

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 5 PETROLEUM STORAGE TANKS
PART 4 NEW AND UPGRADED STORAGE TANK SYSTEMS: DESIGN, CONSTRUCTION AND INSTALLATION

20.5.4.1 ISSUING AGENCY: New Mexico Environmental Improvement Board.
[20.5.4.1 NMAC - Rp 20 NMAC 5.4.100, 8/15/03]

20.5.4.2 SCOPE: This part applies to owners and operators of storage tanks as provided in 20.5.1 NMAC. If the owner and operator of a storage tank are separate persons, only one person is required to comply with the requirements of this part, including any notice and reporting requirements; however, both parties are liable in the event of noncompliance.
[20.5.4.2 NMAC - Rp 20 NMAC 5.4.101, 8/15/03]

20.5.4.3 STATUTORY AUTHORITY: This part is promulgated pursuant to the provisions of the Hazardous Waste Act, NMSA 1978, sections 74-4-1 through 74-4-14, and the general provisions of the Environmental Improvement Act, NMSA 1978, sections 74-1-1 through 74-1-15.
[20.5.4.3 NMAC - Rp 20 NMAC 5.4.102, 8/15/03]

20.5.4.4 DURATION: Permanent.
[20.5.4.4 NMAC - Rp 20 NMAC 5.4.103, 8/15/03]

20.5.4.5 EFFECTIVE DATE: August 15, 2003, unless a later date is indicated in the bracketed history note at the end of a section.
[20.5.4.5 NMAC - Rp 20 NMAC 5.4.104, 8/15/03]

20.5.4.6 OBJECTIVE: The purpose of 20.5.4 NMAC is to set forth the requirements for the design, construction, installation and upgrading of storage tank systems in a manner that will prevent releases and to protect the public health, safety and welfare and the environment of the state.
[20.5.4.6 NMAC - Rp 20 NMAC 5.4.105, 8/15/03]

20.5.4.7 DEFINITIONS: The definitions in 20.5.1 NMAC apply to this part.
[20.5.4.7 NMAC - Rp 20 NMAC 5.4.106, 8/15/03]

20.5.4.8-20.5.4.399 [RESERVED]
[20.5.4.8-20.5.4.399 NMAC - Rp 20 NMAC 5.4.108-399, 8/15/03]

20.5.4.400 PERFORMANCE STANDARDS FOR UST SYSTEMS: In order to prevent releases due to structural failure, corrosion or spills and overfills for as long as the UST system is used to store regulated substances, owners and operators of any UST system shall meet the following requirements:

A. Tanks. Owners and operators shall properly design and construct each new tank, provide project drawings, and maintain existing USTs so that any portion that routinely contains regulated substances and is in contact with the ground or water shall be protected from corrosion, in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department.

(1) If the tank is constructed of fiberglass-reinforced plastic, owners and operators shall meet the requirements of the current edition of an industry code or standard approved in advance in writing by the department. The following codes may be used to comply with this requirement:

(a) Underwriters Laboratories Standard 1316, "Standard for Safety for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures;"

(b) Underwriters' Laboratories of Canada CAN4-S615-M83, "Standard for Underground Reinforced Plastic Tanks;"

(c) American Society of Testing and Materials D4021 "Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks."

(2) If the tank is constructed of steel, owners and operators shall submit to the department a corrosion prevention plan, which must be approved in writing by the department prior to installation. The plan shall be approved in writing by a corrosion expert prior to submission to the department, and shall be based on the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory. For existing USTs with corrosion protection in place, owners and operators shall submit a corrosion prevention plan to the department no later than August 15, 2004. The following may be used to comply with this requirement:

- (a) National Fire Protection Association 30, "Flammable and Combustible Liquids Code;"
- (b) National Fire Protection Association 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages;"
- (c) American Petroleum Institute Publication RP 1615, "Installation of Underground Petroleum Storage Systems;"
- (d) American Petroleum Institute Publication RP 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems;"
- (e) National Association of Corrosion Engineers International Standard RP0169 "Control of External Corrosion on Underground or Submerged Metallic Piping Systems;"
- (f) Steel Tank Institute R892, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems;"
- (g) American Petroleum Institute Publication RP 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks;"
- (h) National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection;"
- (i) National Association of Corrosion Engineers International Standard RP0285, "Corrosion Control of Underground Storage Tanks Systems by Cathodic Protection;" or
- (j) American Society of Testing and Materials G158, "Standard Guide for Three Methods of Assessing Buried Steel Tanks."

(3) In addition, owners and operators shall ensure that for any new steel tank systems, owners and operators shall design and install any cathodic protection system (whether impressed current or sacrificial) to allow ready determination of current operating status. The following may be used to comply with this requirement:

- (a) Steel Tank Institute "Specification for Sti-P3 System of External Corrosion Protection of Underground Steel Storage Tanks;"
- (b) Underwriters Laboratories Standard 1746, "External Corrosion Protection Systems for Steel Underground Storage Tanks;"
- (c) Underwriters' Laboratories of Canada CAN4-S603-N85, "Standard for Underground Steel Tanks;"
- (d) Underwriters' Laboratories of Canada CAN4-G603.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Steel;"
- (e) Underwriters' Laboratories of Canada CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems;"
- (f) National Association of Corrosion Engineers Standard RP0285, "Corrosion Control of Underground Storage Tanks Systems by Cathodic Protection," or
- (g) Underwriters Laboratories Standard 58, "Standard For Safety for Steel Underground Tanks for Flammable and Combustible Liquids."

(4) If the tank is constructed of a steel-fiberglass-reinforced-plastic composite, owners and operators shall meet the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

- (a) Underwriters Laboratories Standard 1746, "External Corrosion Protection Systems for Steel Underground Storage Tanks;" or
- (b) Association for Composite Tanks ACT-100, "Specification for the Fabrication of FRP Clad Underground Storage Tanks."

(5) If the tank is constructed of metal without additional corrosion protection measures:

- (a) owners and operators shall install the tank at a site that is approved in writing by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operational life, which shall be approved in advance of installation in writing by the department; and

(b) owners and operators shall maintain records that demonstrate compliance with the requirements of Subparagraph (a) of this Paragraph for the operational life of the tank.

(6) If the tank construction and corrosion protection are determined in writing by the department prior to installation to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than Paragraphs (1) through (5) of this subsection, owners and operators shall maintain a copy of this determination at the facility.

(7) Upgraded tanks. Tanks upgraded by the following methods shall meet the following additional requirements:

(a) If a tank has been internally lined, owners and operators shall, within 10 years after installation of internal lining and every five years thereafter, internally inspect the lined tank in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory, or manufacturer's recommendation, approved in advance in writing by the department. National Leak Prevention Association 631, Chapter B may be used to comply with this requirement. If the internal lining is not performing in accordance with the original design specifications, owners and operators shall repair the lining to original design specifications in accordance with an industry code or standard approved in advance in writing by the department. American Petroleum Institute RP 1631 may be used to comply with this requirement.

(b) Cathodic protection. If a tank was upgraded by cathodic protection, the cathodic protection system shall meet the requirements of Paragraph (2) of Subsection A of 20.5.4.400 NMAC.

B. Piping. Owners and operators shall properly design and construct new piping, provide project drawings, and properly maintain existing piping that routinely contains regulated substances and is routinely in contact with the ground or water. Owners and operators shall ensure that piping is compatible with the regulated substance conveyed, and shall protect the piping from corrosion in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

(1) If owners and operators construct or operate piping of fiberglass-reinforced plastic or flexible piping, owners and operators shall meet the requirements of the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

(a) Underwriters Laboratories Standard 971, "Standard for Safety for Nonmetallic Underground Piping for Flammable Liquids;"

(b) Underwriters Laboratories Standard 567, "Pipe Connectors for Petroleum Products and LP-Gas;"

(c) Underwriters' Laboratories of Canada Guide ULC-107.7, "Glass-Fibre Reinforced Plastic Pipe and Fittings;" or

(d) Underwriters' Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground Hose Connectors."

(2) If owners and operators construct or operates piping of steel with cathodic protection, owners and operators shall:

(a) coat the piping with a suitable dielectric material;

(b) field-install only a cathodic protection system designed by a corrosion expert;

(c) design any impressed current system to allow ready determination of current operating status as required in Subsection C of 20.5.5.501 NMAC; and

(d) submit to the department a corrosion prevention plan, which must be approved in writing by the department prior to installation. The plan shall be approved by a corrosion expert prior to submission to the department, and shall be based on the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory. Owners and operators shall submit a corrosion prevent plan to the department no later than August 15, 2004.

(3) If owners and operators construct the piping of steel without additional corrosion protection measures owners and operators shall:

(a) install the piping at a site that is approved in writing by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operational life; and

(b) maintain records that demonstrate compliance with the requirements of Subparagraph (a) of this paragraph for the operational life of the piping; or

(4) If owners and operators construct or operate piping of steel, and the piping is not routinely in contact with the ground or water, then owners and operators shall construct the piping totally above the ground with

all surfaces visible and the piping shall be coated with a suitable material approved by the piping manufacturer. If steel piping is entirely contained in a concrete trench which has no cracks, seams or joints, and the piping is not routinely in contact with the ground or water, the coating is not required, and the trench shall be designed and constructed to allow for easy access to visually inspect the entire piping run. Any such trench shall contain a collection system, such as a basin sump, for draining collected liquid.

(5) If the piping construction and corrosion protection are determined in writing by the department prior to installation to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in Paragraphs (1) through (4) of this subsection, owners and operators shall maintain a copy of this determination at the facility.

(6) If owners and operators install more than one type of piping at a UST system, then owners and operators shall comply with the above requirements applicable to each type of piping for that run of piping.

C. Installation. Owners and operators shall properly install all USTs and piping in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department, provide project drawings, in accordance with the manufacturer's instructions, and provide project drawings. The following may be used to comply with this requirement:

(1) American Petroleum Institute Publication RP 1615, "Installation of Underground Petroleum Storage Systems;"

(2) Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems;" or

(3) American Society of Mechanical Engineering Standard B31.3, "Process Piping."
[20.5.4.400 NMAC - Rp 20 NMAC 5.4.400, 8/15/03]

20.5.4.401 PERFORMANCE STANDARDS FOR NEW AST SYSTEMS: In order to prevent releases due to structural failure, corrosion or spills and overfills for as long as the AST system is used to store regulated substances, owners and operators of new AST systems shall meet the following requirements:

A. Tanks. Owners and operators shall properly design, construct, install and initially test each tank in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department and provide project drawings.

(1) The following may be used to comply with the requirements of this subsection:

(a) Underwriters Laboratories 142, "Steel Aboveground Tanks for Flammable and Combustible Liquids;"

(b) Underwriters Laboratories 2085, "Standard for Safety for Protected Aboveground Tanks for Flammable and Combustible Liquids;"

(c) Underwriters Laboratories 2245, "Standard for Safety for Below-Grade Vaults for Flammable Liquid Storage Tanks;"

(d) American Petroleum Institute Standard 650, "Welded Steel Tanks for Oil Storage;"

(e) National Fire Protection Association 30, "Flammable and Combustible Liquids Code;" or

(f) National Fire Protection Association 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages."

(2) After August 15, 2003, owners and operators shall not install for above-ground use any tank designed and built for underground use, unless the tanks meet the requirements of Subsection C of 20.5.4.405 NMAC.

(3) Owners and operators shall protect from corrosion any steel portion of a tank that routinely contains regulated substances and is routinely in contact with the ground or water, in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department.

! (a) Owners and operators of new ASTs shall submit to the department a corrosion prevention plan, which must be approved in writing by the department prior to installation. Owners and operators of existing ASTs shall submit a corrosion prevention plan no later than August 15, 2004.

(b) The plan shall be approved in writing by a corrosion expert prior to submission to the department, and shall be based on the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory. An example of a corrosion prevention plan is: when the tank is elevated, owners and operators shall ensure that the underside of the tank is not in contact with any surface other than the tank supports.

(c) Owners and operators of existing ASTs shall implement their corrosion protection plan by July 1, 2006.

(4) The following may be used to comply with the requirements of Paragraph (3) of Subsection A of 20.5.4.401 NMAC:

- (a) National Fire Protection Association 30, "Flammable and Combustible Liquids Code;"
- (b) National Fire Protection Association 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages;"
- (c) Petroleum Equipment Institute Publication RP200, "Recommended Practices for Installation of Above Ground Storage Systems for Motor Vehicle Fueling;"
- (d) American Petroleum Institute Publication RP 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems;"
- (e) National Association of Corrosion Engineers International Standard RP0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems;"
- (f) Steel Tank Institute R892, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems;" or
- (g) Steel Tank Institute R893, "Recommended Practice for External Corrosion Protection of Shop Fabricated Aboveground Tank Floors."

(5) If owners and operators install a field-erected tank, owners and operators shall comply with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

- (a) American Petroleum Institute Standard 620, "Design and Construction of Large, Welded, Low Pressure Storage Tanks;"
- (b) American Petroleum Institute Standard 650, "Welded Steel Tanks for Oil Storage;"
- (c) American Petroleum Institute Specification 12B, "Bolted Tanks for Storage of Production Liquids;"
- (d) American Petroleum Institute Specification 12D, "Field Welded Tanks for Storage of Production Liquids;" or
- (e) American Society of Mechanical Engineers B96.1, "Welded Aluminum- Alloy Storage Tanks."

B. Piping. Owners and operators shall properly design and construct and provide project drawings for piping that routinely contains regulated substances in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. Owners and operators shall install all piping in accordance with the piping manufacturer's recommendations.

(1) The following may be used to comply with this requirement:

- (a) third party certification from a nationally recognized laboratory;
- (b) American Society of Mechanical Engineering Standard B31.3, "Process Piping;"
- (c) American Society of Testing and Materials A53, "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless;"
- (d) American Society of Testing and Materials A106, "Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service;" or
- (e) American Society of Testing and Materials A135, Standard Specification for Electric-Resistance-Welded Steel Pipe."

(2) If owners and operators construct or operate piping of fiberglass-reinforced plastic, the piping shall be completely underground or with a suitable cover approved by the piping manufacturer, or with equivalent protection approved by the piping manufacturer and approved in writing by the department prior to installation. The following may be used to comply with this requirement:

- (a) Underwriters Laboratories Standard 971, "Standard for Safety for Nonmetallic Underground Piping for Flammable Liquids;"
- (b) Underwriters Laboratories Standard 567, "Pipe Connectors for Petroleum Products and LP-Gas;" or
- (c) Underwriters' Laboratories of Canada Guide ULC-1077, "Glass Fibre Reinforced Plastic Pipe and Fittings."

(3) If owners and operators construct or operate flexible piping, the piping shall be approved by the manufacturer for the application for which it is used, and approved in writing by the department prior to installation. The following may be used to comply with this requirement:

- (a) Underwriters Laboratories Standard 971, "Standard for Safety for Nonmetallic Underground Piping for Flammable Liquids;" or
- (b) Underwriters Laboratories Standard 567, "Pipe Connectors for Petroleum Products and LP-Gas."

(4) If owners and operators construct or operate piping of steel, the piping shall either:

- (a) be totally above the ground with all surfaces visible, and the piping shall be coated with a suitable material approved by the piping manufacturer; or
- (b) be entirely contained in secondary containment that complies with the requirements of Subsection C of this section, and is coated with a suitable material approved by the piping manufacturer.

(5) The following may be used to comply with the requirements of Paragraph (4) of Subsection B of this section:

- (a) American Society of Mechanical Engineering Standard B31.3, "Process Piping;"
- (b) American Society of Testing and Materials A53, "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless;"
- (c) American Society of Testing and Materials A 135, "Standard Specification for Electric-Resistance-Welded Steel Pipe;" or
- (d) National Association of Corrosion Engineers International Standard RP0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems."

(6) If owners and operators construct or operate the piping of another material, or using a different method of construction or installation, owners and operators shall propose it to the department at least 30 days prior to installation, and shall not install the alternate piping material unless and until the department approves the material and installation in writing. The department shall not grant the request for alternate piping unless owners and operators demonstrate that the request will provide equivalent protection of health, safety and welfare and the environment.

(7) Above ground tanks located at an elevation so as to produce a gravity head on the dispenser or piping shall be equipped with a solenoid valve which meets the requirements of the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the Department. National Fire Protection Association 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages," may be used to meet this requirement. Owners and operators shall install and adjust the solenoid valve so that fuel cannot flow by gravity from the tank to the dispenser if the piping fails when the dispenser is not in use.

(8) Owners and operators shall ensure that piping is compatible with the regulated substance conveyed, and shall protect piping from impact, settlement, vibration, expansion, corrosion, damage by fire, and stress due to tidal action.

(9) Owners and operators shall use a flex connector to join piping to the shear valve underneath the dispenser, unless the dispenser is mounted on top of the tank, and shall protect the flex connector from corrosion.

(10) Owners and operators of AST systems at marinas shall install an automatic break-away device to shut off flow of fuel from on-shore piping, which shall be located at the connection of the on-shore piping and the piping leading to the dock. Owners and operators shall install another automatic break-away device to shut off flow of fuel located at any connection between flexible piping and hard piping on the dispenser and dock. The automatic break-away devices shall be easily accessible, and their location shall be clearly marked.

(11) Owners and operators of AST systems at marinas shall electrically isolate dock piping where excessive stray current are encountered.

(12) Owners and operators shall maintain records that demonstrate compliance with the requirements of 20.5.4.401 NMAC, as required by 20.5.5.504 NMAC.

(13) If owners and operators install more than one type of piping at an AST system, then owners and operators shall comply with the above requirements applicable to each type of piping for that run of piping.

C. Secondary containment for AST systems. Owners and operators shall design, provide project drawings for, and construct all new AST systems with one of the following secondary containment systems.

(1) Owners and operators shall base all secondary containment systems on the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

- (a) Petroleum Equipment Institute Publication RP 200, "Recommended Practices for Installation of Above Ground Storage Systems for Motor Vehicle Fueling;"
 - (b) Society of Protective Coatings SSPC-TU2/NACE6G197, "Design, Installation and Maintenance of Coating Systems for Concrete Used in Secondary Containment;"
 - (c) American Concrete Institute Publication ACI 350R, "Environmental Engineering of Concrete Structures;" or
 - (d) American Petroleum Institute Standard 650, "Welded Steel Tanks for Oil Storage."
- (2) Owners and operators may use double-walled ASTs and piping as secondary containment;
- (3) Owners and operators shall construct a containment area under and around single-walled ASTs and piping. Internal lining of ASTs shall not be used as a method of secondary containment. Owners and operators shall design and construct secondary containment to minimize damage to the surfaces of the tanks due to corrosion, accumulation of water, and stray electrical current.
- (a) Owners and operators shall ensure that a regulated substance is chemically compatible with the secondary containment material. If owners and operators store more than one type of regulated substance within a single containment area, owners and operators shall ensure that the substances are chemically compatible with each other and with the containment material;
- (b) Volume of containment area: owners and operators shall construct a containment area which has a capacity of at least one hundred ten percent of the size of the largest AST in the containment area plus the area displaced by the other AST(s);
- (4) Owners and operators may use concrete for construction of the containment area. If owners and operators use concrete, the concrete containment shall be constructed in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory, which shall be approved in advance of construction in writing by the department. Concrete secondary containment shall be internally lined with a material which has a permeability rate to the regulated substance stored of 1×10^{-7} centimeters per second or less. Existing AST systems with existing secondary containment constructed of concrete meet the requirements of this section if the secondary containment is made impervious in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory and approved in advance in writing by the department, and if the material used has a permeability rate to the regulated substance stored of 1×10^{-7} centimeters per second or less. Concrete secondary containment for piping shall be designed and constructed to allow for easy access to visually inspect the entire piping run, and shall contain a collection system, such as a basin sump, for draining collected liquid.
- (5) The following may be used to comply with the concrete secondary containment requirements:
- (a) American Concrete Institute 350R, "Environmental Engineering of Concrete Structures;"
 - (b) American Concrete Institute 224R, "Control of Cracking in Concrete Structures;"
 - (c) National Association of Corrosion Engineers International RP0892, "Coatings and Linings over Concrete for Chemical Immersion and Containment Service;" or
 - (d) Society of Protective Coatings TU2/NACE6G197, "Design, Installation and Maintenance of Coating Systems for Concrete Used in Secondary Containment."
- (6) Owners and operators may use geo-synthetic membrane for construction of the containment area. If owners and operators use geo-synthetic membrane, the geo-synthetic membranes or liners shall have a minimum thickness of 60 mils and shall be installed in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department, or in accordance with the manufacturer's specifications. Earthen dike fields shall be lined with a geo-synthetic membrane to qualify as secondary containment.
- (7) Owners and operators may use steel for construction of the containment area. If owners and operators use steel for secondary containment, the owners and operators shall cathodically protect the containment area, and shall submit to the department a corrosion prevention plan, which has been approved in writing by a corrosion expert, and which must be approved in writing by the department prior to installation.
- (8) Owners and operators shall not use clay for the construction of the containment area.
- (9) Owners and operators may use a vault which complies with the requirements of Subsection F of this section as secondary containment.

D. Venting. Owners and operators shall design and construct venting for all new AST systems, following the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement:

(1) Petroleum Equipment Institute Publication RP200 "Recommended Practices for Installation of Above Ground Storage Systems for Motor Vehicle Fueling;" or

(2) National Fire Protection Association 30, "Flammable and Combustible Liquids Code."

E. Installation. Owners and operators shall provide project drawings for and install all ASTs and piping in accordance with the manufacturer's instructions, and in accordance with the requirements for site planning; foundation support and anchorage; fills, gauges and vents; environmental protection; testing and inspection; in the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. Petroleum Equipment Institute Publication RP200, "Recommended Practices for Installation of Above Ground Storage Systems for Motor Vehicle Fueling," may be used to comply with this requirement.

F. Vaults. Owners and operators shall provide project drawings for and install new AST systems which include vaults in accordance with the following requirements:

(1) A vault must completely enclose each tank, with no openings in the vault enclosure except those necessary for access to, inspection of, and filling, emptying, and venting of the tank. Each tank shall be enclosed in its own vault, although adjacent vaults may share a common wall. However, for good cause shown, the department, in its sole discretion, may grant a variance from the one-tank-one-vault requirement for existing tanks only, if owners and operators demonstrate that the variance will provide equivalent protection of health, safety and welfare and the environment.

(2) Vault construction. The walls and floor of a vault shall be constructed of reinforced concrete at least six inches thick. The top of an above-grade vault shall be constructed of noncombustible material and be designed to be weaker than the walls of the vault, to ensure that the thrust of any explosion occurring inside the vault is directed upward before significantly high pressure can develop within the vault. The top of an at-grade or below-grade vault shall be designed to safely relieve or contain the force of any explosion occurring inside the vault. The top and floor of the vault and the tank foundation shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. The walls and floor of any vault installed below grade shall be designed in compliance with good engineering practice to withstand anticipated soil and hydrostatic loading.

(3) A vault shall be liquid tight with no backfill around the tank.

(4) There shall be adequate space between the tank and the vault for inspection of the tanks and its appurtenances.

(5) Above-grade vaults shall be resistant to damage from the impact of a motor vehicle, or suitable collision barriers shall be installed.

(6) A vault shall include connections to permit venting of each vault to dilute, disperse, and remove any vapors prior to personnel entering the vault.

(7) A vault shall be equipped with a detection system capable of detecting liquids, including water, and of activating an audible alarm.

(8) A vault shall include a means for recovering liquid from the vault. If a pump is used to meet this requirement, it shall not be permanently installed in the vault. Electric-powered portable pumps shall meet the requirements of the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. National Fire Protection Association 70, "National Electrical Code," may be used to comply with this requirement.

(9) All tanks, piping and other associated equipment in the interior of a vault shall meet the requirements of the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. National Fire Protection Association 70, "National Electrical Code," may be used to comply with this requirement.

(10) Venting of vaults. Vent pipes that are provided for normal tank venting shall extend at least 12 feet above ground level. Emergency vents shall be vapor tight and may be permitted to discharge inside the vault. Owners and operators shall not use long-bolt manhole covers for this purpose. Owners and operators shall ensure that all vault vents meet the requirements of the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department. The following may be used to comply with this requirement: National Fire Protection Association 91, "Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids."

(11) Vault entry. A vault shall include a method of personnel entry. Owners and operators shall post a warning sign indicating procedures for safe entry at each entry point. Owners and operators shall secure each entry point against unauthorized entry and vandalism. Owners and operators shall provide each vault with a suitable means for admission of a fire suppression agent.

G. Dispensers. Owners and operators shall install a containment sump underneath each dispenser associated with an AST, unless the dispenser is located within secondary containment. Owners and operators shall hydrostatically test the sump upon installation, in accordance with manufacturer's recommendations. The following may be used to comply with this containment sump requirement: dispenser liners, under-dispenser containment, dispenser pans, and dispenser sump liners.

[20.5.4.401 NMAC - N, 8/15/03]

20.5.4.402 OTHER REQUIREMENTS FOR STORAGE TANK SYSTEMS: The following are required as of August 15, 2004, for ASTs, and as of December 22, 1998 for USTs.

A. Spill and overflow prevention equipment. Except as provided in Paragraph (4) of this subsection, to prevent spilling and overflowing associated with transfers of regulated substances to storage tank systems, owners and operators shall use the following spill and overflow prevention methods:

(1) spill prevention equipment that will prevent release of regulated substances to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

(2) overflow prevention equipment for USTs that will:

(a) automatically shut off flow into the tank when the tank is no more than 95 percent full; or

(b) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level audible alarm.

(3) overflow prevention equipment for ASTs that will:

(a) automatically shut off flow into the tank when the tank is no more than 95 percent full; or

(b) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level audible and visual alarm.

(4) Owners and operators are not required to use the spill and overflow prevention equipment specified in Paragraphs (1), (2) or (3) of this subsection if approved in writing in advance by the department where:

(a) alternative equipment is used that is determined by the department to be no less protective of public health, safety and welfare and the environment than the equipment specified in Paragraphs (1), (2) or (3) of this subsection;

(b) the storage tank system is filled by transfers of no more than 25 gallons at one time; or

(c) Owners and operators are not required to install and operate spill and overflow prevention equipment required in Paragraph (1) of this subsection for any AST system where the fill port is located within a secondary containment system meeting the requirements of Subsection C of 20.5.4.401 NMAC.

(5) Owners and operators shall install any AST for a marina with a system that will allow the level of regulated substance in the AST to be monitored during a delivery of fuel to the AST in addition to spill catchment basins. Unless the AST system is equipped with an audible overflow alarm that will alert the transfer operator at 90 percent of capacity, and overflow protection which will shut off flow of product during a fuel delivery to the tank at 95 percent, owners and operators shall visually monitor the delivery of fuel.

B. Certification of installation. For installations after August 15, 2003, owners and operators shall demonstrate compliance with Subsection E of 20.5.4.401 NMAC (for ASTs) and Subsection C of 20.5.4.400 NMAC (for USTs) using one or more of the following methods of certification, testing or inspection and shall provide a certification of compliance on the UST or AST registration form required by 20.5.2 NMAC, which asserts that:

(1) the installer has been certified by the tank and piping manufacturers;

(2) the installer has been certified or licensed as required in 20.5.14 NMAC; except for ASTs, this provision shall not become effective until August 15, 2004;

(3) the installation has been inspected and certified by a registered professional engineer with education and experience in UST system or AST system installation (whichever is applicable);

(4) the installation has been inspected and approved by the department; or

(5) all work listed in the manufacturer's installation checklists has been completed.

[20.5.4.402 NMAC - N, 8/15/03]

20.5.4.403 [RESERVED]

[20.5.4.403 NMAC - Rp 20 NMAC 5.4.403, 8/15/03]

20.5.4.404 ALTERNATE METHODS: If owners and operators want to install tanks, piping, storage tank systems, spill and overflow equipment or secondary containment by another method in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent

testing laboratory, owners and operators shall apply in writing to the department, shall provide supporting documentation, and shall not begin the installation unless and until the department approves the request in writing. The department shall not grant the request unless owners and operators demonstrate that the request will provide equivalent protection of public health, safety and welfare and the environment.

[20.5.4.404 NMAC - N, 8/15/03]

20.5.4.405 DEADLINES FOR CLOSING OR UPGRADING EXISTING AST SYSTEMS. Not later than July 1, 2011, all owners and operators shall upgrade existing AST systems as follows:

A. Existing AST systems shall meet all performance standards for new AST systems in 20.5.4.401, 402, 404 and 406 NMAC; with the exception that existing AST systems need not submit project drawings; or

B. Owners and operators shall close any AST system that does not meet performance standards in 20.5.4.401, 402, 404 and 406 NMAC.

C. Owners and operators shall close existing underground storage tanks installed as above ground storage tanks before August 15, 2003, in compliance with the closure requirements in 20.5.8 NMAC, including applicable requirements for corrective action in 20.5.12 and 13 NMAC, unless each underground tank meets one of the following requirements:

(1) The tank is certified for above-ground use by the original equipment manufacturer, in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department;

(2) A professional engineer certifies that the tank meets the standards for above-ground use in the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance in writing by the department; or

(3) The tank is certified for above-ground use by either an authorized inspector with certification from the American Petroleum Institute, or a Steel Tank Institute trained and certified tank inspector, approved in advance in writing by the department. The inspector shall personally inspect the tank in order to complete the certification process.

(4) Owners and operators shall deliver all proposed certifications pursuant to this section to the department at least 90 days prior to the upgrade deadline, to allow the department time to approve or disapprove the proposed certification. If the department disapproves the proposed certification of underground storage tanks for above-ground use, owners and operators shall close the tanks in compliance with the closure requirements in 20.5.8 NMAC, including applicable requirements for corrective action under 20.5.12 and 13 NMAC.

[20.5.4.405 NMAC - N, 8/15/03]

20.5.4.406 CERTIFICATE OF COMPLIANCE; NOTIFICATION REQUIREMENTS:

A. All owners and operators of new storage tank systems shall certify in the registration form required by 20.5.2 NMAC compliance with the following requirements:

(1) installation of tanks and piping under Subsection C of 20.5.4.400 NMAC for UST systems, Subsection E of 20.5.4.401 NMAC for AST systems or 20.5.4.404 NMAC for either;

(2) cathodic protection of steel tanks and piping in 20.5.4.400 NMAC for UST systems, 20.5.4.401 NMAC for AST systems or 20.5.4.404 NMAC for either;

(3) financial responsibility under 20.5.9 NMAC; and

(4) release detection under 20.5.4.602, 603 and 604 NMAC.

B. All owners and operators of new storage tank systems shall ensure that the installer certifies in the registration form that the methods used to install the tanks and piping comply with the requirements in Subsection C of 20.5.4.400 NMAC for UST systems and Subsection E of 20.5.4.401 NMAC for AST systems.

C. Any person who sells a tank intended to be used as a storage tank must notify the purchaser of such tank of the owner's registration obligations under Part 20.5.2 NMAC and other obligations under 20.5 NMAC.

[20.5.4.406 NMAC - Rp 20 NMAC 5.4.402, 8/15/03]