lines which will not be used further shall be securely capped or plugged. Manways shall be securely fastened in place. The vent line shall remain connected until the tank is filled.

4. Cleaning Tanks

The tank interior shall be cleaned of all residue and product using as little water as possible. The Engineer will inspect all tanks to determine whether they have been successfully cleaned. All wash water and waste solids generated by the cleaning operation shall be transported and disposed of in accordance with applicable laws.

5. Purging

The Contractor shall distribute a minimum of one kg of crushed dry ice for each 500 liters capacity in the tank. Purging shall continue until the readings from the explosion meter indicate that a safe and non-explosive tank atmosphere has been achieved as evidenced by readings less than ten percent (10%) of the lower explosive or flammable level at all elevations within the tank. Abandonment work shall be progressed diligently and expeditiously without interruption until its completion. The explosion meter shall be used to take subsequent readings periodically or continuously as directed by the Engineer. If any reading indicates a dangerous level is approaching, work shall cease, and additional dry ice shall be introduced into the tank until safe conditions are restored to all levels within the tank.

6. Excavation of Tanks

**ITEM 04202.0499nn M - ABANDONMENT IN PLACE OF UNDERGROUND
PETROLEUM STORAGE TANKS**

An excavation as deep as the bottom of each tank shall be dug along the length of one side of each tank. Excavation shall be kept to the minimum practical needed to perform the work. The Contractor shall be responsible for any costs associated with excavation beyond the minimum practical, as determined by the Engineer. During all excavation trained personnel experienced in air vapor monitoring shall use the PID to continuously monitor the soil being excavated. If any of the following are observed: PID readings that are greater than five (5) parts per million (ppm) above the naturally occurring background at the specific work site (as established by the air monitoring personnel) or soil which is stained, discolored or odorous as determined by the Engineer, work shall stop and the Engineer will inform NYSDEC of the situation.

7. Soil Sampling and Analysis

All sampling shall be performed by personnel trained in sampling protocols using standard accepted sampling practices for obtaining representative samples. Two grab soil samples shall be taken at each tank from a depth equal to the bottom of the tank. One sample shall be taken at each end or on each side of the tank. Each soil sample shall be analyzed for Method 8021 volatiles plus MTBE and Method 8270 semivolatiles. Both analyses shall be run on the TCLP extract. All analyses shall be performed within 10 working days of sample collection by a NYS Department of Health approved laboratory certified to perform the specified analyses.

8. Filling Tanks

One or more large holes shall be cut in the top of each tank. The tank(s) shall be completely filled with clean sand so that no void space remains in the tank(s).

9. Disconnection of Vent Line

The vent line shall be disconnected and securely capped.

10. Site Restoration

The Contractor shall backfill any excavations with suitable material. These areas shall be restored to the condition shown on the Plans and as directed by the Engineer.

11. Closure Report

A closure letter shall be supplied to the Engineer within 10 business days of tank abandonment. The closure letter should include, at a minimum, the following information: description/map of tank location(s); tank size(s); name, address and telephone number of the tank contractor; copy of NYSDEC notification; date(s) of in-place abandonment; description of closure procedures; description of tank condition(s); description/map of soil samples; analytical results from soil sampling; volumes of all materials disposed of and recycled, copies of shipping papers/manifests from all wastes disposed of; and documentation of any product recycling.

E. METHOD OF MEASUREMENT

**ITEM 04202.0499nn M - ABANDONMENT IN PLACE OF UNDERGROUND
PETROLEUM STORAGE TANKS**

This work will be measured as the number of tanks abandoned in place in accordance with the provisions of this special specification.

F. BASIS OF PAYMENT

The unit price bid for the in place abandonment of tanks shall include the cost of all labor, materials, and equipment necessary to perform the work. Removing and disposing of contaminated soil, except that contaminated during the abandonment operations, will be separately paid.

Payment will be made as follows:

ITEM NUMBER	ITEM DESCRIPTION	PAY UNIT
04202.XXXXnnM	ABANDONMENT IN PLACE OF UNDERGROUND PETROLEUM STORAGE TANKS	UNIT PRICE (for each tank)

Note: nn denotes serialized pay item. See section 101-53.