

Introduction

Owners and operators of regulated underground storage tank (UST) systems in North Carolina must comply with 15A NCAC 2N "Criteria and Standards Applicable to USTs" when installing or replacing UST systems or UST system components. In addition, installations of USTs and/or piping require approval by the NCDEQ UST Section. The following is an overview of the UST Section's approval process described in this brochure*:

1. Obtain the UST-6 packet "Application to Install or Replace UST Systems".
2. Submit the UST-6 form "Application to Install or Replace UST Systems" (Pre-Installation) with attachments to the UST Section.
3. After receiving approval of your UST-6 form, schedule an installation inspection(s) with UST Section personnel.
4. Submit the UST-6 form "Application to Install or Replace UST Systems" (Post-Installation) with attachments to the UST Section

*Please note that this brochure is not intended to be a substitute for the complete installation instructions found in the UST-6 packet.

Restrictions

No UST system or UST system component may be installed within 100 feet of a public water supply well as defined by 15A NCAC 18C. No UST system or UST system component may be installed within 50 feet of any other well used for human consumption. In addition, UST systems or UST system components may not be installed or replaced in areas where they will be in contact with contaminated soil or free product.

Regulated Substances as Ballast

It is recommended that USTs be ballasted with water during installation. Ballasting a tank with a regulated substance requires approval by the UST Section. In order to receive permission, you must have spill and overfill prevention equipment installed and submit certain information for review. For a complete list of the requirements, see the instructions included with the UST-6 packet.

Alternative fuels

If an UST system stores an ethanol blend greater than 10% or a biodiesel blend greater than 20%, then it must be constructed of compatible materials including tanks, piping, leak detection equipment, spill and overfill equipment, seals, adhesives, and pipe dope. The UST-20 form "Alternative Fuel Compatibility Checklist" along with the supporting documentation must be submitted after installation with the UST-6 form.

Application to install

The following items must be submitted at least 30 days in advance of the projected installation date:

- UST-6 form.
- Scale drawings showing the site and UST system.
- UST-6C form "Schedule of Materials".

The scale drawing and UST-6C form must be sealed by a NC PE. Submitting an application without the specific information requested on the first page of the UST-6 packet will delay the review process. For further details, see the instructions included with the UST-6 packet.

Application review

Once your UST-6 application is received, it will be reviewed and a letter issued notifying you that either your application was approved or that additional information is needed before it can be approved. An approval letter will provide any additional instructions for you to follow during the installation of the UST system as well as your UST inspector's name and phone number to schedule the required inspections.

General installation guidelines

- 1) Contact the local fire marshal, building inspector and UST 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 (PEI) 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.

Certified installers

If required by the equipment manufacturer, persons installing, replacing or repairing UST systems or UST system components must be trained and certified by the equipment manufacturer or its authorized representative. The documents verifying that such training has taken place should be available at the installation inspection for the inspector's review.



Inspections

UST Section personnel conduct two inspections during installation of UST systems:

- 1) Tanks: Before a tank is placed into an excavation, the inspector visually inspects the exterior surface of the tank and observes tank integrity testing.
- 2) Piping: Prior to backfilling the piping, the inspector observes testing of all piping, fittings and containment sumps (for new system installations as well as piping-only replacements).

You will be required to contact the appropriate inspector for the county where the USTs are being installed at least two days (not including weekends or holidays) prior to the desired date of the activity commencing to schedule these inspections. However, more than two days notice is advisable so that you can get the inspection scheduled for a date that works with your project's schedule. Please note: Inspections cannot be scheduled for weekends or state holidays.

Tank installation

Tanks should be tested for tightness before and after installation in accordance with the manufacturer's written guidelines and the instructions found in the UST-6 packet. If a tank fails a tightness test, tank installation should be suspended until the tank is replaced or repaired in accordance with the manufacturer's specifications. Following repair, tank tightness must be re-tested. An UST-6E form should be used to document pre- and post-installation testing for a tank.

Piping installation

Both the primary containment and interstitial spaces of piping must be tested in accordance with the manufacturer's written guidelines, PEI/RP100, and the instructions found in the UST-6 packet. If piping fails a tightness test, it must be replaced or repaired by the manufacturer or its authorized representative in accordance with the manufacturer's written specifications. Following any repair, the piping must be re-tested for tightness. An UST-6G form should be used to document installation and post-installation testing for piping. Piping that is buried underground must be installed with a device or method that allows it to be located once it is installed, typically detectable trace tape.

Other UST system component installations

The instructions found in the UST-6 packet include North Carolina's requirements for installation and testing of sumps, spill buckets, and other UST system components. At installation, containment sumps and spill buckets must be tested for tightness after construction, but before backfilling in accordance with manufacturer guidelines and PEI/RP100. The testing results for sumps should

be recorded on the UST-6F form, and results for spill buckets on the UST-6D form. Spill bucket integrity testing is required for both the inner and outer walls of the bucket. If a sump or a spill bucket fails an installation tightness test, it must be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following replacement or repair, the component must be re-tested for tightness.

Obtaining an operating permit

Along with an UST-6 form, other specific documentation must be submitted to the UST Section once the UST system(s) have been installed and before an operating permit for the facility can be issued. The required documentation is listed in the UST-6 packet instructions and includes annual operating fees, ownership and financial responsibility documents, manufacturer warranties and checklists, the final UST system design, and documentation (UST-6D, E, F, and G forms as applicable) of the final testing of the UST system. Incomplete UST-6 applications will delay issuance of the annual operating permit. In accordance with NCGS 143-215.94U a facility cannot receive petroleum products without an operating permit issued in the current tank owner's name for the newly installed UST system(s).

UST forms and additional information

The UST Section's website at <http://www.wastenotnc.org/web/wm/ust/ustmain> has form-fillable electronic versions of the UST forms as well as a list of frequently asked questions about North Carolina's secondary containment standards. You can also contact the Permits and Inspections Branch for more information at (919) 707-8171.

Underground Storage Tank System Installation



*N.C. Department of
Environmental Quality*

*Division of Waste Management
UST Section*

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