

# UST-6

# APPLICATION TO INSTALL OR REPLACE UNDERGROUND STORAGE TANK SYSTEMS



EMAIL  
COMPLETED  
UST-6  
FORMS TO:

[ust-installation@deq.nc.gov](mailto:ust-installation@deq.nc.gov)

<http://www.wastenotnc.org/>

PHONE: (919) 707-8171

FAX: (919) 715-1117

NOTE: The UST-6, *Application to Install or Replace Underground Storage Tank Systems* form and all other related forms are available for download at <https://deq.nc.gov/about/divisions/waste-management/ust/forms>. The electronic format of this form incorporates dropdown menus and fillable fields, to aid in its completion, approval and overall clarity. In addition, when using the electronic version of the UST-6 form, the filled-out form used for the pre-installation submittal can be retained and used as the basis of the post-installation submittal.

## APPLICABILITY:

Owners and operators of regulated underground storage tank (UST) systems must submit a UST-6 form, *Application to Install or Replace Underground Storage Tank Systems*, prior to installing new UST systems. This includes installing new tanks, new piping, or extending piping at an existing site. UST systems used to contain a regulated substance include hazardous substances defined in CERCLA Section 101(14) and petroleum substances as defined in 15A NCAC 2N .0203.

### Regulated USTs include the following:

- USTs used to store or resell petroleum product (e.g. motor fuels, jet fuels, waste oil, kerosene, varsol, transmission fluid, mineral spirits, gasohol, etc.)
- USTs used to store heating oil for resale or for use off premises where stored
- Farm or residential USTs > 1,100 gals
- Emergency generator USTs
- Hazardous substance USTs > 110 gals (e.g., alcohols, naphthalene, dry cleaning fluids, antifreeze, formaldehyde, hexane, etc.)
- USTs used to store oils from a separate oil/water separator. Note: Complete oil/water separator systems packaged as a UST need to submit a separate UST-8 form

**Restrictions:** Restrictions on the installation and placement of regulated UST systems are as follows:

- No UST system or UST system component may be installed **within 100 feet** of a public water supply well as defined in 15A NCAC 18C.
- No UST system or UST system component may be installed **within 50 feet** of any other well used for human consumption.
- No UST system or UST system component may be installed where it would be in contact with contaminated soil or free product.

## PROCESS OVERVIEW

### Pre-Installation Phase:

STEP 1: Submit UST-6 (Pre-Installation) application to NCDEQ - UST Section for review and approval.

STEP 2: Upon receipt of UST-6 (Pre-Installation) application proposing the installation of new petroleum underground storage tanks (USTs), a UST permit invoice will be issued by NCDEQ - UST Section. (Applicable tank fees must be paid before NCDEQ will authorize the placement of petroleum product into USTs including a one-time fuel drop authorization. Current tank fees are \$420.00 per tank or tank compartment per year, but the exact amount due will depend on the date tanks are installed as well as the UST facility's placement within the annual permit billing cycle.)

STEP 3: Upon review and approval of the UST-6 (Pre-Installation) application, an installation approval letter will be issued by NCDEQ - UST Section.

### Installation Phase:

[Note: steps may vary depending on UST system components that will be installed]

STEP 4: Contact UST Inspector to request tank installation inspection.

STEP 5: Provide a copy of the tank manufacturer's installation checklist to NCDEQ - UST Section inspector documenting the UST installation date(s).

STEP 6: Contact UST Inspector to request piping installation inspection.

STEP 7: If product is required for UST system testing (post-installation), contact UST inspector to request a one-time fuel drop authorization.

### Post-Installation Phase:

STEP 8: Submit UST-6 form (Post-Installation) to NCDEQ - UST Section for Review and Approval.

STEP 9: Upon review and approval of UST-6 (Post-Installation), a standard UST operating permit will be issued. If the UST-6 is not fully complete but contains final testing results and other information critical to beginning safe operation, then a temporary operating permit will be issued for a period of about 60 days during which the applicant must file a complete application.

## PRE-INSTALLATION PHASE INSTRUCTIONS

Prior to the installation of any underground storage tanks or piping, the following items must be submitted to the NCDEQ – UST Section for review and approval:

1. A copy of the UST-6, *Application to Install or Replace Underground Storage Tank Systems*, to document the proposed installation work that will be completed. As this will be submitted as part of the pre-installation (UST-6A) review, complete sections 1-18 (pages 1-10) of the form. The post-installation (UST-6B) sections need not be completed at this time.
2. An 11" x 17" scale drawing signed and sealed by a North Carolina Professional Engineer detailing the proposed installation (see page 2 for additional information).
3. UST-6C, *Application to Install or Replace Underground Storage Tank Systems (Schedule of Materials)*, signed and sealed by a North Carolina Professional Engineer (see page 2 for additional information).
4. UST-15A, *Ownership of UST System(s)*.
5. Proof of Financial Responsibility along with the Certification of Financial Responsibility form (required only for petroleum UST systems)
6. Copies of manufacturer's installer certifications for each employee that will install equipment at this facility (if available at this time; however, must be provided to the inspector before a standard operating permit is issued).
7. Tank manufacturer's recertification checklist (Note: only required for "used" tanks that are proposed for reinstall).
8. UST-20, *Alternative Fuel / Hazardous Substances Compatibility Checklist* as necessary (see page 2 for additional information).

### PRE-INSTALLATION PHASE INSTRUCTIONS (CONT.)

The UST-6 form along with the required attachments should be submitted **at least 30-45 days** prior to the expected installation date of the underground storage tanks to the address at the beginning of this document. If you are unfamiliar with our installation review process or if you have an application proposing a complicated project, you should submit the application well in excess of 30 days.

Note: If you are planning a unique, complex or phased installation, it is recommended that you request a pre-application meeting with staff to discuss applicable requirements. Please call (919) 707-8171 to request a meeting.

Note: If you are installing more than four USTs at your site or piping for more than four USTs, then submit multiple copies of the UST-6 form as needed.

Once NCDEQ – UST Section receives your application, staff will review it and send you a letter notifying you that your application is acceptable and providing any additional instructions for you to follow during the installation of the UST system. Incomplete applications may be returned.

Upon receipt of the UST-6 (Pre-Installation), an invoice will be generated and sent to you for all petroleum UST systems. Applicable tank fees must be paid before NCDEQ will authorize the placement of regulated product into USTs including a one-time fuel drop authorization

Please retain a copy of the UST-6 form with all the pre-installation information filled out for your records. The UST-6 (post-installation) is used to document and certify the installation of UST system components as originally proposed on the UST-6 (pre-installation).

### PRE-INSTALLATION PHASE INSTRUCTIONS (UST SYSTEM DESIGN PLANS)

For all new UST system installations attach a copy of a UST system design plan signed and sealed by a North Carolina Professional Engineer (required by NCGS 89C-3). The design plan must be in accordance with 15A NCAC Subchapter 2N Section .0900 and include:

1. A scale drawing that is 11" x 17" (must be legible) showing the proposed location of the following UST system features. The UST facility drawing must encompass at least more than  $\frac{2}{3}$  of the page and have a legend listing the drawing's scale:
  - a. The name and address of the UST system site
  - b. Tank(s)
    - i. The capacity in gallons
    - ii. The diameter in feet
    - iii. The method of anchoring (describe if deadmen, a bottom hold-down pad or overburden are to be used)
    - iv. Tank ID from UST-6A form
  - c. Piping (including vent lines and tank manifold piping)
  - d. Dispensers
  - e. Leak detection system(s) with the intended monitoring points (including sensor and console locations)
  - f. Automatic line leak detectors
  - g. Flexible connectors (also indicate if this equipment will not be installed)
  - h. Vapor recovery
  - i. Containment sumps
  - j. Overfill prevention equipment (including the proper installation depth)
  - k. Spill prevention equipment
  - l. Cross-sectional figures for system components needing greater detail, such as transition sumps showing the specific location and configuration of UST system piping and associated components (e.g., solenoid valves, ball valves, breakaways, anti-siphon valves, etc.)
  - m. Adjacent roadways including the names of the roads;
  - n. Onsite structures and monitoring wells
  - o. Water supply wells within 500 feet of a UST system component (also indicate if there are no wells within 500')
  - p. Existing tanks and existing dispensers. Also, any other existing equipment related to the proposed work. Existing piping and UST systems not related to the proposed installation are not required to be shown.
  - q. Method for locating piping after installation. Detectible tape/wiring shall also include width (gauge) and installation depth.
2. A UST-6C, *Schedule of Materials* for the equipment to be installed at the site including the manufacturer, model/part number and quantity for:
  - a. Tanks
  - b. Piping
  - c. Piping components such as flex connectors
  - d. Leak detection equipment
    - i. Leak detection monitoring console
    - ii. Interstitial monitoring sensors (tanks, piping, spill buckets, containment sumps)
    - iii. Automatic line leak detectors (ALLDs)
    - e. Spill prevention equipment
    - f. Overfill prevention equipment
    - g. Vapor recovery equipment
    - h. Containment sumps
    - i. Detectable tracer tape or other method used to locate the piping once it is buried.

Note: The UST-6C, *Schedule of Materials* must be indexed (by item number) to the scale drawing and must be sealed by the NC Professional Engineer.

### PRE-INSTALLATION PHASE INSTRUCTIONS (ALTERNATIVE FUELS)


**NOTE:** If the UST system will store an ethanol blend greater than 10%, a biodiesel blend greater than 20% or hazardous substances, then you must document the UST system in your design will be compatible. You must complete a UST-20, *Alternative Fuel/Hazardous Substances Compatibility Checklist* form and submit it with your UST-6, *Application to Install or Replace Underground Storage Tank Systems*, form.

### PRE-INSTALLATION PHASE INSTRUCTIONS (BALLASTING TANKS WITH REGULATED PRODUCT)

If you desire to use a regulated substance as ballast once the proposed tanks have been placed into the excavation, please refer to the document "NC DEQ Guidelines for Approval of One-Time Delivery of Petroleum (For Ballasting Tanks During UST Installations/Replacement)" for further guidance.

**INSTALLATION PHASE INSTRUCTIONS****General Installation Guidelines:**

1. Contact the local fire marshal and building inspector.
2. Refer to 15A NCAC 2N "Criteria and Standards Applicable to USTs."
3. Refer to the manufacturer's installation instructions for equipment specific installation requirements.
4. Refer to the most recent versions of the following industry codes for additional tank and piping installation requirements:
  - a. American Petroleum Institute Publication 1615 "Installation of Underground Petroleum Systems";
  - b. Petroleum Equipment Institute Publication RP100 "Recommended Practices for Installation of Underground Liquid Storage Systems";
  - c. National Fire Protection Association 30 "Flammable and Combustible Liquids Code" and 30A "Automotive and Marine Service Station Code"; or
  - d. Other applicable industry codes.

 Prior to placing a petroleum substance into a regulated underground storage tank (UST), owners or operators must obtain an operating permit / authorization.

**INSTALLATION PHASE INSTRUCTIONS (INSTALLATION INSPECTIONS)**

During UST system construction, you will be required to have the installation of your UST system inspected by UST Section personnel. The following two phases of inspections are required:

1. Exterior tank surface inspection and tank integrity testing prior to placing tank into excavation (new tank installation only); and
2. Testing of all piping, fittings and containment sumps prior to back-filling. If detectable tape/wire has been approved to locate piping after installation, the approved equipment must be on-site for verification during this inspection.

The approval letter you will receive after you submit the UST-6 (pre-installation) application will list the inspector name and phone number for you or your designated representative to call to schedule the inspections. You are required to schedule this inspection a minimum of two work days (not including weekends or holidays) prior to the day you propose to commence the activity. Prior to finalizing the schedule of the installation activity, such as scheduling tank delivery and a crane, it is recommended that you contact the inspector one or two weeks in advance so that a mutually convenient inspection date may be arranged on or around your proposed date. Note that inspections cannot be scheduled for weekends or state holidays.

**INSTALLATION PHASE INSTRUCTIONS (TANK INSTALLATION NOTIFICATION)**

After any new UST is installed, please notify the NCDEQ – UST Section of the exact date of tank install, by submitting the partially filled out tank manufacturer's installation checklist to the UST Inspector.

**INSTALLATION PHASE INSTRUCTIONS (ONE-TIME FUEL DROP AND EXPEDITED TEMPORARY OPERATING PERMIT)**

If you need to obtain a "One-Time Fuel Delivery" for testing purposes after installation, please advise the inspector prior to the inspection date so this authorization can be coordinated during the inspection process (note that overfill and spill prevention equipment will need to be installed and tested). The following conditions must be met to receive authorization for a one-time fuel drop:

1. Installation inspections conducted by UST inspector, including physical inspection of containment sumps, must pass.
2. UST-22A, *Annual Overfill Prevention Equipment Operability Check* must be submitted to UST inspector for review.
3. UST-6D/23A, *Triennial UST Spill Bucket Integrity Testing* must be submitted to UST inspector for review.
4. All applicable tank fees must be paid for petroleum UST systems. If you have not already received an invoice, please call (919) 707-8171 to request a copy.
5. To qualify for an Expedited Temporary Operating Permit, the following additional information must be obtained prior to the end of construction and submitted to [UST-Installation@deq.nc.gov](mailto:UST-Installation@deq.nc.gov) for review:
  - a. UST-6-TOPR, *UST Post-Installation – Temporary Operating Permit Request*
  - b. UST-6E/23D, *Tank Installation/Triennial Testing* documenting that the tanks have been tested for tightness in accordance with the manufacturer's recommendations and found to be in good working order.
  - c. UST-6F/23B, *Triennial UST Containment Sump/UDC Integrity Testing* documenting that all containment sumps at the sites have been tested in accordance with the manufacturer's recommendations and are liquid tight and in good working condition.
  - d. UST-6H/23C, *Triennial UST Piping Integrity Testing* documenting that the buried piping has been tested for tightness in accordance with the manufacturer's recommendations, with the 3<sup>rd</sup> party primary line tightness test results and the contractor's secondary line tightness test results attached.
  - e. Line Tightness Test (LTT) results and data sheets.
  - f. Automatic Line Leak Detector (ALLD) test results and data sheets (if pressurized).
  - g. UST-22B, *Annual Leak Detection Equipment Operability Check* accompanied by console printouts documenting that all leak detection sensors are functioning properly and with the 3<sup>rd</sup> party automatic line leak detector (ALLD) test results attached.
  - h. UST-22C, *Annual Containment Sump Visual Inspections* documenting that all containment sumps have been installed properly and are in good working condition.
  - i. Leak detection console printout documenting the functionality of each interstitial sensor (e.g., vacuum, pressure, hydrostatic, liquid-detecting sensor). The sensor functionality tests, conducted in accordance with manufacturer's written guidelines, should consist of printouts documenting the status of each sensor
    - Normal / OK Status (Prior to Test)
    - Alarm (During Test)
    - Normal / OK Status (At the Conclusion of the Test)

**INSTALLATION PHASE INSTRUCTIONS (MODIFICATIONS TO UST SYSTEM DESIGN)**

Any minor modifications made to the approved design plan during installation must be approved in advance by a North Carolina Professional Engineer. Significant modifications require the approval of a revised UST-6 application by NCDEQ prior to continuing the installation. Upon completion of installation activities, the design plan and the UST-6C form must be revised to show any modifications that were made. The revised design plan needs to be labeled "As-Built", be sealed or stamped by a North Carolina Professional Engineer and must be submitted with the UST-6 (Post-Installation) form. All modifications to the UST system design should be reflected on the UST-6, *Application to Install or Replace Underground Storage Tank Systems* form that is submitted post-installation. All modifications must be listed and must be clearly indicated on the UST-6 (post-installation) form.

**POST-INSTALLATION PHASE INSTRUCTIONS**

At the completion of installation activities, the post-installation sections on the UST-6 form that was approved during the pre-installation review, should be completed. Any modifications made to the original UST system design, as shown on the UST-6 (Pre-Installation) should be made and highlighted on the UST-6 (Post-Installation).

Owners or operators of regulated underground storage tanks (USTs) must submit the following documentation once the UST system(s) have been installed:

1. **UST-6** form, *Application to Install or Replace Underground Storage Tank Systems (Post-Installation)*.
2. Proof of Financial Responsibility (if not already submitted).
3. Certification of Financial Responsibility form (if not already submitted).
4. Completed manufacturer's installation checklists and any warranty registration for the tanks, piping, and any other applicable equipment to be reviewed and approved by UST Inspector.
5. Copies of manufacturer's installer certifications for each employee who installed equipment at the facility (if not already submitted) to be reviewed and approved by the UST Inspector.
6. **Completed UST-22A, UST-22B, UST-22C, UST-6D/23A, UST-6E/23D, UST-6F/23B, and UST-6H/23C** form(s), providing pre-installation, installation and post-installation tests of the spill buckets, tanks, piping, containment sumps, and automatic line leak detectors (all that are applicable and if not already submitted) to be reviewed and approved by UST Inspector.
7. Leak detection console print out showing the interstitial monitoring liquid sensor set-up and/or vacuum sensor set-up.
8. Leak detection console printout documenting the functionality of each interstitial (e.g., vacuum, pressure, hydrostatic, liquid-detecting sensor). The sensor functionality tests conducted in accordance with the manufacturer's written guidelines, should consist of printouts documenting the status of each sensor before, during and after the functionality test. Sensor status printouts before and after the test should indicate a state of non-alarm, such as a "normal" or "OK". Additional printouts may be required to document sensors with multiple alarm states (e.g., discriminating sensors, position-sensitive sensors, dual-float hydrostatic sensors). The above printouts need to be copied on to 8 1/2" X 11" paper to prevent light from fading the results.
9. Once Items #4, #5, #6, and #8 have been completed and all required forms have been reviewed and approved by the UST Inspector, the owner, or their representative can request consideration for an expedited 30-day Temporary Operating Permit which would allow the facility to operate while the final review of the application is completed at the UST central office.

If during the installation, minor modifications were made to the original UST system design that was reviewed and approved as part of the pre-installation review, the following additional items must be submitted:

10. Revised 11" x 17" design plans. The revised design plan should be labeled "As-Built", sealed or stamped by a North Carolina Professional Engineer and submitted with the UST-6B form. Any changes to the original design plan must be indicated as a revision (e.g., revision cloud, highlighted) on the new design plan. Note that significant modifications require the resubmittal and approval of a new UST-6 application prior to installation.
11. Revised UST-6C, *Schedule of Materials* form. The revised schedule of materials must be marked as such and sealed or stamped by a North Carolina Professional Engineer. Any changes to the originally approved schedule of materials must be highlighted on the new schedule of materials. Note that significant modifications require the resubmittal and approval of a new UST-6 application prior to installation.
12. Upon review and approval of UST-6 (Post-Installation), a standard UST operating permit will be issued. If the UST-6 is not fully complete but contains final testing results and other information critical to beginning safe operation, then a temporary operating permit will be issued for a period of about 60 days during which the applicant must file a complete application. At a minimum, items that need to be completed for a temporary operating permit to be issued are specified below. This list does not include items that should have already been completed and approved (i.e., payment of tank fees, proof of Financial Responsibility along with the Certification of Financial Responsibility form, installation inspection(s), UST-22A, *Overfill Prevention Verification and Operability Check* form, and UST-6D/23A, *Triennial UST Spill Bucket Integrity Testing* form.
  - A. Sections 12 through 18 (pages 3-9) of the UST-6 form detailing the completed installation, indicating any changes that were made to the originally approved plans.
  - B. UST-6E/23D, *Tank Installation/Triennial Testing* form containing pre-installation and post-installation test results.
  - C. UST-6H/23C *Triennial UST piping Integrity Testing* form containing installation and post-installation test results.
  - D. Line Tightness Test (LTT) results and data sheets performed by a 3<sup>rd</sup> party.
  - E. Automatic Line Leak Detector (ALLD) test results and data sheets performed by a 3<sup>rd</sup> party.
  - F. UST-22B, *Annual Leak Detection Equipment Operability Check* form.
  - G. Leak detection console printout documenting the setup of each interstitial sensor (e.g., vacuum, pressure, hydrostatic, liquid-detecting sensor).
  - H. Leak detection console printout documenting the functionality of each interstitial sensor (e.g., vacuum, pressure, hydrostatic, liquid-detecting sensor). The sensor functionality tests, conducted in accordance with manufacturer's written guidelines, should consist of printouts documenting the status of each sensor:
    - Normal / OK Status (Prior to Test)
    - Alarm (During Test)
    - Normal / OK Status (At the Conclusion of the Test)
  - I. Once Items B through H have been reviewed and approved by the UST Field Inspector, the applicant may request the issuance of a 30-day Expedited Temporary Operating Permit to permit operation of the facility while the final permit application is submitted for final review by the UST Section central office.