

NANTUCKET BOARD OF HEALTH

70.00 UNDERGROUND FUEL AND CHEMICAL TANK REGULATIONS

PART A - GENERAL PROVISIONS

70.01 AUTHORITY

The town of Nantucket Board of Health hereby adopts the following regulations under powers authorized by Massachusetts General Laws, Chapter 111, Section 31.

70.02 PURPOSE

Nantucket Island's sole source of drinking water is its ground water. Because of the Island's location 22 miles at sea, there is no opportunity to pipe water to the Island should this source be contaminated. The purpose of these regulations is to protect ground and surface waters from one potentially lethal source of contamination -- leaking underground fuel and chemical storage tanks.

70.03 DEFINITIONS

- A. CATHODIC PROTECTION means a system which inhibits the corrosion of a tank or components through either the sacrificial anode or the impressed current method of creating a corrosion - inhibiting electrical current.
- B. COMPONENTS means piping, pumps and other related storage, conveyancing and dispensing elements which are installed underground and which, together with one or more tanks and any cathodic protection or monitoring system, constitute a storage system or facility.
- C. FUEL OIL means any petroleum product used for space or water heating including, but not limited to, No. 2 fuel oil and kerosine.
- D. GASOLINE means any fuel which can be used to fuel Otto or Diesel cycle internal combustion engine.
- E. OPERATOR means the lessee of a storage facility or the persons responsible for the daily operation of a storage facility.
- F. OWNER means the person or persons, corporation, real estate trust or other similar entity including any government entity having legal ownership of a storage facility.
- G. UNDERGROUND TANK means tanks installed below grade, in whole or in part, and shall include tanks installed above ground in which the tank itself, other than support structures, is in direct contact with the ground.

UNDERGROUND FUEL AND CHEMICAL TANK REGULATIONS

70.04 COSTS

In every instance except inspection and testing pursuant to PART C, Section 4, the owner shall assume responsibility for all costs incurred necessary to comply with this regulation.

70.05 VARIANCES

The Board of Health may vary the application of any provision of this regulation, unless such variance is otherwise prohibited by law, when, in the opinion of the Board, the applicant has demonstrated that an equivalent degree of ground water protection will be provided. The Board of Health shall notify all abutters to the subject property by certified mail sent to their residence address as set forth in the most recent Assessor's record at least ten days before the Board of Health meeting at which the variance will be considered advising said abutters of the variance requested and the time and place of the advising said abutters of the variance requested and the time and place of the meeting. Any approval or denial of the variance shall be in writing and shall include findings which were the basis for the decision to approve or deny. The Board of Health may include in any approval of a variance additional requirements that must be met as a condition for granting such a variance.

PART B - UNDERGROUND GASOLINE STORAGE FACILITIES

70.06 TANK REGISTRATION

Every owner of an underground gasoline storage system shall register with the Board of Health the size, type, age and location of each tank, and the type of material stored, on or before June 1, 1985. Information on the date of purchase, date of installation, and evidence of the issuance of a Fire Department permit shall be provided as part of such registration.

Owners of storage systems for which evidence of installation date is not available shall, by order of the Board of Health, have such tanks tested or uncovered for inspection. If, in the opinion of the Board of Health or the Fire Chief, the tank is not product tight, it shall be removed forthwith at the owner's expense.

70.07 PERIODIC TANK AND PIPE TESTING

All underground gasoline storage tanks and piping systems shall be subject to a Petro-Tite (Kent-Moore) or Leak Locator test, or any other State-approved test providing equivalent safety and effectiveness in the opinion of the Nantucket Board of Health. Such tests shall be conducted prior to the tenth anniversary of the installation of the tank and annually thereafter. Air pressure tests shall not be permitted on tanks which have or have had petroleum product in them.

The Nantucket Board of Health may postpone the testing required above for new tanks installed after the effective date of these regulations until the fifth year prior to the predicted mean age to leak as established by a method of predictability analysis which is recognized by the petroleum industry and

approved by the Board of Health. The method shall be based upon, at a minimum the following factors: soil pH, soil moisture, soil conductivity, tank size, type of backfill, height of water table, tank depth, and the presence or absence of sulfides in the soils. In no case shall the "fifth year prior to mean age" be in excess of twenty-five years after the installation. Testing will be required annually thereafter.

70.08 GASOLINE TANK DESIGN AND INSTALLATION SPECIFICATIONS

All new or replacement gasoline tanks, and their components shall be designed and constructed in accordance with the following specifications in order to provide maximum protection against corrosion and leakage.

A. TYPE OF TANK

Only the following tank systems shall be approved:

- (1) UL-listed fiberglass-reinforced plastic (FRP) tanks, Fiberglass tanks shall be installed only by an installation contractor approved by the manufacturer of the tank.
- (2) UL-listed steel tanks provided with cathodic protection, with a coal-tar epoxy or urethane coating and electrical isolation, and equipped with a test box to measure electrical potential.
- (3) Steel tanks with bonded fiberglass coating, compatible inner corrosion-resistant lining and electrical isolation, the integrity of the outer coating to be verified by electrostatic testing and guaranteed by the manufacturer.
- (4) Double-walled steel tanks with bonded fiberglass coating, electrical isolation, a vacuum of air pressure in the interstitial space and provision for continuous monitoring of the vacuum or air pressure.
- (5) Any other "state-of-the-art" type tank construction approved by the State Fire Marshall, by the Board of Health and Fire Chief.

B. STRIKER PLATES

All new or replacement gasoline tanks must be equipped with a metallic or non-metallic striker plate, at least 24" X 24" in area, at 1/4" thick, and attached to the bottom of the tank under each opening.

C. CORROSION PROTECTION

All new or replacement tanks, including all accessory components, shall be protected against corrosion by use of non-corrosive materials or by use of cathodic protection and electrical isolation and be compatible with the product to be stored in the facility. All cathodic protection systems shall be tested annually by a qualified person and shall have at all times a negative voltage of at least .85 volts, as measured by

a test box, between the structure being protected and a saturated copper-copper sulfate reference electrode contacting the soil electrolyte; provided that if a zinc reference electrode is used, the negative voltage must be at least 1.95 volts. These measurements shall be made with sacrificial anodes attached, or if impressed current is used, with the rectifier turned on.

D. TESTING COMPATABILITY

All new or replacement gasoline tanks shall be designed, constructed and installed so as to allow testing for tightness or replacement without the need for disturbing elements of the storage facility other than the elements that are to be tested or replaced.

E. BACKFILLING

The Board of Health and the Fire Chief, or their agents, shall be present during the backfilling operations. The quality of the materials used for backfilling shall be subject to the approval of the Board of Health and Fire Chief, or their agents.

F. TESTING AFTER INSTALLATION

All new or replacement tanks and their components shall be tested separately at the owner's expense, prior to being covered. The tank shall be tested hydrostatically, or by air pressure at not less than 3 psi or 5 pounds per square inch. The piping shall be tested hydrostatically to 150 percent of the maximum anticipated pressure of the system or tested pneumatically, after all joints and connections have been coated with soap solution, to 100 percent of the maximum anticipated pressure of the system, but not less than 50 pounds per square inch at the highest point of the system. After the tank and piping have been fully covered, the area paved and the tank filled with product, the tank and its piping shall be again tested, separately, at the owner's expense, by any State-approved test, not involving air pressure, which is accurate to 0.05 gallons per hour or less, after the adjustment for variables, and which is approved by the Board of Health with a certified copy of the results of all testing required by this subsection, which the Board of Health shall keep with the records for the storage facility.

7.0.09 TANK AND PIPE REMOVAL

Effective January 1, 1988, all underground gasoline storage systems which do not meet the design specifications as set forth in Section 3 shall be removed and properly disposed of at an age of twenty years after installation.

PART C-UNDERGROUND FUEL OIL STORAGE FACILITIES

70.10 TANK REGISTRATION

Every owner of an underground fuel oil storage tank existing on the effective date of these regulations shall register with the Board of Health the type, size, date of original installation and location of all underground fuel oil storage tanks on or before January 1, 1987. Every owner of any underground fuel oil storage installed or replaced after the effective date of these regulations shall register with the Board of Health the type, size, date of installation and location of such tanks within thirty (30) days of such installation or replacement.

70.11 NOTIFICATION

The Board of Health shall notify registered owners of underground fuel oil tanks of the date of required removal or replacement of such tanks pursuant to Section 7 below one year prior to such required date of removal or replacement.

70.12 PROHIBITION OF DELIVERY OF FUEL OIL

Fuel vendors shall be prohibited from delivering fuel oil to the following types of underground fuel oil tanks:

- A. Tanks which are not registered with the Board of Health, effective January 1, 1987.
- B. Tanks located in the Aquifer Protection Zone as shown on the Zoning Map which have a date of original installation greater than twenty (20) years prior, effective June 15, 1987.
- C. Tanks located anywhere in the Town which have a date of original installation greater than twenty (20) years prior, effective June 15, 1988.

In order to avoid property damage due to frozen pipes as well as to avoid adverse effects on personal health, nothing in this section shall prohibit fuel vendors from delivering or filling fuel oil to tanks meeting the description of Section 3 a, b and c, above, on an emergency basis only, during the heating season from September 15, to June 15, inclusive, provided that the vendor notifies the Health Inspector in writing within thirty (30) days of having done so that such an emergency delivery has been made. Emergency deliveries shall be limited to one heating season, except by written permission of the Board of Health.

70.13 TANK TESTING

The Nantucket Board of Health hereby has the right to enter onto private property in order to inspect and test underground fuel oil tanks which it suspects, in its sole judgement, may pose a hazard to public health or safety. The cost for such inspection and testing shall be borne by the Board of Health if the tank so tested passes the test and shall be borne by the owner of the tank if the tank fails the test.

70.14 INSTALLATION SPECIFICATIONS FOR NEW FUEL OIL TANKS

Following the effective date of these regulations, the installation of fuel oil tanks shall meet or exceed one of the following specifications:

- A. **BASEMENT INSTALLATION:** Tanks shall be installed above-ground in basements on a 3-inch reinforced concrete floor or single pad. If a pad is used, the outside dimensions of the pads shall exceed by six (6) inches the outside dimensions of the tank to be installed and shall include a one (1) inch high containment lip around its perimeter.
- B. **ABOVE - GROUND OUTDOOR INSTALLATION:** Tanks shall be installed above-ground outside the structure on a 3- inch thick, single, reinforced concrete pad. the outside dimensions of which shall exceed six (6) inches the outside dimensions of the tank to be installed. The tank may be screened by a board fence meeting the requirements of the Historic District Commission and/or the planting of a dense hedge or line of shrubs.
- C. **UNDERGROUND TANK INSTALLATION OUTSIDE AQUIFER PROTECTION DISTRICT:** Tanks meeting or exceeding the specifications for a sti-P3 steel tank, or UL listed seamless spherical fiberglass tanks, may be installed underground if they are located outside the Aquifer Protection District, as delineated on the Town's Zoning Map. Such tanks shall be covered by a 30-year written warranty by the manufacturer. Underground fuel oil tanks exceeding 1000 gallons shall comply with the periodic tank and pipe testing requirements applicable to underground gasoline tanks found in Section 2 of PART B of these regulations.
- D. **UNDERGROUND TANK INSTALLATION INSIDE THE AQUIFER PROTECTION DISTRICT:** Double walled steel tanks meeting or exceeding a Type 1 U.L. 58 secondary Containment, or double-walled U.L. listed spherical fiberglass tanks, may be installed underground if they are located within the Aquifer Protection District, as delineated on the Town's Zoning Map. Such tanks shall be covered by a 30-year written warranty by the manufacturer, and shall include a means for continuously monitoring the space between the inner and outer wall for leaks in either wall, fitted with both visual and audible alarms. Underground fuel oil tanks exceeding 1000 gallons installed after the effective date of these regulations shall comply with the periodic tank and pipe testing requirements applicable to underground gasoline tanks found in Section 2 of PART B.

70.15 VENT ALARMS

All new installations of fuel oil tanks, wheter above ground or below, shall be fitted with a functioning vent pipe alarm.

70.16 TANK REMOVAL AND DISPOSAL; PIPING REPAIR

Following the effective date of these regulations, any derelict or unused underground fuel oil tank, or any underground fuel oil tank found to be leaking by the Board of Health, Fire Chief or their respective agents, or any underground fuel oil tank that exceed 20 years of use shall be removed and properly disposed of forthwith. The proper tank disposal method to be employed by the owner, particularly the condition under which said derelict or unused tank is to be removed from the site, transported and finally disposed of, shall be determined by the Fire Chief on a case by case basis in conformance with applicable state and federal regulations, which method shall include as a minimum, the complete removal of any residual product found in the tank prior to excavation of the tank.

Any piping leading to or from a tank which is found to be leaking or not properly installed shall be repaired or replaced forthwith.

70.17 PENALTIES

Any violation of part C of these regulations by an owner of an underground fuel oil storage tank shall result in the prohibition of fuel oil delivery to an owners tank, by order of the Board of health. The Board of Health shall notify the owner of such prohibition and the owner's vendor of fuel oil by registered or certified mail within thirty (30) days of such action.

Part A & B approved December 12, 1984

Part C approved August 14, 1985

Attest: True Copy
Madeline S. Parry
Town Clerk
March 5, 1987

70.16 TANK REMOVAL AND DISPOSAL; PIPING REPAIR

Following the effective date of these regulations, any derilict or unused underground fuel oil tank, or any underground fuel oil tank found to be leaking by the Board of Health, Fire Chief or their respective agents, shall be removed and properly disposed of forthwith. The proper tank disposal method to be employed by the owner, particularly the conditions under which said derilict or unused tank is to be removed from the site, transported and finally disposed of, shall be determined by the Fire Chief on a case by case basis in conformance with applicable State and Federal regulations, which method shall include as a minimum, the complete removal of any residual product found in the tank prior to excavation of the tank.

Any piping leading to or from a tank which is found to be leaking or not properly installed shall be repaired or replaced forthwith.

70.17 PENALTIES

Any violation of PART C these regulations by an owner of an underground fuel oil storage tank shall result in the prohibition of fuel oil delivery to an owners's tank, by order of the Board of Health. The Board of Health shall notify the owner of such prohibition and the owner's vendor of fuel oil by registered or certified mail within thirty (30) days of such action

Part A & B Approved December 12, 1984

Part C Approved August 14, 1985

Attest: True Copy
Madeline S. Parry
Town Clerk
March 5, 1987