

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 5 PETROLEUM STORAGE TANKS
PART 111 RELEASE DETECTION FOR ABOVE GROUND STORAGE TANK SYSTEMS

20.5.111.1 ISSUING AGENCY: New Mexico Environmental Improvement Board.
[20.5.111.1 NMAC - N, 07/24/2018]

20.5.111.2 SCOPE: This part applies to owners and operators of above ground storage tanks as provided in 20.5.101 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. Release detection requirements for above ground storage tank emergency generator systems are listed in 20.5.112 NMAC.
[20.5.111.2 NMAC - N, 07/24/2018]

20.5.111.3 STATUTORY AUTHORITY: This part is promulgated pursuant to the provisions of the Hazardous Waste Act, Sections 74-4-1 through 74-4-14 NMSA 1978, and the general provisions of the Environmental Improvement Act, Sections 74-1-1 through 74-1-17 NMSA 1978.
[20.5.111.3 NMAC - N, 07/24/2018]

20.5.111.4 DURATION: Permanent.
[20.5.111.4 NMAC - N, 07/24/2018]

20.5.111.5 EFFECTIVE DATE: July 24, 2018, unless a later date is indicated in the bracketed history note at the end of a section.
[20.5.111.5 NMAC - N, 07/24/2018]

20.5.111.6 OBJECTIVE: The purpose of 20.5.111 NMAC is to ensure that releases from above ground storage tanks are detected early to minimize potential harmful resulting effects, and to regulate storage tank systems in order to protect the public health, safety and welfare and the environment of the state.
[20.5.111.6 NMAC - N, 07/24/2018]

20.5.111.7 DEFINITIONS: The definitions in 20.5.101 NMAC apply to this part.
[20.5.111.7 NMAC - N, 07/24/2018]

20.5.111.8 to 20.5.111.1099 [RESERVED]

20.5.111.1100 REQUIREMENTS AND DEADLINES FOR RELEASE DETECTION FOR AST SYSTEMS:

A. Owners and operators of new and existing AST systems shall monitor monthly for releases using a method, or combination of methods, of release detection that can detect a release from any portion of the tank, connected piping and ancillary equipment that routinely contains a regulated substance and meets the following:

- (1) the method:
 - (a) meets the performance requirements in 20.5.111 NMAC;
 - (b) is installed and calibrated in accordance with the manufacturer's instructions;
 - (c) is operated and maintained in accordance with one of the following, beginning

on the effective date of these regulations:

- (i) manufacturer's instructions;
- (ii) the current edition of an industry standard or code of practice

developed by a nationally recognized association or independent testing laboratory approved in advance by the department; or

(iii) an approved method that has been determined by the implementing agency to be no less protective of human health and the environment than Subparagraph (a) and (b) of Subsection (1) above; and

(d) has electronic and mechanical components that are tested to ensure proper operation; or

- (2) the method meets all the requirements for visual inspections in 20.5.111.1102 NMAC.

B. Owners and operators of AST systems shall meet release detection requirements as follows:
(1) for AST systems installed on, or before, August 14, 2003 must have met release detection requirements no later than August 15, 2004; and

(2) for AST systems installed on, or after, August 15, 2003 must meet release detection requirements upon installation.

C. For existing AST systems installed before July 1, 1991, or where the installation date is unknown, owners and operators shall perform either a tightness test, or an internal inspection on the AST system by August 15, 2004. The tightness test or internal inspection shall be conducted 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 shall be approved in advance by the department. If a tightness test or internal inspection shows that an AST system has a suspected release, then owners and operators shall comply with the requirements of 20.5.118 NMAC. Owners and operators shall use one or more of the following, as applicable, to comply with the above testing requirements:

(1) *American Petroleum Institute Specification 12F: "Shop-welded Tanks For Storage Of Production Liquids";*

(2) *American Petroleum Institute Standard 650, "Welded Tanks for Oil Storage",* with applicable addenda;

(3) *American Petroleum Institute Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction";*

(4) *Petroleum Equipment Institute RP200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling";*

(5) *Underwriter's Laboratories Standards: UL 142, "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids";* or

(6) *Steel Tank Institute Standard SP001, "Standard for the Inspection of Aboveground Storage Tanks".*

D. Owners and operators shall ensure that any person who performs a test on their AST system in order to meet the requirements of 20.5.111 NMAC shall comply with the requirements in 20.5.105 NMAC.

E. Owners and operators shall ensure that equipment used to perform a test on their storage tank system is calibrated and maintained according to the manufacturer's requirements.

F. When a release detection method operated in accordance with the performance standards in 20.5.111 NMAC indicates a release may have occurred, owners and operators shall notify the department in accordance with 20.5.102.204 and 20.5.118 NMAC.

G. Owners and operators shall meet permanent closure requirements in 20.5.115 NMAC for any existing AST system to which an owner and operator cannot apply a method of release detection that complies with the requirements of 20.5.111 NMAC.

[20.5.111.1100 NMAC - N, 07/24/2018]

20.5.111.1101 REQUIREMENTS FOR INTEGRITY TESTING OR TANK TIGHTNESS TESTING OF ASTS:

A. Owners and operators shall perform a tightness test or internal inspection of ASTs 10 years after installation, unless the AST is in secondary containment that complies with the requirements of 20.5.109 NMAC. Owners or operators shall use one or more of the standards and codes listed in Subsection A of this section, as applicable, to comply with this requirement.

B. Owners and operators of ASTs shall ensure that integrity testing and tank tightness testing:

(1) detect a two-tenth gallon per hour leak rate from any portion of the AST that routinely contains a regulated substance while accounting for the effects of thermal expansion or contraction of the regulated substance, vapor pockets, tank deformation, and evaporation or condensation;

(2) comply with manufacturer's published testing procedures; and

(3) comply with a current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory, and shall be approved in advance by the department. Owners and operators shall use one or more of following to comply with the requirements of this section:

(a) *American Petroleum Institute Specification 12F: "Specification for Shop Welded Tanks for Storage of Production Liquids".*

(b) *American Petroleum Institute Standard 650, "Welded Tanks for Oil Storage",* with applicable addenda;

- (c) *American Petroleum Institute Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction";*
 - (d) *Petroleum Equipment Institute RP200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling";*
 - (e) *Underwriter's Laboratories Standards: UL 142, "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids";*
 - (f) *Steel Tank Institute Standard SP001, "Standard for the Inspection of Aboveground Storage Tanks";* or
 - (g) *National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code".*
- [20.5.111.1101 NMAC - N, 07/24/2018]

20.5.111.1102 VISUAL INSPECTION REQUIREMENTS FOR ASTS:

A. Owners and operators of ASTs may use visual inspection as a method of release detection if:

- (1) all portions of the ASTs, including the AST bottoms, are completely visible, readily accessible and are inspected monthly;
- (2) owners and operators maintain a written log of the visual inspections for each AST conducted monthly to include the following:

- (a) the date and time the inspection was conducted;
- (b) name and signature of the person who conducted the inspection;
- (c) comments on the condition of each AST;
- (d) the results of each inspection; and
- (e) the volume of water found in the AST and if the water has been removed from

the tank; and

- (3) owners and operators keep visual inspection logs available at the facility.

B. Owners and operators of double-walled and double-bottomed AST systems shall include inspection of the interstice in the monthly visual inspection which shall be recorded in the log required in Paragraph (2) of Subsection A. Owners and operators of AST systems that use interstitial monitoring with an electronic liquid sensor as their monthly method of release detection in accordance with 20.5.111.1103 NMAC do not have to meet the requirements of this subsection. The monthly inspection of the interstice shall use one of the following methods:

- (1) manually stick or gauge the monitoring ports of the tank by use of a tank gauging stick that is calibrated to the nearest one-eighth of an inch;
- (2) where the interstice is equipped with a mechanical float device that will visually signal when a liquid is present in the interstice, inspect the device;
- (3) for double-bottomed vertical ASTs with drain valves for the interstice, check for the accumulation of regulated substances or water;

- (4) inspect the interstice per manufacturer's instructions; or

(5) visually inspect vertical ASTs inside secondary containment that meet the requirements of 20.5.109 NMAC where the secondary containment has been constructed so the space between the tank bottom and the concrete floor can be monitored or visually inspected.

[20.5.111.1102 NMAC - N, 07/24/2018]

20.5.111.1103 INTERSTITIAL MONITORING REQUIREMENTS FOR ASTS: Owners and operators of ASTs may use interstitial monitoring to continuously monitor between the AST and a secondary barrier immediately around and underneath the tank, but only if the AST system meets all of the following requirements:

A. the ASTs are manufactured or upgraded to include a double-walled bottom 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 can be remotely monitored, or the ASTs are installed inside secondary containment with an impervious barrier beneath the ASTs meeting the requirements of 20.5.109.904 NMAC and the interstice between them can be remotely monitored;

B. the monitoring system between the AST and the secondary barrier shall meet all of the following requirements:

(1) for cathodically protected ASTs, the secondary barrier shall be installed so that it does not interfere with the proper operation of the cathodic protection system;

(2) the groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;

(3) the site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions;

(4) the locations and ports of monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;

C. owners and operators shall have a qualified tester annually test to ensure proper operation of sensors and electrical or mechanical devices, which includes but is not limited to testing alarm operability, communication with controller, and proper height and location of sensors installed. Testing shall be conducted in accordance with the equipment manufacturers' testing instructions or in accordance with the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory.

D. Owners and operators shall ensure the requirements in 20.5.111.1100 NMAC are met prior to implementing this method.

E. Owners and operators shall maintain and provide the department reports relating to the requirements of this section in accordance with 20.5.111.1111 NMAC and 20.5.111.1112 NMAC.

[20.5.111.1103 NMAC - N, 07/24/2018]

20.5.111.1104 AUTOMATIC TANK GAUGING REQUIREMENTS FOR ASTS:

A. Owners and operators shall use automatic tank gauging systems that are third party certified for the size and capacity of the AST. Only third-party certifications that have been reviewed and approved by the national work group on leak detection evaluations (NWGLDE) for AST use, as evidenced by their posting on the NWGLDE website, nwgle.org, will be accepted.

B. Owners and operators of ASTs may use automatic tank gauging as a method of release detection, every 30 days, if the automatic tank gauging system:

(1) tests for the loss of product and can detect a two-tenth gallon per hour leak rate from any portion of the tank that routinely contains regulated substances; and

(2) can conduct inventory control or another test of equivalent performance in accordance with all of the following:

(a) inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the AST are recorded each operating day;

(b) the equipment used is capable of measuring the level of regulated substance over the full range of the AST's height to the nearest one-eighth of an inch;

(c) the regulated substance inputs are reconciled with delivery receipts by measurement of the AST inventory volume before and after delivery;

(d) deliveries are made through a drop tube that extends to within one foot of the AST bottom, unless the AST is bottom loaded;

(e) regulated substance dispensing is metered and recorded within the state standards for meter calibration or an accuracy of six cubic inches for every five gallons of regulated substance withdrawn;

(f) the measurement of any water level in the bottom of the AST is made to the nearest one-eighth of an inch at least once a month; and

(g) practices described in the *American Petroleum Institute Publication RP1621, "Bulk Liquid Stock Control at Retail Outlets"* may be used, where applicable, as guidance in meeting the requirements of this section.

C. Owners and operators shall ensure a test of the proper operation of the automatic tank gauging system is performed at least annually starting three years after the effective date of these regulations and, at a minimum, as applicable to the facility, cover the following components and criteria:

(1) automatic tank gauge and other controllers: test alarm; verify system programming and configuration; test battery backup;

(2) probes and sensors: inspect for residual buildup; ensure floats move freely; ensure shaft is not damaged; ensure cables are free of kinks and breaks; test alarm operability and communication with controller;

(3) vacuum and pressure pumps and gauges: ensure proper communication with sensors and controller; and

(4) Inspections and testing shall be conducted by a person who is certified as a technician by the manufacturer of the automatic tank gauging system and meets the requirements for qualified testers in 20.5.105 NMAC.

D. Owners and operator shall use one of the following to comply with Paragraph C of this section:

(1) *Petroleum Equipment Institute Publication RP 1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities"*; or

(2) The manufacturer's testing or inspection instructions.

E. Owners and operators shall review the monitoring reports on a monthly basis and notify the department in accordance with 20.5.118 NMAC if there is a failed or inconclusive result.

F. Owners and operator shall produce a report for all inspections and testing required in this section which includes the results of the inspection or test and it shall be maintained and submitted in accordance with 20.5.111.1111 NMAC and 20.5.111.1112 NMAC.
[20.5.111.1104 NMAC - N, 07/24/2018]

20.5.111.1105 REQUIREMENTS FOR AST UNDERGROUND PRESSURIZED PIPING INSTALLED PRIOR TO JULY 24, 2018:

Owners and operators of above ground storage tank systems with underground pressurized piping installed prior to the effective date of these regulations must have implemented a method, or a combination of methods, of release detection for the piping. The monitoring method, or combination of methods, shall follow the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance by the department.

A. Owners and operators of AST systems shall:

(1) use automatic line leak detectors (including mechanical or electronic detectors) that alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping when a leak is detected at three gallons per hour at 10 pounds per square inch line pressure within one hour;

(2) perform an annual test of the operation of the leak detector which includes a simulated leak, is conducted in accordance with the manufacturer's testing protocol, and confirms the automatic line leak detector detects a leak at three gallons per hour at 10 pounds per square inch line pressure within one hour; and
and

(3) use a method, or combination of methods, for monitoring the piping for releases that complies with one of the following:

(a) a precision line tightness test is conducted every 12 months that is capable of detecting a leak of one-tenth gallons per hour at one and one-half times the operating pressure; or

(b) use interstitial monitoring that complies with all of the requirements in 20.5.111.1103 NMAC, 20.5.111.1106 NMAC, and all of the following:

(i) shall automatically shut off the submersible turbine pump for the AST if the sensors used for interstitial monitoring detect regulated substances or water within the interstice or in the containment sumps associated with the piping; and

(ii) all sensors shall be tested annually in accordance with Subsection C of 20.5.11.1104 NMAC;

B. Automatic line leak detectors and sensors required in this section that either fail a test or are found to be damaged shall be repaired or replaced, and a line tightness test shall be conducted in accordance with Subparagraph (a) of Paragraph (3) of Subsection A of this section once the repairs or replacements have been completed;

C. Equipment and methods used to monitor the piping shall be appropriate for the type and length of piping.

D. Owners and operators shall use one or more of the following to comply with the requirements of this section:

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

(2) *Petroleum Equipment Institute RP200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling"*;

(3) *American Petroleum Institute Publication RP 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems"*;

(4) *American Petroleum Institute 570, "Piping Inspection Code: In-Service Inspection, Repair, and Alteration of Piping Systems"*; and

(5) *American Society of Mechanical Engineering Standard B31.3, "Process Piping"*.

E. Owners and operators shall maintain all records of release detection and testing in accordance with 20.5.111.1111 NMAC and provide to the department reports for all leak detector testing, line tightness testing, and sensor testing in accordance with 20.5.111.1112 NMAC.

[20.5.111.1105 NMAC - N, 07/24/2018]

20.5.111.1106 REQUIREMENTS FOR AST UNDERGROUND PRESSURIZED PIPING INSTALLED OR MODIFIED ON, OR AFTER JULY 24, 2018: Owners and operators of above ground storage tank systems with underground pressurized piping installed or modified on, or after the effective date of these regulations shall use interstitial monitoring as the method of release detection for the piping. The interstitial monitoring method shall follow the current edition of an industry standard or code of practice developed by a nationally recognized association or independent testing laboratory approved in advance by the department.

A. Owners and operators of AST systems shall:

(1) use automatic line leak detectors (including mechanical or electronic detectors) that alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping when a leak is detected at three gallons per hour at 10 pounds per square inch line pressure within one hour;

(2) perform an annual test of the operation of the leak detector which includes a simulated leak, is conducted in accordance with the manufacturer's testing protocol, and confirms the automatic line leak detector detects a leak at three gallons per hour at 10 pounds per square inch line pressure within one hour;

(3) use interstitial monitoring that complies with all of the requirements in 20.5.111.1103 NMAC and all of the following:

(a) Sensors shall be installed in all containment sumps associated with the piping, including under-dispenser containment, transition sumps, and submersible turbine pump containment sumps used to monitor the interstice;

(b) Sensors shall:

(i) monitor the interstice;

(ii) monitor all containment sumps associated with the piping;

(iii) sound an alarm and automatically shut off the submersible turbine pump when a regulated substance or water is detected;

(iv) be positioned in the lowest point of the containment sump; and

(v) be tested annually in accordance with Subsection C of 20.5.111.1104

NMAC;

(c) Containment sumps used for interstitial monitoring shall be tested every three years starting three years after the effective date of these regulations. The testing of the containment sumps shall comply with one of the following:

(i) the testing procedures as described in *Petroleum Equipment Institute Publication RP 1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities"*; or

(ii) the equipment manufacturer's published testing procedures.

B. Automatic line leak detectors and sensors required in this section that either fail a test or are found to be damaged shall be repaired or replaced, and a line tightness test shall be conducted in accordance with Subparagraph (a) of Paragraph (3) of Subsection A of 20.5.111.1105 NMAC once the repairs or replacements have been completed;

C. Equipment and methods used to monitor the piping shall be appropriate for the type and length of piping.

D. Owners and operators shall use one or more of the following to comply with the requirements of this section:

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

(2) *Petroleum Equipment Institute RP200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling"*;

(3) *American Petroleum Institute Publication RP 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems"*;

(4) *American Petroleum Institute 570, "Piping Inspection Code: In-Service Inspection, Repair, and Alteration of Piping Systems"*; and

(5) *American Society of Mechanical Engineering Standard B31.3, "Process Piping"*.

E. Owners and operators shall maintain all records of release detection and testing in accordance with 20.5.111.1111 NMAC and provide to the department reports for all release detector testing, line tightness testing, containment sump testing, and sensor testing in accordance with 20.5.111.1112 NMAC.

[20.5.111.1106 NMAC - N, 07/24/2018]

20.5.111.1107 REQUIREMENTS FOR AST UNDERGROUND SUCTION PIPING INSTALLED PRIOR TO JULY 24, 2018:

A. Owners and operators of above ground storage tank systems where piping conveys regulated substances under suction and was installed prior to the effective date of these regulations shall use one of the following methods. These methods shall be designed to detect a release from any portion of underground piping:

- (1) An annual line tightness test shall be conducted and the tightness testing shall be capable of detecting a one-tenth gallon per hour leak at one and one-half times the operating pressure; or
- (2) Interstitial monitoring shall be used in accordance with all of the requirements in 20.5.111.1103 NMAC and 20.5.111.1105 NMAC;

B. Release detection is not required for suction piping that is designed and constructed to meet all of the following standards:

- (1) the below-grade piping operates at less than atmospheric pressure;
- (2) the below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
- (3) only one check valve is included in each suction line;
- (4) the check valve is located directly below and as close as practical to the suction pump;

and

- (5) compliance with Paragraphs (2) through (4) of Subsection B of this section is demonstrated.

C. Owners and operators shall use one or more of the following to comply with the requirements of this section:

- (1) *Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"*;
- (2) *Petroleum Equipment Institute RP200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling"*;
- (3) *American Petroleum Institute Publication RP 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems"*;
- (4) *American Petroleum Institute 570, "Piping Inspection Code: In-Service Inspection, Repair, and Alteration of Piping Systems"*; and
- (5) *American Society of Mechanical Engineering Standard B31.3, "Process Piping"*.

D. Owners and operators shall maintain all records of release detection and testing in accordance with 20.5.111.1111 NMAC and provide to the department reports for all release detector testing, line tightness testing, and sensor testing in accordance with 20.5.111.1112 NMAC.

[20.5.111.1107 NMAC - N, 07/24/2018]

20.5.111.1108 REQUIREMENTS FOR AST UNDERGROUND SUCTION PIPING INSTALLED ON OR AFTER JULY 24, 2018:

A. Owners and operators of above ground storage tank systems where piping conveys regulated substances under suction and was installed after the effective date of these regulations shall meet the requirements for interstitial monitoring in 20.5.111.1103 NMAC and the following:

(1) Sensors shall be installed in all containment sumps associated with the piping, including under-dispenser containment, transition sumps, and secondary containment sumps used to monitor the interstice.

- (2) Sensors shall:
- (a) monitor the interstice;
 - (b) monitor all containment sumps associated with the piping;
 - (c) sound an alarm and automatically shut off the pump when a regulated substance or water is detected;

- (d) be positioned in the lowest point of the containment sump; and
- (e) be tested annually in accordance with Subsection C of 20.5.111.1104 NMAC.

(3) Containment sumps used for interstitial monitoring shall be tested every three years beginning three years after the effective date of the regulations. The testing of the containment sumps shall comply with one of the following:

- (a) the testing procedures as described in *Petroleum Equipment Institute Publication RP 1200, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities"*; or

(b) the equipment manufacturer's published testing procedures.

B. Release detection is not required for suction piping that is designed and constructed to meet all of the following standards:

- (1) the below-grade piping operates at less than atmospheric pressure;
 - (2) the below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
 - (3) only one check valve is included in each suction line;
 - (4) the check valve is located directly below and as close as practical to the suction pump;
- and
- (5) compliance with Paragraphs (2) through (4) of Subsection B of this section is demonstrated.

C. Owners and operators shall use one or more of the following to comply with the requirements of this section:

- (1) *Petroleum Equipment Institute Publication RP 100, "Recommended Practices for Installation of Underground Liquid Storage Systems";*
- (2) *Petroleum Equipment Institute RP 200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling";*
- (3) *American Petroleum Institute Publication RP 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems";*
- (4) *American Petroleum Institute 570, "Piping Inspection Code: In-Service Inspection, Repair, and Alteration of Piping Systems";* and
- (5) *American Society of Mechanical Engineering Standard B31.3, "Process Piping".*

D. Owners and operators shall maintain all records of release detection and testing in accordance with 20.5.11.1111 NMAC and provide to the department reports for all release detector testing, line tightness testing, and sensor testing in accordance with 20.5.11.1112 NMAC.
[20.5.111.1108 NMAC - N, 07/24/2018]

20.5.111.1109 REQUIREMENTS FOR AST ABOVE GROUND PIPING:

A. Owners and operators of above ground storage tanks with above ground piping that conveys regulated substances either by suction or pressure shall monitor for releases every 30 days and may use visual inspection if all portions of the piping are completely visible, readily accessible, and not in contact with the ground or soil. Owners and operators shall keep a log of visual inspection of piping that meets the requirements of 20.5.111.1102 NMAC.

B. Owners and operators of above ground storage tank systems with above ground piping that conveys a regulated substance under pressure shall not be required to install automatic line leak detectors as long as the entire piping run is above ground and a solenoid valve has been installed on the piping at the submersible turbine pump. Also, a manually activated control shall be installed that will permit the submersible turbine pump to operate only when a dispensing nozzle is removed from its bracket or normal position with respect to the dispensing device and shall stop the submersible turbine pump when the dispensing nozzle is returned to the bracket.

C. For piping that does not meet these requirements, owners and operators shall use a method, or combination of methods, that meet the requirements in 20.5.111.1105 NMAC through 20.5.111.1108 NMAC depending on the piping type and when the piping was installed or modified.

D. Owners and operators shall use one or more of the following to comply with the requirements of this section:

- (1) *Petroleum Equipment Institute Publication RP 100, "Recommended Practices for Installation of Underground Liquid Storage Systems";*
- (2) *Petroleum Equipment Institute RP 200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling";*
- (3) *American Petroleum Institute Publication RP 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems";*
- (4) *American Petroleum Institute 570, "Piping Inspection Code: In-Service Inspection, Repair, and Alteration of Piping Systems";*
- (5) *American Society of Mechanical Engineering Standard B31.3, "Process Piping";*
- (6) *National Fire Protection Association Standard NFPA 110, "Standard for Emergency and Standby Power Systems";* and

(7) *Petroleum Equipment Institute Publication RP1400, "Recommended Practices for the Design and Installation of Fueling Systems for Emergency Generators, Stationary Diesel Engines, and Oil Burner Systems"*.

[20.5.111.1109 NMAC - N, 07/24/2018]

20.5.111.1110 ALTERNATE METHODS:

A. If owners and operators want to install materials or methods of release detection equipment for tanks or piping required in 20.5.111 NMAC that are not 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. At a minimum, the request for an alternate method shall contain the following:

- (1) date the form is completed;
- (2) facility name, facility ID number, address (with county) and telephone number;
- (3) owner name, owner ID number, address and telephone number;
- (4) citation to regulation for which alternate method or material (such as type of piping) is requested;
- (5) brief description of the proposed alternate method or material;
- (6) justification of proposed alternate method or material, including citation to a standard or code supporting its use, if available; and
- (7) demonstration of its equivalent protection of public health, safety and welfare and the environment.

B. Another type of release detection method, or combination of methods, may be used if approved pursuant to this section, and if, for ASTs, it can detect a two-tenth gallon per hour leak rate monthly or a release of 150 gallons within a month from a tank with a probability of detection of 0.95 and a probability of false alarm of 0.05.

C. The department may approve another method if owners and operators can demonstrate that the method can detect a release as effectively as any of the applicable methods allowed in 20.5.111 NMAC. In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner and operator shall comply with any conditions imposed by the department on its use to ensure the protection of public health, safety and welfare and the environment. 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 as the methods provided in this section.

[20.5.111.1110 NMAC - N, 07/24/2018]

[The department provides an optional form that may be used to request approval of an alternate method. The form is available on the petroleum storage tank bureau's pages on the department website or by contacting the Petroleum Storage Tank Bureau at 505-476-4397 or 2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico 87505.]

20.5.111.1111 RELEASE DETECTION RECORDKEEPING:

A. All storage tank system owners and operators shall maintain records in accordance with 20.5.110 NMAC demonstrating compliance with all applicable requirements of 20.5.111 NMAC. If the owner and operator of a storage tank are separate persons, only one person is required to maintain the records required by this section; however, both parties are liable in the event of noncompliance.

B. Records to be maintained shall include, but not be limited to:

- (1) all written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer;
- (2) the results of any sampling, testing, or monitoring;
- (3) written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site and any schedules of calibration and maintenance required by the release detection equipment manufacturer;
- (4) the results of annual operational tests of release detection equipment. At a minimum, the results must list each component tested, indicate whether each component tested meets criteria for the specified equipment or needs to have action taken, and describe any action taken to correct an issue.

[20.5.111.1111 NMAC - N, 07/24/2018]

20.5.111.1112 REPORTING:

A. Owners and operators shall provide to the department all reports as required in 20.5.111 NMAC within 60 days of completion of the tests.

B. Owners and operators shall report any test or inspection results that are anything other than a “pass” or “normal” result to the department within 24 hours of completion of the test or inspection in accordance with 20.5.118.1801 NMAC.

C. Owners and operators shall ensure all reports required in 20.5.111 NMAC contain, at a minimum, the following:

- (1) facility name and address;
- (2) facility ID number;
- (3) owner and operator name and address;
- (4) owner ID number;
- (5) date report was completed;
- (6) date of the test;
- (7) duration of the test;
- (8) brand name and model number of equipment being tested or sufficient description to allow identification of the equipment;
- (9) type of equipment being tested;
- (10) type of test, including test procedures and methods;
- (11) results of the test;
- (12) name of the person who performed the inspection or test and their qualifications as specified in 20.5.105 NMAC;
- (13) brand name and model number of the testing equipment used during the test and the date the testing equipment was last calibrated;
- (14) for inspections and testing of automatic tank gauge systems as required in 20.5.111.1104 NMAC, a completed copy of the automatic tank gauge operation inspection form in *Petroleum Equipment Institute Publication RP 1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities”*;
- (15) for testing of automatic line leak detectors:
 - (a) serial number of the leak detector;
 - (b) description of storage tank system;
 - (c) detected leak rate in gallons per hour;
 - (d) line pressure and functional element holding pressure in pounds per square inch;
 - (e) type, diameter and length of piping; and
 - (f) test results, including the following:
 - (i) whether flow is restricted by a mechanical line leak detector when a leak is detected;
 - (ii) whether the turbine shuts down, an alarm is triggered, or both, when a simulated leak is induced during the testing of an electronic line leak detector;
- (16) for testing of sensors used for monitoring secondary containment and interstitial spaces:
 - (a) the information in the liquid sensor functionality testing form in the *Petroleum Equipment Institute Publication RP 1200, “Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities”*; and
 - (b) information on whether each individual sensor used for interstitial monitoring meets automatic shutdown requirements in 20.5.111 NMAC; and
- (17) for line tightness testing:
 - (a) leak rate;
 - (b) testing pressure;
 - (c) bleed back;
 - (d) piping type;
 - (e) piping diameter; and
 - (f) length of piping.

D. Owners and operators may use forms and checklist developed by the department, when available, to meet the reporting requirements in 20.5.111 NMAC.

[20.5.111.1112 NMAC - N, 07/24/2018]

[Provide reports as required in Subsection A of this section as directed at the petroleum storage tank bureau's pages on the department website. The forms or checklists referred to in Subsection E of this section, if available, may be found either on the department's website or by calling the Petroleum Storage Tank Bureau at 505-476-4397.]

HISTORY OF 20.5.111 NMAC:

Pre-NMAC History: The material in this part was derived from that previously filed with the commission of public records - state records center and archives.

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection, 9/12/88.

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection, 2/14/89.

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection, 8/4/89.

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection, 6/12/90.

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection, 6/26/90.

History of Repealed Material:

20 NMAC 5.6, Underground Storage Tanks - Release Detection (filed 2/27/97) repealed 8/15/03.

20.5.6 NMAC, Petroleum Storage Tanks - Release Detection (filed 7/16/03) repealed 4/4/08.

20.5.6 NMAC, Petroleum Storage Tanks - Release Detection (filed 4/4/08) repealed 7/24/18.

Other History:

EIB/USTR-6, Underground Storage Tank Regulations - Part VI - Release Detection (filed 6/26/90) renumbered, reformatted and replaced by 20 NMAC 5.6, Underground Storage Tanks - Release Detection, effective 11/5/95;

20 NMAC 5.6, Underground Storage Tanks - Release Detection (filed 10/6/95) replaced by 20 NMAC 5.6, Underground Storage Tanks - Release Detection, effective 4/1/97;

20 NMAC 5.6, Underground Storage Tanks - Release Detection (filed 2/27/97) was renumbered, reformatted and replaced by 20.5.6 NMAC, Petroleum Storage Tanks - Release Detection, effective 8/15/03.

20.5.6 NMAC, Petroleum Storage Tanks - Release Detection (filed 7/16/03) replaced by 20.5.6 NMAC, Petroleum Storage Tanks - Release Detection, effective 4/4/08.

20.5.6 NMAC, Petroleum Storage Tanks - Release Detection (filed 4/4/08) replaced by 20.5.111 NMAC, Petroleum Storage Tanks - Release Detection for Above Ground Storage Tank Systems, effective 7/24/18.