6 NYCRR PART 613
PETROLEUM BULK STORAGE

(Statutory Authority: Environmental Conservation Law (ECL) sections 1-0101, 3-0301, 3-0303, 17-0301, 17-0303, 17-0501, 17-1001 through 17-1017, and 17-1743; Navigation Law sections 173, 175, 176, 178, and 191)

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Subpart 613-1 General Provisions

613-1.1 Purpose

The purpose of this Part is to regulate the bulk storage of petroleum in order to protect public health and the environment.

613-1.2 Applicability

(a) Every facility is subject to the provisions of this Part.

(b) Every on-shore major facility is subject to the provisions of this Part except for the provisions of section 1.9 of this Part.

(c) Every carrier is subject to the provisions of sections 2.2(a)(7), 3.2(a)(7), and 4.2(a)(7) of this Part.

(d) Any provision of this Part that imposes a requirement on a facility imposes that requirement on every operator and every tank system owner at the facility, unless expressly stated otherwise.

613-1.3 Definitions

(a) *Aboveground storage tank system* or *AST system* means any tank system that is not an underground storage tank system.

(b) *Accessible underground area* means an underground area – such as a basement, cellar, shaft, or vault – that allows for the physical inspection of the exterior of the tank.

(c) *Ancillary equipment* means fittings, flanges, valves, pumps, and other devices that are used to distribute, meter, or control the flow of petroleum to and from a tank.

(d) *Carrier* means a person who transports petroleum and delivers it into a tank system.

(e) *Category 1 tank system* means any tank system whose tank was installed before December 27, 1986.

(f) *Category 2 tank system* means any tank system whose tank was installed from December 27, 1986 through October 11, 2015.

(g) *Category 3 tank system* means any tank system whose tank was installed after October 11, 2015.

(h) *Cathodic protection* means the prevention of electrolytic corrosion of a metallic structure (tank or piping) by causing it to act as the cathode rather than as the anode of an electrochemical cell.

(i) *Cathodic protection tester* means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to metal portions of tank systems in contact with the ground. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of metal portions of tank systems in contact with the ground.

(j) *Class A Operator* means the individual who has primary responsibility to operate and maintain the UST system(s) at a facility in accordance with applicable requirements of this Part. The Class A Operator typically manages resources and personnel to achieve and maintain compliance with the requirements of this Part.

(k) *Class B Operator* means the individual who has day-to-day responsibility for implementing applicable requirements of this Part. The Class B Operator typically implements field aspects of operation, maintenance, and associated recordkeeping for a UST system.

(l) *Class C Operator* means the individual who has primary responsibility for initially addressing emergencies presented by a spill or release from a UST system. The Class C Operator typically controls or monitors the dispensing or sale of petroleum.

(m) *Compatible* means, in the case of two or more substances, able to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the tank system.

(n) *Containment* means equipment that limits or prevents the spread of a petroleum release.

(o) *Corrosion expert* means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control of metal portions of tank systems in contact with the ground. Such a person must be:

(1) a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of metal portions of tank systems in contact with the ground; or

(2) accredited or certified by NACE International as a corrosion specialist or cathodic protection specialist.

(p) *Department* means the New York State Department of Environmental Conservation.

(q) *Design capacity* means the amount of petroleum that a tank is designed to hold. If a certain portion of a tank is unable to store petroleum because of its integral design (for example, electrical equipment or other interior components take up space), the design capacity of the tank is thereby reduced. Actions taken to physically alter the design capacity of a tank (such as drilling a hole in the side of the tank so that it cannot hold petroleum above that point) will not change the design capacity of the tank.

(r) *Dielectric material* means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate tank systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the tank system (for example, tank from piping).

(s) *Dispenser system* means equipment located aboveground that meters the amount of petroleum transferred to a point of use outside the tank system, such as a motor vehicle. This system includes the equipment necessary to connect the dispenser to the tank system.

(t) *Environment* means any water, water vapor, land including land surface or subsurface, air, fish, wildlife, biota, and all other natural resources.

(u) *Excavation zone* means the volume containing the UST system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

(v) *Facility* means a single property, or contiguous or adjacent properties used for a common purpose which are owned or operated by the same person or persons, on or in which are located:

(1) one or more tank systems having a combined storage capacity of more than 1,100 gallons (including a major facility); or

(2) an underground tank system having a storage capacity that is greater than 110 gallons.

(3) This term does not include:

(i) any operational tank system;

(ii) any temporary tank system;

(iii) any tank system that is part of a facility that has been constructed, acquired, or operated in accordance with a Certificate of Public Convenience and Necessity issued by the Federal Energy Regulatory Commission pursuant to the terms of 15 U.S.C. section 717f;

(iv) any heating oil tank system used for on-premises consumption that

is not interconnected to any other heating oil tank system and which has a storage capacity of less than 1,100 gallons, unless such tank system is located on a property that has another tank system or set of tank systems that otherwise independently meets the definition of facility under paragraph (1) or (2) of this subdivision;

(v) any tank system that has a storage capacity of 1,100 gallons or less and is used to store motor fuel for non-commercial purposes (not for resale) at a farm or residence, unless such tank system or systems are located on a property that has another tank system or set of systems that otherwise independently meets the definition of facility under paragraph (1) or (2) of this subdivision;

(vi) any tank system that is used to store or contain asphalt cement (however, a tank system used to store or contain asphaltic emulsions is included);

(vii) any tank system that has been permanently closed in accordance with sections 2.6(b), 3.5(b), or 4.5(b) of this Part;

(viii) pipelines that enter or leave the property; or

(ix) any wastewater treatment tank system.

(w) *Facility owner* means any person who has legal or equitable title to the real property of a facility.

(x) *Farm* means a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. Farm includes fish hatcheries, rangeland, and nurseries with growing operations.

(y) *Flow-through process tank system* means a tank system that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tank systems do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

(z) *Free product* means petroleum that is present as a nonaqueous phase liquid (for example, liquid that is not dissolved in water.)

(aa) (1) *Hazardous substance* means:

(i) a substance included on the list provided under section 597.3 of this Title; or

(ii) a hazardous substance mixture.

(2) Hazardous substance does not include petroleum as defined in subdivision (as) of this section, except as may be part of a blend described in section 1.3(ab)(2) of this Part.

(ab) *Hazardous substance mixture* means:

(1) a mixture of any substances covered under section 1.3(aa)(1)(i) of this Part; or

(2) a blend that consists of:

(i) less than 70 percent by volume of the substances covered under sections 1.3(as)(1)(i) through (iii) of this Part (singly or in combination);

(ii) one percent or more by volume of one or more substances covered under section 1.3(aa)(1)(i) of this Part; and

(iii) no hazardous waste as identified or listed in Part 371 of this Title; or

(3) a blend that consists of:

(i) one percent or more by volume of the substances covered under section 1.3(aa)(1)(i) of this Part (singly or in combination);

(ii) any substance not covered under sections 1.3(as)(1)(i) through (iii) of this Part; and

(iii) no hazardous waste as identified or listed in Part 371 of this Title.

(ac) *Heating oil* means petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, or No. 6 technical grade of fuel oil; other residual fuel oils (including Navy Special Fuel Oil, Bunker C, and clarified oil); and other forms of petroleum when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

(ad) *Hydraulic lift tank system* means a tank system holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

(ae) *Install* or *installation* means the emplacement of a tank system, or any part thereof, in, on, or above the ground. The movement of a tank from one location for use in a different location constitutes the installation of the tank system.

(af) *Leak*, *spill*, or *spillage* means any escape of petroleum from the ordinary container employed in the normal course of storage, transfer, processing, or use. Any escape of petroleum that enters containment (for example, a catch basin) is a spill.

(ag) *Leak detection* means determining whether a release of petroleum has occurred

from a tank system or a spill has occurred into the interstitial space between the tank system and its secondary barrier or secondary containment around the tank system.

(ah) *Lining* means a coating of a material that is bonded firmly to the interior surface of a tank and which is compatible with the petroleum stored.

(ai) *Liquid trap* means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

(aj) *Major facility* includes any refinery, storage or transfer terminal, pipeline, deep water port, drilling platform, or any appurtenance related to any of the preceding that is used or is capable of being used to refine, produce, store, handle, transfer, process, or transport petroleum. A vessel will be considered a major facility only when petroleum is transferred between vessels in the waters of the State of New York. Fueling operations between vessels will not be considered petroleum transfers between vessels for the purposes of this definition. A facility with a combined design capacity of less than 400,000 gallons is not a major facility for the purposes of this Part.

(ak) *Motor fuel* means petroleum that is typically used in the operation of a motor engine, such as motor gasoline, aviation gasoline, jet fuel, or No. 1 or No. 2 diesel fuel.

(al) *On-premises consumption* means consumed at the site where the tank system containing the heating oil is located.

(am) *On-shore major facility* means a major facility that is not a vessel or a drilling platform, is located on or under any land and, if partially or totally located on submerged land, is physically connected to the shore by permanent structures located above the mean high-water level.

(an) *Operational tank system* means a tank system that is integral to, or connected to, equipment or machinery for which the petroleum in the system is used solely for operational purposes. Petroleum in an operational tank system is not consumed in any context (such as being combusted as fuel or used as a raw material in a manufacturing process). Examples of operational tank systems include hydraulic lift tank systems, lubricating oil system reservoirs, electrical cable oil reservoirs, and electrical transformers.

(ao) *Operator* means any person who leases, operates, controls, or supervises a facility.

(ap) *Out-of-service* with respect to a tank system means no longer receiving or dispensing petroleum.

(aq) *Overfill* means a spill that occurs when a tank is filled beyond its design capacity.

(ar) *Person* means any individual, public or private corporation, political subdivision, government agency, municipality, co-partnership, association, firm, consortium, joint venture, interstate body, trust, estate, or any other legal entity whatsoever.

(as) (1) *Petroleum* means:

(i) crude oil and any fraction thereof;

(ii) synthetic forms of lubricating oils, dielectric oils, insulating oils, hydraulic oils, and cutting oils;

(iii) any complex blend of hydrocarbons that is not derived from crude oil; or

(iv) any petroleum mixture.

(2) Petroleum does not include:

(i) any hazardous substance covered under subdivision (aa) of this section, except as may be part of a blend described in section 1.3(at)(2) of this Part;

(ii) animal or vegetable oils; or

(iii) substances that are gases at standard temperature and pressure.

(at) *Petroleum mixture* means:

(1) a mixture of any substances covered under sections 1.3(as)(1)(i) through (iii) of this Part; or

(2) a blend that consists of:

(i) at least 70 percent by volume of the substances covered under sections (as)(1)(i) through (iii) of this Part (singly or in combination) and

(ii) one or more other substances, except any hazardous waste as identified or listed in Part 371 of this Title; or

(3) a blend that consists of:

(i) one percent or more by volume of the substances covered under sections 1.3(as)(1)(i) through (iii) of this Part (singly or in combination), and

(ii) one or more other substances, other than hazardous substances covered under section 1.3(aa)(1)(i) of this Part and hazardous waste as identified or listed in Part

371 of this Title.

(au) *Pipe* or *piping* means a hollow cylinder made of non-earthen materials that is used for the conveyance of petroleum.

(av) *Release* means any intentional or unintentional action or omission resulting in the releasing, discharging, spilling, leaking, pumping, pouring, emitting, emptying or dumping of petroleum into the waters of the State or onto lands from which it might flow or drain into said waters, or into waters outside the jurisdiction of the state when damage may result to lands, waters, or natural resources within the jurisdiction of the state. A leak or spill of petroleum into secondary containment, including soil that is used as part of secondary containment, does not constitute a release.

(aw) *Repair* means to restore to working order a tank, a pipe, spill prevention equipment, overfill prevention equipment, corrosion protection equipment, leak detection equipment, or other tank system component that has caused a leak or a suspected leak of petroleum from the tank system or has failed to function properly.

(ax) *Replaced* means:

(1) for tanks – the removal of a tank and installation of another tank in the same location.

(2) for piping – the removal of 50 percent or more of piping that is connected to a single tank and installation of other piping, excluding connectors, to that same tank. For tanks with multiple piping runs, this definition applies independently to each piping run.

(ay) *Residence* means a building that is primarily used for dwelling purposes, including any home, apartment building, or nursing home. This term does not include a hospital or hotel.

(az) *Retail motor fuel facility* means a facility engaged in the business of selling motor fuel to customers for on-road use.

(ba) *Rural and remote area* means an area where one retail motor fuel facility is more than 20 miles from the nearest other retail motor fuel facility.

(bb) *Secondary containment* means containment that prevents any spilled or leaked petroleum from reaching the land or water outside the containment before cleanup occurs.

(bc) *Septic tank* means a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil, and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

(bd) *Stationary device* means a device that is not mobile. Examples of stationary

devices include tank systems that are fixed or permanently in place on foundations, racks, cradles, or stilts.

(be) *Storage capacity* means the total volume capacity of a tank system.

(bf) *Stormwater collection system* or *wastewater collection system* means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of stormwater and wastewater does not include treatment except where incidental to conveyance.

(bg) *Subtitle I* means Subtitle I of the Resource Conservation and Recovery Act, 42 U.S.C. sections 6991 – 6991m, entitled "Regulation of Underground Storage Tanks."

(bh) *Surface impoundment* means a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

(bi) *Tag* means a sign that is affixed by the Department or its authorized representative to the fill pipe(s) of a tank system giving notice that delivery is prohibited.

(bj) *Tank* means the portion of a tank system that contains the majority of the petroleum in the tank system. Each section of a compartmented tank will be treated as an individual tank.

(bk) *Tank system* means a stationary device designed to store petroleum that is constructed of non-earthen materials that provide structural support. This term includes all associated piping and ancillary equipment. This term does not include a dispenser system; septic tank; surface impoundment, pit, pond or lagoon; any tank used for emergency spill or overflow containment that is expeditiously emptied after use; stormwater or wastewater collection system; flow-through process tank system; or liquid trap or associated gathering lines directly related to oil or gas production and gathering operations.

(bl) *Tank system owner* means any person who has legal or equitable title to a tank system.

(bm) *Temporary tank system* means an aboveground tank system that is installed and intended for use on a property for no more than 180 consecutive days during any 12-month period.

(bn) *Tightness test* means a test that is capable of detecting a leak from a tank system of 0.1 gallons per hour with a probability of detection of at least 95 percent and a probability of false alarm of no more than five percent (with a threshold for declaring a leak of 0.05 gallons per hour). A tightness test is valid only if it is performed by a person who has been trained and certified or credentialed by the manufacturer/vendor of the test method.

(bo) *Title 10* means Title 10 of Article 17 of the Environmental Conservation Law (ECL) entitled "Control of the Bulk Storage of Petroleum."

(bp) *Under-dispenser containment* or *UDC* means containment underneath a dispenser system designed to prevent leaks from the dispenser system from reaching soil or groundwater.

(bq) *Underground piping* means piping that is beneath the surface of the ground or covered by materials. This term does not include piping the exterior of which can be physically inspected, or secondarily contained piping that is located aboveground.

(br) *Underground storage tank system* or *UST system* means a tank system that has ten percent or more of its volume beneath the surface of the ground or is covered by materials. This term does not include a tank system situated in an "accessible underground area." A tank system that is covered by materials does not include a tank system where the tank is completely above the surface of the ground and:

(1) the tank is fully enclosed within pre-fabricated secondary containment, or

(2) the tank is insulated in order to store heated petroleum.

(bs) *Used for a common purpose* means that the primary activity at the properties is the same. A common purpose among properties may be shown if the primary activity at each property falls under the same six-digit classification code of the North American Industry Classification System (a standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the United States business economy).

(bt) *Wastewater treatment tank system* means a tank system that is designed to receive and treat influent wastewater through physical, chemical, or biological methods.

(bu) *Waters* or *waters of the State* means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of the State of New York, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private, which are wholly or partially within or bordering the state or within its jurisdiction.

(bv) *Working capacity* means the portion of the design capacity of a tank that may be filled before engaging the overfill prevention device, reduced by an allowance for freeboard and petroleum expansion.

613-1.4 Access to records and facilities

(a) Upon reasonable notice of the Department, the operator, facility owner, or tank system owner of a facility must allow any designated employee or agent of the Department to review and copy any books, papers, documents and records relating to compliance with this Part.

(b) Any designated employee or agent of the Department may, at reasonable times and upon reasonable notice, enter and inspect a facility for purposes of assuring compliance with provisions of this Part, provided that the employee or agent is accompanied by the tank system owner, operator, or their designee.

613-1.5 Recordkeeping

(a) Every facility must maintain all records (in hard copy or electronic format) and make them available to the Department within three business days following the Department's request, except for the results of the last 30 days of leak detection monitoring, which must be immediately available at the time of request.

(b) In the case of permanent closure or change-in-service records required under section 2.6(e) of this Part, or permanent closure records required under sections 3.5(c) and 4.5(c) of this Part, the facility must transmit a copy of the records to the Department within 30 days after permanent closure or change in service.

613-1.6 Preemption

(a) Except where the Department has approved a local law or ordinance under section 1.7 of this Part, any local law or ordinance that is aimed at establishing or implementing a petroleum bulk storage program is preempted.

(b) The Department retains sole authority to administer and enforce this Part with respect to any public authority created under the Public Authorities Law, any state agency, or any major facility.

613-1.7 Approval of local laws or ordinances

(a) The Department may approve a local law or ordinance that establishes a local petroleum bulk storage program ("local program") for a city with a population over one million or a county when such local law or ordinance provides environmental protection equal to or greater than:

(1) the requirements of ECL Article 17, Title 10;

(2) the applicable requirements of ECL Article 71; and

(3) the requirements of this Part, excluding Subpart 6 of this Part.

(b) The city or county must seek approval from the Department in writing. At a minimum, the application must:

(1) include a copy of the local law or ordinance that establishes the local program;

(2) explain differences and inconsistencies between the provisions of the local law or ordinance and the provisions of this Part and include a line-by-line comparison of the provisions of the local law or ordinance with the provisions of this Part;

(3) identify enforcement procedures, penalties, and resources available to implement the local law or ordinance;

(4) contain a declaration of intent to administer and enforce the local law or ordinance; and

(5) contain a statement from the city or county attorney confirming that the city or county has adequate legal authority to carry out the local program. This statement should identify all sources of statutory authority that form the basis for the local program.

(c) *Conditions for Department approval*. In order to receive Department approval, a local law or ordinance that establishes a local program must, at a minimum, require that:

(1) every facility be inspected by the city or county at no less than three-year intervals; and

(2) inspection results, compliance determinations, and information regarding any enforcement action be made available to the Department.

(d) The Department will review every application and consult with the city or county and allow revisions to the initial application. The Department will issue a final written decision within 180 days after the initial application is submitted that either approves or disapproves the local law or ordinance. As part of the final written decision, the Department may approve the local law or ordinance and mandate adherence to conditions of approval that are additional to those set forth in subdivision (c) of this section. The finally approved version of the local law or ordinance along with any attendant conditions of approval will serve as the basis for the establishment of the local program to be implemented.

(e) Any modification to a previously approved local law or ordinance that establishes a local program that has not been newly approved by the Department under subdivision (d) of this section is without force or effect. Any attempt by a city or county to implement a modification to an approved local law or ordinance in the absence of Department approval of the modification is a ground for rescission of the Department's approval pursuant to subdivision (k) of this section.

(f) Every city or county administering an approved local program on October 11, 2015 may, within 180 days after October 11, 2015, request approval of a new or revised local law or ordinance that would establish a new or revised local program.

(g) The duration of the Department's approval of any local law or ordinance will not exceed five years.

(h) Every city or county administering an approved local program must, at least 180 days prior to the expiration of local program approval pursuant to subdivision (g) of this section:

(1) apply to the Department for renewal of the Department's approval of the existing local law or ordinance, or

(2) request approval of a new or revised local law or ordinance that would establish a new or revised local program.

(i) The Department's prior approval of a local program will remain in effect until the Department takes action under subdivisions (d) or (k) of this section.

(j) *Department's continuing jurisdiction*. To the extent that the provisions of this Part are not inconsistent with the provisions of the approved local law or ordinance, the Department maintains its jurisdiction over every facility in any city or county having an approved local program. Every facility located in a city or county with an approved local program must be registered only with such city or county.

(k) *Rescission of approval of a local law or ordinance*.

(1) If a city or county administering an approved local program on October 11, 2015 does not apply for approval of a new or revised local law or ordinance pursuant to subdivision (f) of this section, the Department's approval is deemed rescinded.

(2) If the Department determines that an approved local law or ordinance is not being properly administered or enforced, it will advise the chief executive officer of the city or county of its determination in writing. If appropriate actions, as determined by the Department, are not taken by the city or county to effectively and properly administer and enforce the local law or ordinance within 60 days after receipt of the Department's written determination, the Department will rescind approval.

(3) The Department's decision to rescind approval of a local law or ordinance will take effect when it is published in the Environmental Notice Bulletin.

(4) The Department will solely administer the provisions of this Part for every facility located in a city or county for which approval of the local law or ordinance has been rescinded.

(5) Within 30 days after the Department's approval of the local law or ordinance has been rescinded, every facility located in the relevant city or county must submit to the Department an application to initially register the facility pursuant to section 1.9(d) of this Part. The registration application must include the applicable per-facility registration fee.

613-1.8 Variances

(a) The Department may, upon written request from any person subject to this Part, grant a variance from one or more provisions of this Part. An application for a variance must:

(1) identify the specific provisions of this Part from which a variance is sought;

(2) demonstrate that the proposed activity will have no adverse impact on public health and the environment;

(3) demonstrate that the proposed activity will be consistent with the provisions of the ECL;

(4) demonstrate that the proposed activity will provide environmental protection equal to or greater than the requirements of this Part; and

(5) provide the Department with appropriate evidence that the new or alternative designs, practices, or methods meet the criteria of this subdivision.

(b) In granting any variance, the Department may impose conditions necessary to assure that the activity will have no adverse impact on public health or the environment.

(c) No variance request will be approved that would have the effect of continuing an activity or circumstance that constitutes non-compliance with any provision of this Part, unless the Department authorizes the submission of the variance request as part of an enforcement settlement.

613-1.9 Registration

(a) *General*. The facility owner must obtain an initial or revised registration certificate from the Department prior to the first receipt of petroleum into a new or replaced tank system. The facility owner must ensure that the registration information identified in subdivision (e) of this section remains current and accurate. In addition, every temporary tank system that is not removed within 180 days after installation must either be included on a new facility registration or be added to an existing facility's registration. The facility owner may rely on an authorized representative to satisfy any obligation imposed on the owner by the provisions of this section.

(b) *Transition from earlier regulation.* Unless the registration certificate must be revised or newly issued pursuant to the terms of subdivision (a) or (d) of this section, a registration certificate held by a facility on October 11, 2015 that was issued pursuant to terms of the former Part 612 of this Title remains valid until the expiration date recorded on the

certificate.

(c) *Renewal*. Registration must be renewed every five years from the date of the last valid registration certificate until the Department receives written notice and documentation from the facility owner that the facility has been permanently closed in accordance with section 2.6(b), 3.5(b), or 4.5(b) of this Part, or that ownership of the facility has been transferred in accordance with subdivision (d) of this section.

(d) *Application procedure for initial registration or transfer of ownership*.

(1) If ownership of the real property on which a facility is located is transferred, the new facility owner must submit an application to initially register the facility with the Department within 30 days after the transfer.

(2) The facility owner must submit a registration application using forms or electronic means as provided by the Department. Forms are available online at www.dec.ny.gov and at all Department offices.

(3) Each application for an initial registration or transfer of facility ownership must be accompanied by a copy of the current deed for the property at which the facility is located. If the facility is located on multiple properties, deeds for each property must be submitted with the application. If a deed does not exist for a particular property, the application must be accompanied by other evidence of ownership of the property.

(4) The application must be signed by the facility owner.

(5) Every registration application must be accompanied by payment of the applicable per-facility registration fee as shown in Table 1.

(e) *Application procedure for information corrections*.

(1) The facility owner must submit information corrections for registered facilities using forms or electronic means as provided by the Department. Forms are available online at www.dec.ny.gov and at all Department offices.

(2) The registration application must be signed by the facility owner.

(3) Changes in the following registration items are considered information corrections:

(i) contact information;

(ii) Class A or Class B Operator;

(iii) tank system status;

(iv) tank system equipment; or

(v) type of petroleum stored.

(4) No registration fee is required for submitting information corrections.

(f) *Application procedure for permanent closure or change in service of tank systems*. The facility owner must notify the Department of permanent closure or change in service of tank systems using forms or electronic means as provided by the Department. Forms are available online at www.dec.ny.gov and at all Department offices.

(g) *Registration certificate*. Upon submittal of a complete registration application and payment of the applicable registration fee, the Department will issue a registration certificate. The current registration certificate must be displayed at all times in a conspicuous location at the facility.

(h) *Advance notification of installation of a tank*. Except in the case of a temporary tank system, when a facility intends to install a tank, the facility owner must notify the Department of this action at least 30 days prior to installing the tank. For any tank added to a previously registered facility, any increased fee applicable to the facility will not be assessed until the registration is due for renewal.

Table 1: Facility Registration Fees

Total Design Capacity of All Tanks At the Facility	**Fee Per Facility**
Greater than 110 gallons to 1,100 gallons	$0
Greater than 1,100 to 2,000 gallons	$100
Greater than 2,000 gallons to less than 5,000 gallons	$300
5,000 gallons to less than 400,000 gallons	$500

613-1.10 References

The following technical standards are incorporated by reference. With the exception of the technical standards listed in subdivisions (a) and (f) of this section, these references are available for inspection and copying at the office of the Department's Division of Environmental Remediation, located at 625 Broadway, Albany, NY 12233 and the office of the Department of State, Division of Administrative Rules, located at One Commerce Plaza, 99 Washington Avenue, Suite 650, Albany, NY 12231. The technical standards listed in subdivisions (a) and (f) of this section are available for inspection at the office of the Department's Division of Environmental Remediation, located at 625 Broadway, Albany, NY 12233 and the office of the Department of State, Division of Administrative Rules, located at One Commerce Plaza, 99 Washington Avenue, Suite 650, Albany, NY 12231. All of the technical standards are also

available for inspection or purchase from the source listed for the given reference.

(a) American Petroleum Institute (API)
1220 L Street, NW, Washington, DC 20005-4070

(1) RP 651, “Cathodic Protection of Aboveground Petroleum Storage Tanks,” 3rd edition, January 2007.

(2) RP 1007, “Loading and Unloading of MC 306/DOT 406 Cargo Tank Motor Vehicles,” March 2001.

(3) RP 1604, “Closure of Underground Petroleum Storage Tanks,” 3rd edition, March 1996.

(4) RP 1615, “Installation of Underground Hazardous Substances or Petroleum Storage Systems,” 6th edition, April 2011.

(5) RP 1631, “Interior Lining and Periodic Inspection of Underground Storage Tanks,” 5th edition, June 2001.

(6) RP 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,” 1st edition, January 1983.

(7) RP 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,” 3rd edition, January 1996 (revised 2002).

(8) RP 1637, “Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals,” 3rd edition, July 2006.

(9) RP 2016, “Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks,” 1st edition, August 2001.

(10) RP 2200, “Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines,” 4th edition, September 2010.

(11) Standard 620, “Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks,” 7th edition, September 1982 (revised April 1985).

(12) Standard 620, “Design and Construction of Large, Welded, Low-Pressure Storage Tanks,” 11th edition, February 2008.

(13) Standard 650, “Welded Steel Tanks for Oil Storage,” 7th edition, February 1984.

(14) Standard 650, "Welded Steel Tanks for Oil Storage," 12th edition, March 2013.

(15) Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction," 4th edition, April 2009.

(b) Fiberglass Tank and Pipe Institute (FTPI)
11150 South Wilcrest Drive, Suite 101, Houston, TX 77099-4343

RP T-95-02, "Remanufacturing of Fiberglass Reinforced Plastic (FRP) Underground Storage Tanks," 2nd edition, January 1995.

(c) Ken Wilcox Associates, Inc. (KWA)
1125 Valley Ridge Drive, Grain Valley, MO 64029

"Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera," September 1999.

(d) NACE International (NACE)
1440 South Creek Drive, Houston, TX 77084-4906

(1) RP0193-2001, "External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms," 2001 edition.

(2) SP0169-2013, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems," 2013 edition.

(3) SP0285-2011 (formerly RP0285), "Corrosion Control of Underground Storage Tanks by Cathodic Protection," 2011 edition.

(4) TM0101-2012, "Measurement Techniques Related to Criteria for Cathodic Protection of Underground Storage Tank Systems," 2012 edition.

(5) TM0497-2012, "Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems," 2012 edition.

(e) National Fire Protection Association (NFPA)
1 Batterymarch Park, Quincy, MA 02169-7471

(1) NFPA 30, "Flammable and Combustible Liquids Code," 1984 edition.

(2) NFPA 30, "Flammable and Combustible Liquids Code," 2012 edition.

(3) NFPA 30A, "Automotive and Marine Service Station Code," 1984 edition.

(4) NFPA 30A, “Code for Motor Fuel Dispensing Facilities and Repair Garages,” 2012 edition.

(5) NFPA 326, “Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair,” 2010 edition.

(6) NFPA 385, “Standard for Tank Vehicles for Flammable and Combustible Liquids,” 2012 edition.

(f) Petroleum Equipment Institute (PEI)
P. O. Box 2380, Tulsa, OK 74101-2380

(1) RP100, “Recommended Practices for Installation of Underground Liquid Storage Systems,” 2011 edition.

(2) RP200, “Installation of Aboveground Storage Systems,” 2013 edition.

(g) Steel Tank Institute/Steel Plate Fabricators Association (STI/SPFA)
944 Donata Court, Lake Zurich, IL 60047

(1) F841, “Standard for Dual Wall Underground Steel Storage Tanks,” revised January 2006.

(2) F894, “ACT-100®: Specification for External Corrosion Protection of FRP Composite Steel USTs,” revised September 2013.

(3) F922, “Permatank®: Specification for Permatank®,” revised January 2013.

(4) F961, “ACT-100U®: Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks,” revised September 2013.

(5) R051, “Cathodic Protection Testing Procedures for sti-P_3® USTs,” revised January 2006.

(6) R892, “Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems,” revised January 2006.

(7) R972, “Recommended Practice for the Addition of Supplemental Anodes to sti-P_3® USTs,” revised December 2010.

(8) SP001, “Standard for the Inspection of Aboveground Storage Tanks,” 5th Edition, revised September 2011.

(9) sti-P_3®, “Specifications for sti-P_3® System for External Corrosion

Protection of Underground Steel Storage Tanks," July 1983.

(10) sti-P_3®, "Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks," revised September 2013.

(h) Underwriters Laboratories (UL)
333 Pfingsten Road, Northbrook, IL 60062-2096

(1) UL 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," April 1981 edition.

(2) UL 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," December 1996 edition.

(3) UL 80, "Standard for Steel Tanks for Oil-Burner Fuels and Other Combustible Liquids," September 2007 edition.

(4) UL 142, "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids," January 1985 edition.

(5) UL 142, "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids," December 2006 edition.

(6) UL 971, "Standard for Nonmetallic Underground Piping for Flammable Liquids," February 2006 edition.

(7) UL 971A, "Metallic Underground Fuel Pipe," October 2006 edition.

(8) UL 1316, "Standard for Glass-Fiber-Reinforced Plastic Underground Tanks for Petroleum Products," July 1983 edition.

(9) UL 1316, "Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures," January 1994 edition.

(10) UL 1746, "Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks," January 2007 edition.

(11) UL 2258, "Nonmetallic Tanks for Oil-Burner Fuels and Other Combustible Liquids," August 2010 edition.

(i) Underwriters Laboratories of Canada (ULC)
7 Underwriters Road, Toronto, ON, Canada M1R 3A9

(1) CAN4-S601-M84, "Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids," 1984.

(2) ULC-S601-07, “Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids,” 2007.

(3) ULC-S603-M1981, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids,” 1981.

(4) ULC-S603-00, “Standard for Steel Underground Tanks for Flammable and Combustible Liquids,” 2000.

(5) ULC-S603.1-M1982, “Standard for Galvanic Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids,” 1982.

(6) ULC-S603.1-11, “Standard for External Corrosion Protection Systems,” 2011.

(7) CAN4-S615-M83, “Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids,” 1983.

(8) ULC-S615-98, “Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids,” 1998.

(9) CAN4-S630-M84, “Standard for Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids,” 1984.

(10) ULC-S660-08, “Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids,” 2008.

613-1.11 Severability. If any provision of this Part or its application to any person or circumstance is held to be invalid, the remainder of this Part and the application of that provision to other persons or circumstances will not be affected.

Subpart 613-2 UST Systems Subject to Both Subtitle I and Title 10

613-2.1 UST systems: design, construction, and installation

(a) *Applicability*. The provisions of this Subpart apply to every UST system that is part of a facility except for a UST system that is subject to Subpart 3 of this Part. Every UST system covered by this Subpart is subject to regulation pursuant to Subtitle I and Title 10.

(b) *Equipment standards for Category 2 and 3 UST systems*. In order to prevent releases due to structural failure, corrosion, or spills and overfills, any facility containing a Category 2 or 3 UST system must meet the following requirements.

(1) Tanks. Every UST must be properly designed and constructed, and any portion underground that routinely contains petroleum must be protected from corrosion, as specified in subparagraphs (i) through (iii) of this paragraph. In addition, all USTs must be secondarily contained in accordance with subparagraph (iv) of this paragraph:

(i) Every UST made of fiberglass-reinforced plastic (FRP) must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*a*) For Category 2 USTs:

(*1*) UL 1316, July 1983; or

(*2*) CAN4-S615-M83, 1983.

(*b*) For Category 3 USTs:

(*1*) UL 1316, January 1994; or

(*2*) ULC-S615-98, 1998.

(ii) Every UST made of steel that is cathodically protected must meet the following conditions:

(*a*) The UST must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) For Category 2 USTs:

(*i*) UL 58, April 1981; or

(*ii*) ULC-S603-M1981, 1981.

(*2*) For Category 3 USTs:

(*i*) UL 58, December 1996; or

(*ii*) ULC-S603-00, 2000.

(*b*) The UST must be cathodically protected in the following manner:

(*1*) The UST must be coated with a suitable dielectric material;

(*2*) The cathodic protection system must be designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*i*) For Category 2 USTs:

(*A*) API RP 1632, January 1983;

(*B*) ULC-S603.1-M1982, 1982; or

(*C*) sti-P_3®, July 1983.

(*ii*) For Category 3 USTs:

(*A*) sti-P_3®, September 2013;

(*B*) UL 1746, January 2007;

(*C*) ULC-S603.1-11, 2011; or

(*D*) NACE SP0285-2011, 2011.

(*3*) Every field-installed cathodic protection system must be designed by a corrosion expert; and

(*4*) Every impressed current system must be designed to allow determination of current operating status as required in section 2.2(b)(3) of this Part.

(iii) Every UST made of steel that is clad or jacketed with a non-corrodible material must meet the following conditions:

(*a*) The UST must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of

references):

(*1*) For Category 2 USTs:

(*i*) UL 58, April 1981; or

(*ii*) ULC-S603-M1981, 1981.

(*2*) For Category 3 USTs:

(*i*) UL 58, December 1996; or

(*ii*) ULC-S603-00, 2000.

(*b*) The tank in a Category 2 UST system must be clad with a non-corrodible material according to the following:

(*1*) The UST must be electrically insulated from the piping with dielectric fittings, bushings, washers, sleeves, or gaskets which are compatible with petroleum, petroleum additives, and corrosive soils.

(*2*) The UST must have an exterior fiberglass reinforced plastic shell bonded firmly to the steel. This must consist of a base coat of resin five to eight mils (0.005 to 0.008 inch) in thickness overlain by two layers of resin with fiberglass reinforcement with a thickness of at least 85 mils (0.085 inch) after rolling. A final coat of resin must be applied to a thickness of 10 to 15 mils (0.01 to 0.015 inch). The thickness of the completed coating must be a minimum of 100 mils (0.1 inch) after curing. The coating's coefficient of thermal expansion must be compatible with steel so that stress due to temperature changes will not be detrimental to the soundness of the coating and a permanent bond between coating and steel is maintained. The coating must be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften, or separate and which must be capable of containing the product under normal service conditions in the event the steel wall is perforated. The coating must be non-corrodible under adverse underground electrolytic conditions and must be compatible with petroleum products and petroleum additives.

(*3*) The coating must be factory-inspected for air pockets, cracks, blisters, pinholes, and electrically tested at 10,000 volts for coating short circuits or coating faults. Any defects must be repaired. The coating must be factory checked with a Barcol Hardness Tester or equivalent to assure compliance with the manufacturer's minimum specified hardness standard for cured resin.

(*c*) The tank in a Category 3 UST system must be clad or jacketed with a non-corrodible material which is designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 1746, January 2007;

(*2*) STI F894, September 2013;

(*3*) STI F961, September 2013; or

(*4*) STI F922, January 2013.

(iv) Every UST must be secondarily contained according to the following:

(*a*) The secondarily contained UST must:

(*1*) be able to contain petroleum leaked from the primary containment until it is detected and removed; and

(*2*) be able to prevent the release of petroleum.

(*b*) The tank in a Category 2 UST system must have a secondary containment system which must consist of one of the following:

(*1*) Double-walled USTs. A double-walled UST which is designed and manufactured in accordance with all of the following standards:

(*i*) the interstitial space of the double-walled UST can be monitored for tightness;

(*ii*) outer jackets made of steel must have a minimum thickness of 10-gauge and be coated as prescribed in section 2.1(b)(1)(ii)(*b*)(*1*) or (iii)(*b*)(*2*) of this Part;

(*iii*) there are no penetrations of any kind through the jacket to the UST except top entry manholes and fittings required for filling the tank, venting the tank, or monitoring the interstitial space;

(*iv*) the outer jacket must cover at least the bottom 80 percent of the UST; and

(*v*) the jacket must be designed to contain an inert gas or liquid at a pressure greater than the maximum internal pressure or be able to contain a vacuum for a period of one month.

(*2*) Vaults. If a vault is used for secondary containment, the vault must be water tight, impervious to leakage of petroleum, and able to withstand chemical deterioration and structural stresses from internal and external causes. The vault must be a continuous structure with a chemical-resistant water stop used at any joint.

There must be no drain connections or other entries through the vault except there may be top entry manholes and other top openings for filling and emptying the UST, venting and monitoring, and pumping of petroleum which may leak into the vault.

(*3*) Cut-off walls. If a cut-off wall is used:

(*i*) The cut-off wall may be used only where groundwater levels are above the bottom of the UST excavation.

(*ii*) A cut-off wall must consist of an impermeable barrier which has a permeability rate to water equal to or less than 1×10^{-6} cm/sec. It must not deteriorate in an underground environment and in the presence of petroleum.

(*iii*) A cut-off wall must extend around the perimeter of the excavation and to an elevation below the lowest groundwater level.

(*iv*) If a synthetic membrane is used for a cut-off wall, any seams, punctures, or tears in the membrane must be repaired and made leak-tight prior to backfilling. No penetrations of the cut-off wall are allowed.

(*v*) Impervious native soil may serve as a cut-off wall when the impervious soil is continuous and is of sufficient depth, thickness, and extent to contain a leak. The soil must have a permeability rate to water equal to or less than 1×10^{-6} cm/sec.

(*4*) Impervious underlayment.

(*i*) An impervious underlayment may be used only under a UST at sites where groundwater levels are below the bottom of the excavation and where soils are well drained. This underlayment must have a permeability rate to water equal to or less than 1×10^{-6} cm/sec and must not deteriorate in an underground environment and in the presence of petroleum. The underlayment may consist of impervious native soils, an impervious concrete pad, a synthetic membrane, or any equivalent material. If a synthetic membrane is used, any seams, punctures, or tears must be repaired prior to backfilling.

(*ii*) The underlayment must extend at least one foot beyond the sides and ends of the UST and must have a slope of at least one-quarter inch per foot to a sump. An observation well must be positioned in the sump and extend to the surface of the excavation for the purpose of sampling for leakage and pumping out water or product which may accumulate.

(*iii*) Surface waters must be drained from the site using practices which may include capping the site with asphalt, concrete, or other impervious cover which is sloped to drainways leading away from the UST**.**

(*c*) The tank in a Category 3 UST system must be double-

walled and must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 58, December 1996;

(*2*) UL 1316, January 1994;

(*3*) UL 1746, January 2007;

(*4*) STI F841, January 2006; or

(*5*) STI F922, January 2013.

(2) Piping.

(i) Piping installed on or before October 11, 2015 that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with clauses (*a*) and (*b*) of this subparagraph.

(*a*) Piping made of a non-corrodible material must meet the following conditions.

(*i*) The materials, joints, and joint adhesives must be compatible with petroleum, petroleum additives, and corrosive soils.

(*ii*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*iii*) All joints must be liquid and air tight.

(*iv*) All underground piping must be tested for tightness before being covered, enclosed or placed in use.

(*b*) Piping made of steel that is cathodically protected must meet the following conditions.

(*i*) The cathodic protection system must provide a minimum of 30 years of protection in corrosive soils.

(*ii*) Cathodic protection must be provided by the use of sacrificial anodes or impressed current.

(*iii*) Where sacrificial anodes or impressed current systems are used, monitors to check on the adequacy of the system must be installed and kept in proper working condition. If at any time the monitor shows that the electrical current necessary

to prevent corrosion is not being maintained, the system must be repaired or the piping will be considered unprotected and must be tested for tightness in accordance with section 2.3(d)(2) of this Part.

(*iv*) Except where cathodic protection is provided by impressed current, underground piping must have dielectric bushings, washers, sleeves, or gaskets installed at the end to electrically isolate the piping from the UST and the dispenser. These dielectric connectors must be compatible with petroleum, petroleum additives, and corrosive soils.

(*v*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*vi*) All joints must be liquid and air tight.

(*vii*) All underground piping must be tested for tightness in accordance with section 2.3(d)(2) of this Part before being covered, enclosed, or placed in use.

(ii) Piping installed after October 11, 2015 that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice specified in clause (*a*) or (*b*) of this subparagraph. In addition, except for suction piping that meets the requirements of section 2.3(b)(2)(i)(*b*) of this Part, all piping installed after October 11, 2015 must be secondarily contained in accordance with clause (*c*) of this subparagraph. The entire piping run must be replaced when 50 percent or more of a piping run is replaced, unless the piping run has been constructed in accordance with the requirements of this subparagraph.

(*a*) All piping made of a non-corrodible material must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 971, February 2006; or

(*2*) ULC-S660-08, 2008.

(*b*) All piping made of steel that is cathodically protected must meet the following conditions:

(*1*) The piping is designed and constructed according to UL 971A, October 2006 (refer to section 1.10 of this Part for complete citation of references);

(*2*) The piping is coated with a suitable dielectric material;

(*3*) The cathodic protection system is designed,

fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*i*) API RP 1632, January 1996 (revised 2002);

(*ii*) STI R892, January 2006;

(*iii*) NACE SP0169-2013, 2013; or

(*iv*) NACE SP0285-2011, 2011.

(*4*) Any field-installed cathodic protection system is designed by a corrosion expert; and

(*5*) Any impressed current system is designed to allow determination of current operating status as required in section 2.2(b)(3) of this Part.

(*c*) All piping that is secondarily contained installed after October 11, 2015 must meet the following conditions:

(*1*) be able to contain petroleum leaked from the primary containment until it is detected and removed; and

(*2*) be able to prevent the release of petroleum.

(3) Spill and overfill prevention equipment.

(i) Except as provided in subparagraph (ii) of this paragraph, to prevent spilling and overfilling associated with petroleum transfer to the UST system, the facility must use the following spill and overfill prevention equipment:

(*a*) Spill prevention equipment that will prevent release of petroleum when the transfer hose is detached from the fill pipe (for example, a spill catch basin); and

(*b*) Overfill prevention equipment that will:

(*1*) automatically shut off flow into the UST when the UST is no more than 95 percent full;

(*2*) alert the operator or carrier when the UST is no more than 90 percent full by restricting the flow into the UST or triggering a high-level alarm; or

(*3*) restrict flow 30 minutes prior to overfilling, alert the operator or carrier with a high-level alarm one minute before overfilling, or automatically shut off flow into the UST so that none of the fittings located on top of the UST are exposed to

product due to overfilling.

(ii) A facility is not required to use the spill and overfill prevention equipment specified in subparagraph (i) of this paragraph if the UST system is filled by transfers of no more than 25 gallons at one time.

(4) Installation.

(i) Every Category 2 UST system must be installed in accordance with the manufacturer's instructions. This includes repair of any damage to the UST coatings prior to backfilling.

(ii) Every Category 3 UST system must be properly installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*a*) API RP 1615, April 2011;

(*b*) PEI RP100, 2011 edition; or

(*c*) NFPA 30 and 30A, 2012 editions.

(iii) As-built information records and installer certification. The facility must maintain the following information for the life of every Category 2 or 3 UST system:

(*a*) an accurate diagram:

(*1*) showing the location of:

(*i*) each UST and its associated piping, including registration identification number;

(*ii*) fill ports;

(*iii*) dispensing equipment;

(*iv*) check valves;

(*v*) transition sumps (if any); and

(*vi*) monitoring or recovery wells (if any).

(*2*) listing the following attributes for Category 3 UST systems:

(i) physical dimensions of each UST; and

(ii) installation date for each portion of piping installed after October 11, 2015.

(3) indicating at least one visible reference point (for example, facility structure), a frame of reference (for example, north arrow), and scale of the drawing.

(*b*) for each UST system component installed after October 11, 2015, a signed statement by the installer certifying that the UST system component was installed in compliance with subparagraph (ii) of this paragraph; and

(*c*) for each UST system component installed after October 11, 2015, the completed manufacturer's installation checklist showing that the UST system component was installed in accordance with the manufacturer's instructions or that the UST system component installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation.

(5) Dispenser systems. Each UST system must be equipped with under-dispenser containment for any new dispenser system that is installed.

(i) A dispenser system is considered new when both the dispenser and the equipment needed to connect the dispenser to the UST system are installed at a facility. The equipment necessary to connect the dispenser to the UST system includes check valves, shear valves, unburied risers or flexible connectors, or other transitional components that are beneath the dispenser and connect the dispenser to the underground piping.

(ii) Under-dispenser containment must be liquid-tight on its sides, on the bottom, and at any penetrations. Under-dispenser containment must allow for visual inspection and access to the components in the containment system or be continuously electronically monitored for leaks from the dispenser system.

(6) Valves.

(i) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the requirements of this subparagraph.

(ii) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream

from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the UST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this subparagraph.

(iii) Every fill pipe leading to a pump-filled UST must be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(iv) Each connection on a gravity-drained UST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this subparagraph.

(c) *Equipment standards for Category 1 UST systems.*

(1) Alternatives allowed. Every Category 1 UST system must comply with one of the following requirements:

(i) Category 2 and 3 UST system equipment standards under subdivision (b) of this section, with the exception of section 2.1(b)(4)(iii) of this Part, at the time of installation; or

(ii) The requirements in paragraphs (2) through (5) of this subdivision.

(2) Tank requirements. Every steel UST must meet one of the following requirements:

(i) Internal lining. Within ten years after lining, and every five years thereafter, a lined UST must be internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications. A report detailing the inspection results must be maintained for five years. If the internal lining is no longer performing in accordance with original design specifications and cannot be repaired according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references), then the lined UST must be permanently closed in accordance with section 2.6(b) of this Part.

(*a*) API RP 1631, June 2001; or

(*b*) KWA “Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera, September 1999.

(ii) Cathodic protection. USTs having cathodic protection must meet the requirements of sections 2.1(b)(1)(ii)(*b*)(*3*) and (*4*) of this Part.

(iii) Internal lining combined with cathodic protection. USTs with both internal lining and cathodic protection must have the following:

(*a*) an internal lining that was installed in accordance with the requirements of section 2.2(d) of this Part; and

(*b*) a cathodic protection system that meets the requirements of sections 2.1(b)(1)(ii)(*b*)(*3*) and (*4*) of this Part.

(3) Piping requirements.

(i) Metal piping installed on or before October 11, 2015 that routinely contains petroleum and is in contact with the ground must meet the requirements of section 2.1(b)(2)(i) of this Part.

(ii) Piping installed after October 11, 2015 that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with section 2.1(b)(2)(ii) of this Part.

(4) Spill and overfill prevention equipment. To prevent spilling and overfilling associated with petroleum transfer to the UST system, every Category 1 UST system must comply with Category 2 and 3 UST system spill and overfill prevention equipment requirements specified in section 2.1(b)(3) of this Part.

(5) Valves.

(i) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the requirements of this subparagraph.

(ii) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the UST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets the requirements of this subparagraph. For a valve installed after October

11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this subparagraph.

(iii) Every fill pipe leading to a pump-filled UST must be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(iv) Each connection on a gravity-drained UST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this subparagraph.

613-2.2 General operating requirements

(a) *Spill and overfill prevention.*

(1) Every facility must ensure that releases due to spilling or overfilling do not occur. One of the transfer procedures described in NFPA 385 (2012 edition) or API RP 1007 (March 2001 edition) must be used in order to comply with the requirement of this paragraph, unless those procedures are technically infeasible. In circumstances of technical infeasibility, the facility must develop and employ practices to ensure that releases due to spilling or overfilling do not occur.

(2) The facility must report, investigate, and clean up any spills and overfills in accordance with section 2.4(d) of this Part.

(3) Every Category 2 or 3 UST system must have a label at the fill port specifying tank registration identification number, tank design and working capacities, and type of petroleum that is able to be stored in the UST system.

(4) Every UST system fill port must be color coded in accordance with API RP 1637. If a UST system contains petroleum that does not have a corresponding API color code, the facility must otherwise mark the fill port (for example, with stenciled letters) to identify the petroleum currently in the UST system. For any fill port connected to multiple UST systems storing different types of petroleum, the facility may place the marking near the fill port (for example, with a label or placard) to identify the types of petroleum in the UST systems.

(5) Where there are monitoring wells located at the facility, every monitoring well must be clearly identified as a monitoring well to prevent accidental delivery of petroleum to the well and must be sealed or capped so as to prevent liquid from entering the well from the surface.

(6) The facility must keep all gauges, valves, and other equipment for spill prevention in good working order.

(7) Delivery of petroleum to a UST system.

(i) Immediately prior to a delivery, the carrier must determine that the UST has available working capacity to receive the volume of petroleum to be delivered. Every aspect of the delivery must be monitored and immediate action must be taken to stop the flow of petroleum when the working capacity of the UST has been reached or should an equipment failure or emergency occur.

(ii) Immediately prior to a delivery, the carrier must inspect fill port catch basins to ensure that they are empty. If a catch basin contains water, petroleum, or debris, the carrier must ensure that it is emptied before a delivery is made.

(b) *Operation and maintenance of corrosion protection*. Every facility having a metal UST system with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented until the UST system is permanently closed or undergoes a change in service pursuant to section 2.6(b) of this Part:

(1) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the UST and piping that routinely contains petroleum and is in contact with the ground.

(2) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(i) Frequency. All cathodic protection systems must be tested within six months of installation and at yearly intervals thereafter; and

(ii) Inspection criteria. One of the following codes of practice (refer to section 1.10 of this Part for complete citation of references) must be used to determine that cathodic protection is adequate:

(*a*) NACE TM0101-2012, 2012 edition;

(*b*) NACE TM0497-2012, 2012 edition;

(*c*) STI R051, January 2006;

(*d*) NACE SP0285-2011, 2011 edition; or

(*e*) NACE SP0169-2013, 2013 edition.

(3) UST systems with impressed current cathodic protection systems must be

inspected every 60 days to ensure the equipment is operating properly.

(4) For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained to demonstrate compliance with the requirements of this section. The records generated to meet the provisions of paragraphs (2) and (3) of this subdivision must be kept for three years.

(c) *Compatibility*. Every facility must use a UST system made of or lined with materials that are compatible with the petroleum stored in the UST system.

(d) *Repairs allowed*. Every facility must ensure that repairs will prevent releases due to structural failure or corrosion. The repairs must meet the following requirements:

(1) Any repair to a UST system must be properly conducted according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(i) NFPA 30, 2012 edition;

(ii) API RP 2200, September 2010;

(iii) API RP 1631, June 2001;

(iv) NFPA 326, 2010 edition;

(v) STI R972, December 2010;

(vi) NACE SP0285-2011, 2011 edition; or

(vii) FTPI RP T-95-02, January 1995.

(2) Every metal pipe section or fitting from which petroleum has been released as a result of corrosion or other damage must be replaced. Non-corrodible pipes and fittings must be repaired in accordance with the manufacturer's specifications.

(3) Repaired USTs and piping must be tightness tested in accordance with sections 2.3(c)(3) and (d)(2) of this Part, respectively, within 30 days following the date of the completion of the repair, unless one of the following conditions is met:

(i) the repaired UST is internally inspected in accordance with API RP 1631; or

(ii) the repaired portion of the UST system is monitored for releases in accordance with a method specified in sections 2.3(c)(4) through (8) of this Part.

(4) Within six months following the repair of any UST system that is

cathodically protected, the cathodic protection system must be inspected in accordance with sections 2.2(b)(2) and (3) of this Part to ensure that it is operating properly.

(5) Every facility must maintain records of each repair until the UST system is permanently closed or undergoes a change in service pursuant to section 2.6(b) of this Part.

(e) *Tank systems in locations subject to flooding*. For Category 1 and 2 UST systems located in an area where the UST may become buoyant because of a rise in the water table, flooding, or accumulation of water, the facility must maintain safeguards in accordance with section 2-5.6 of NFPA 30 (1984 edition). If such safeguards include ballasting of a UST with water during flood warning periods, tank system valves and other openings must be closed and secured in a locked position in advance of the flood. Ballast water removed from the UST after the flood must not be discharged to the waters of the State unless the discharge is in conformance with the standards of Parts 701, 702, 703, and 750 of this Title, as applicable.

613-2.3 Leak detection

(a) *Leak detection requirements for all UST systems*.

(1) Every facility must provide a method, or combination of methods, of leak detection that:

(i) can detect a leak from any portion of the UST and the piping that routinely contains petroleum;

(ii) is installed and calibrated in accordance with the manufacturer's instructions; and

(iii) meets the requirements of subdivisions (c) and (d) of this section, as applicable. In addition, the methods listed in sections 2.3(c)(2), (c)(4), (c)(8), (c)(9), (d)(1), and (d)(2) of this Part must be capable of detecting the leak rate or quantity specified for that method in the corresponding section of the rule with a probability of detection of 95 percent and a probability of false alarm of five percent.

(2) When a leak detection method operated in accordance with the requirements of subdivisions (c) and (d) of this section indicates that a leak may have occurred, the facility must notify the Department in accordance with section 2.4(a) of this Part.

(3) Additional testing and inspection. When a leak is suspected, or where inspections or tests required by this Part have not been performed, or where accurate inventory monitoring records are not kept and reconciled as required under section 2.3(c)(1) of this Part, the Department may order the facility to inspect and to test the UST system or equipment for tightness. If the facility fails to conduct such inspections and tests within 10 days after receipt of the Department's order, the Department may conduct inspections or tests for tightness. The expenses of conducting such tests as ordered by the Department must be paid by the tank system

owner.

(4) A facility that cannot implement a method of leak detection that complies with the requirements of this section must take the UST system out of service pursuant to section 2.6(a) of this Part.

(b) *Specific requirements for Category 1, 2, and 3 UST systems*.

(1) Tanks. USTs must be monitored for leaks as follows:

(i) Every tank that is part of a Category 1 UST system must be monitored for leaks at weekly intervals using one of the methods listed in sections 2.3(c)(2) and (c)(4) through (c)(9) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement. Additionally, any UST system which stores any amount of motor fuel or kerosene that will be sold as part of a commercial transaction must meet the ten-day inventory monitoring requirements in section 2.3(c)(1) of this Part.

(ii) Every tank that is part of a Category 2 or 3 UST system must be monitored for leaks at weekly intervals in accordance with section 2.3(c)(7) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement. Additionally, any UST system which stores any amount of motor fuel or kerosene that will be sold as part of a commercial transaction must meet the ten-day inventory monitoring requirements in section 2.3(c)(1) of this Part.

(iii) All electronic tank monitoring systems must be inspected for operability at monthly intervals.

(2) Piping. Piping that routinely contains petroleum must be monitored for leaks as follows:

(i) Piping installed on or before October 11, 2015 must meet one of the following requirements:

(*a*) Pressurized piping. Piping that conveys petroleum under pressure must:

(*1*) be equipped with an automatic line leak detector that is operated in accordance with section 2.3(d)(1) of this Part; and

(*2*) have an annual line tightness test conducted in accordance with section 2.3(d)(2) of this Part or have monitoring conducted at weekly intervals in accordance with section 2.3(d)(3) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement.

(*b*) Suction piping. Piping that conveys petroleum under suction must either have a line tightness test conducted at least every three years and in

accordance with section 2.3(d)(2) of this Part, or use a monitoring method conducted at weekly intervals in accordance with section 2.3(d)(3) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement. No leak detection is required for suction piping that is shown by the facility to be designed and constructed to meet the following standards:

(*1*) the underground piping operates at less than atmospheric pressure;

(*2*) the underground piping is sloped so that the contents of the pipe will drain back into the UST if the suction is released;

(*3*) only one check valve is included in each suction line; and

(*4*) the check valve is located directly below and as close as practicable to the suction pump.

(ii) Piping installed after October 11, 2015 must meet one of the following requirements:

(*a*) Pressurized piping. Piping that conveys petroleum under pressure must be monitored for leaks at weekly intervals in accordance with section 2.3(c)(7) of this Part and be equipped with an automatic line leak detector in accordance with section 2.3(d)(1) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement.

(*b*) Suction piping. Piping that conveys petroleum under suction must be monitored for leaks at weekly intervals in accordance with section 2.3(c)(7) of this Part. Continuous electronic monitoring satisfies the weekly monitoring requirement. No leak detection is required for suction piping that meets sections 2.3(b)(2)(i)(*b*)(*1*) through (*4*) of this Part.

(iii) All electronic piping monitoring systems must be inspected for operability at monthly intervals.

(c) *Methods of leak detection for tanks*. Each method of leak detection for USTs used to meet the requirements of section 2.3(b)(1) of this Part must be conducted in accordance with the following:

(1) Inventory monitoring. Inventory monitoring must be conducted in the following manner:

(i) Volume measurements for petroleum delivered, dispensed, and the amount still remaining in the UST (or each interconnected set of USTs), must be recorded each operating day;

(ii) The equipment used must be capable of measuring the level of petroleum over the full range of the tank's height to the nearest one-eighth of an inch;

(iii) The petroleum delivered must be reconciled with delivery receipts by measurement of the volume before and after delivery;

(iv) Deliveries must be made through a drop tube that extends to within one foot of the tank bottom;

(v) Petroleum dispensing must be metered and recorded within an accuracy of six cubic inches for every five gallons of petroleum withdrawn;

(vi) The measurement of any water level in the bottom of the UST must be made to the nearest one-eighth of an inch and recorded each operating day; and

(vii) On a daily basis, the facility must calculate the difference between the expected and actual amount of petroleum in the UST. At ten-day intervals, the facility must calculate the sum of the daily differences and compare it to the thresholds in clauses (*a*) and (*b*) of this subparagraph to determine if a leak is suspected. A leak is suspected when:

(*a*) The UST has a recurring accumulation of water within the ten-day period; or

(*b*) The sum of the daily differences over the ten-day interval exceeds the largest of three-quarters of one percent (0.0075) of:

(*1*) tank design capacity,

(*2*) total amount of petroleum delivered to the UST system, or

(*3*) total amount of petroleum dispensed from the UST system.

(2) Manual tank gauging. Manual tank gauging must meet the following requirements:

(i) Tank petroleum level measurements are taken at the beginning and ending of a period, as set forth in subparagraph (iv) of this paragraph, during which no petroleum is added to or removed from the UST.

(ii) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period.

(iii) The equipment used is capable of measuring the level of petroleum over the full range of the tank's height to the nearest one-eighth of an inch.

(iv) A leak is suspected and subject to the requirements of section 2.4 of this Part if the variation between beginning and ending measurements exceeds the weekly or monthly standards in Table 2.

Table 2: Manual Tank Gauging			
Design Capacity of UST	**Minimum Duration of Test**	**Weekly Standard (One Test)**	**Monthly Standard (Four-Test Average)**
550 gallons or less	36 hours	10 gallons	5 gallons
551-1,000 gallons (when tank diameter is 64”)	44 hours	9 gallons	4 gallons
551-1,000 gallons (when tank diameter is 48”)	58 hours	12 gallons	6 gallons

(v) USTs of 550 gallons or less design capacity and USTs with a design capacity of 551 to 1,000 gallons that meet the tank diameter criteria in Table 2 may use this as the sole method of release detection. USTs of greater than 1,000 gallons design capacity may not use this method to meet the requirements of this Subpart.

(3) Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a leak at the rate of 0.1 gallons per hour from any portion of the UST that routinely contains petroleum while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(4) Automatic tank gauging. Equipment for automatic tank gauging which tests for the loss of petroleum must meet the following requirements:

(i) The automatic petroleum level monitor test can detect a leak at the rate of 0.2 gallons per hour from any portion of the UST that routinely contains petroleum; and

(ii) The test must be performed with the system operating in one of the following modes:

(*a*) In-tank static testing conducted on a weekly basis; or

(*b*) Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the system to gather incremental measurements to determine the leak status of the UST at weekly intervals.

(5) Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

(i) The materials used as backfill are sufficiently porous (for example,

gravel, sand, crushed rock) to readily allow diffusion of vapors from leaks into the excavation area;

(ii) The stored petroleum, or a tracer compound placed in the UST system, is sufficiently volatile (for example, gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a leak from the UST;

(iii) The measurement of vapors by the monitoring device is not rendered inoperative by the groundwater, rainfall, or soil moisture or other known interferences so that a leak could go undetected for more than seven days;

(iv) The level of background contamination in the excavation zone will not interfere with the method used to detect leaks from the UST;

(v) The vapor monitors are designed and operated to detect any significant increase in concentration above background of the petroleum stored in the UST system, a component or components of that substance, or a tracer compound placed in the UST system;

(vi) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs (i) through (iv) of this paragraph and to establish the number and positioning of monitoring wells that will detect leaks within the excavation zone from any portion of the UST that routinely contains petroleum; and

(vii) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(6) Groundwater monitoring. Testing or monitoring for liquids on the groundwater must meet the following requirements:

(i) The petroleum stored is immiscible in water and has a specific gravity of less than one;

(ii) Groundwater is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (for example, the soil should consist of gravels, coarse to medium sands, coarse silts, or other permeable materials);

(iii) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of petroleum on the water table into the well under both high and low groundwater conditions;

(iv) Monitoring wells must be sealed from the ground surface to the top of the filter pack;

(v) Monitoring wells or devices intercept the excavation zone or are as

close to it as is technically feasible;

(vi) The continuous electronic monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the groundwater in the monitoring wells;

(vii) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs (i) through (v) of this paragraph and to establish the number and positioning of monitoring wells or devices that will detect leaks from any portion of the UST that routinely contains petroleum; and

(viii) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(7) Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used if the system is designed, constructed and installed to detect a leak from any portion of the UST that routinely contains petroleum; and if the system meets one of the requirements set forth in subparagraphs (i) through (iii) of this paragraph.

(i) For a double-walled UST system, the sampling or testing method can detect a leak through the inner wall in any portion of the UST that routinely contains petroleum;

(ii) For a UST system with a secondary barrier within the excavation zone, the sampling or testing method used can detect a leak between the UST system and the secondary barrier, and the following conditions are met:

(*a*) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 1×10^{-6} cm/sec for the petroleum stored) to direct a leak to the monitoring point and permit its detection;

(*b*) The barrier is compatible with the petroleum stored so that a leak from the UST system will not cause a deterioration of the barrier allowing a leak to pass through undetected;

(*c*) For a cathodically protected tank, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;

(*d*) The groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a leak could go undetected for more than seven days;

(*e*) 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; and,

(*f*) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(iii) For a UST system using continuous vacuum, pressure, or liquid-filled methods of interstitial monitoring, the method must be capable of detecting a breach in both the inner and outer walls of the tank and/or piping.

(8) Statistical inventory reconciliation. Statistically based testing or monitoring methods must meet the following requirements:

(i) Report a quantitative result with a calculated leak rate;

(ii) Be capable of detecting a leak rate of 0.2 gallons per hour; and

(iii) Use a threshold that does not exceed one-half the minimum detectible leak rate.

(9) Other methods.

(i) Any other type of leak detection method, or combination of methods, can be used if it can detect a leak at the rate of 0.2 gallons per hour or a leak of 150 gallons within a month with a probability of detection of 95 percent and a probability of false alarm of five percent.

(ii) The Department may approve another method if the owner and operator can demonstrate that the method can detect a leak as effectively as any of the methods allowed in paragraphs (4) through (8) of this subdivision.

(d) *Methods of leak detection for piping*. Each method of leak detection for piping used to meet the requirements of section 2.3(b)(2) of this Part must be conducted in accordance with the following:

(1) Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of petroleum through piping or triggering an audible or visual alarm may be used only if they detect leaks of three gallons per hour at ten pounds per square inch line pressure within one hour. The facility must conduct a test of the operation of the leak detector at yearly intervals.

(2) Line tightness testing. A periodic test of piping may be conducted only if it can detect a leak at the rate of 0.1 gallons per hour at one and one-half times the operating pressure.

(3) Alternative leak detection methods. Any of the methods in sections

2.3(c)(5) through (8) of this Part may be used if they are designed to detect a leak from any portion of the piping that routinely contains petroleum.

(e) *Leak detection recordkeeping*. All facilities must maintain records demonstrating compliance with all applicable requirements of this section. These records must meet the following requirements:

(1) the results or records of any sampling, testing, or monitoring must be maintained for at least three years;

(2) the results of tank and line tightness testing must be retained until the next test is conducted;

(3) a copy of the results of tank and line tightness testing must be submitted to the Department within 30 days after performance of the test(s); and

(4) written documentation of all calibration, maintenance, and repair of leak detection equipment permanently located on-site must be maintained for at least three years after the servicing work is completed. Any schedules of required calibration and maintenance provided by the leak detection equipment manufacturer must be retained for three years from the date of installation.

613-2.4 Reporting, investigation, and confirmation

(a) *Reporting of suspected leaks*.

(1) A facility must report a suspected leak to the Department's Spill Hotline (518-457-7362) within two hours after discovery and follow the procedures in subdivision (c) of this section for any of the following conditions:

(i) The discovery of petroleum outside of a UST system at the facility or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water).

(ii) Unusual operating conditions observed (such as the erratic behavior of petroleum-dispensing equipment, the sudden loss of product from the UST system, an unexplained presence of water in the UST, or water or petroleum in the interstitial space of secondarily contained systems), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced.

(iii) Except for inventory monitoring and statistical inventory reconciliation under sections 2.3(c)(1) and (8) of this Part, respectively, monitoring results, including alarms, from a leak detection method required under sections 2.3(a) and (b) of this Part indicate that a leak may have occurred unless the monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the

initial result.

(2) If results from inventory monitoring and statistical inventory reconciliation indicate that a leak may have occurred, the facility must report the leak to the Department's Spill Hotline (518-457-7362) within 48 hours after determining the results and follow the procedures in subdivision (c) of this section unless the results can be explained by inaccurate recordkeeping, temperature variations, or other factors not related to leakage. The facility must maintain for three years any record that explains why the results from inventory monitoring and statistical inventory reconciliation do not indicate that a leak occurred.

(b) *Investigation due to off-site impacts*. When required by the Department, a facility must follow the procedures in subdivision (c) of this section to determine if the UST system is the source of off-site impacts. These impacts include the discovery of petroleum (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the Department or brought to its attention by another party.

(c) *Leak investigation and confirmation steps*. Unless corrective action is initiated in accordance with Subpart 6 of this Part, a facility must investigate any suspected leak of petroleum using either one of the methods described in paragraphs (1) or (2) of this subdivision or another procedure approved by the Department. The investigation must commence within 48 hours following the reporting required under subdivision (a) of this section. The investigation must be completed within seven days following the reporting required under subdivision (a) of this section.

(1) System test. Every facility must conduct tightness tests pursuant to sections 2.3(c)(3) and (d)(2) of this Part to determine whether a leak exists in the UST system.

(i) If the system test confirms a leak, the facility must initiate corrective action in accordance with Subpart 6 of this Part before any repair to the UST system is undertaken.

(ii) Further investigation is not required if the test results for the UST system do not indicate that a leak exists and if environmental contamination is not the basis for suspecting a leak.

(iii) The facility must conduct a site check as described in paragraph (2) of this subdivision if the test results for the UST system do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.

(2) Site check. Every facility must measure for the presence of a release where contamination is most likely to be present at the facility. In selecting sample types, sample locations, and measurement methods, the facility must consider the nature of the type of petroleum, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release.

(i) If the test results for the excavation zone or the UST system location indicate that a release has occurred, the facility must begin corrective action in accordance with Subpart 6 of this Part;

(ii) If the test results for the excavation zone or the UST system location do not indicate that a release has occurred, further investigation is not required.

(d) *Response to spills and overfills*.

(1) A facility must report every spill to the Department's Spill Hotline (518-457-7362) within two hours after discovery, contain the spill, and begin corrective action in accordance with the requirements of Subpart 6 of this Part except if the spill meets the following conditions:

(i) It is known to be less than five gallons in total volume;

(ii) It is contained and under the control of the spiller;

(iii) It has not reached and will not reach the land or waters of the State; and

(iv) It is cleaned up within two hours after discovery.

(2) A facility must immediately discontinue operation of any leaking UST system and take the UST system out of service or close the UST system pursuant to provisions of sections 2.6(a) or (b) of this Part, respectively.

613-2.5 Operator training

(a) *General requirements for all UST systems*. Not later than October 11, 2016, every facility must ensure that it has designated Class A, Class B, and Class C Operators who meet the requirements of this section.

(b) *Designation of operators*. Every facility must designate:

(1) one Class A and one Class B Operator for each UST system or group of UST systems (the same individual may be designated as both); and

(2) one or more Class C Operators for each UST system or group of UST systems.

(c) *Requirements for operator testing*. Every facility must ensure Class A, Class B, and Class C Operators meet the requirements of this section. Any individual designated for more than one operator class must pass the required exam for each operator class in which the individual is designated.

(1) Class A Operators. Each designated Class A Operator must pass an exam acceptable to the Department that measures knowledge of the purpose, methods, and function of the requirements of this Part concerning:

(i) Spill and overfill prevention;

(ii) Leak detection;

(iii) Corrosion protection;

(iv) Emergency response;

(v) Compatibility;

(vi) Financial responsibility;

(vii) Registration;

(viii) Out-of-service status and permanent closure;

(ix) Recordkeeping;

(x) Environmental and regulatory consequences of releases; and

(xi) Knowledge and training requirements for Class B and Class C Operators, respectively.

(2) Class B Operators. Each designated Class B Operator must pass an exam acceptable to the Department that measures knowledge of the purpose, methods, and function of the requirements of this Part concerning:

(i) Operation and maintenance;

(ii) Spill and overfill prevention;

(iii) Leak detection and related reporting;

(iv) Corrosion protection and related testing;

(v) Emergency response;

(vi) Compatibility;

(vii) Recordkeeping;

(viii) Environmental and regulatory consequences of releases; and

(ix) Training requirements for Class C Operators.

(3) Class C Operators. Each designated Class C Operator must be trained and tested under the direction of the Class A or Class B Operator to take appropriate actions at the facility in response to emergencies and alarms caused by spills or releases from the UST system.

(4) Class A and Class B Operators who possess a current and valid operator training credential issued by any other state government that administers an exam acceptable to the Department will be considered to be in compliance with the requirements of this subdivision.

(d) *Timing of operator testing and training*.

(1) For a UST system installed on or before October 11, 2016, the facility must ensure that Class A, Class B, and Class C Operators are designated in accordance with subdivision (a), and meet the requirements of subdivision (c) of this section no later than October 11, 2016.

(2) Class A or Class B Operators designated after October 11, 2016 must meet the requirements of subdivision (c) of this section within 30 days after being designated.

(3) Class C Operators designated after October 11, 2016 must be trained and tested before being designated.

(4) In the event that a Class A and/or Class B Operator is no longer designated at a facility (due to separation from employment, death, or other circumstance), the facility must designate a new operator within 30 days after the event. The new operator must meet requirements in subdivision (c) of this section within 30 days after being designated.

(e) *Retesting*. Class A or Class B Operators designated for UST systems that are determined by the Department to be in significant non-compliance must be retested in accordance with the requirements of subdivision (c) of this section. Any reliance on previously obtained operator training credentials issued by another state will not be accepted by the Department. Class A or Class B Operators must be retested within 30 days after the date the Department determines that a UST system is in significant non-compliance. Alternatively, the owner may designate a different Class A or Class B Operator, as appropriate, for the UST systems determined by the Department to be in significant non-compliance.

(f) *Documentation*. Every facility must maintain a list of designated Class A, Class B, and Class C Operators and maintain records (paper or electronic) verifying that training and testing, as applicable, have been successfully completed, as follows:

(1) The list must:

(i) identify all Class A, Class B, and Class C Operators at the facility;

and

(ii) include the name of the operator, the class of the operator, the date that the operator was designated, the date that the operator initially completed testing or training, and the date of any retesting.

(2) The records verifying successful completion of training and testing for Class A, Class B, and Class C Operators must, at a minimum, identify the name of the operator and the date tested, as well as passing results. Owners and operators must maintain these records for as long as Class A, Class B, and Class C Operators are designated plus an additional three years. Records of the exam or training must also, at a minimum, be signed by the examiner or trainer and list the printed name of the examiner or trainer and the name, address, and phone number of the employer of the examiner or trainer. Records of testing for Class A or Class B Operators must include those areas in which the Class A or Class B Operator has been tested.

613-2.6 Out-of-service UST systems and closure

(a) *Out-of-service UST systems*.

(1) (i) When a UST system is out-of-service, the facility must continue operation and maintenance of corrosion protection in accordance with section 2.2(b) of this Part, and any leak detection in accordance with sections 2.3(a) and (b) of this Part. Subpart 6 of this Part must be complied with if a release is confirmed.

(ii) Leak detection required under sections 2.3(a) and (b) of this Part is not required as long as the UST system is empty. (The UST system is considered empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue remain in the system.) However, leak detection required under sections 2.3(a) and (b) of this Part must resume upon resumption of delivery of petroleum into the UST system.

(2) When a UST system is out-of-service for a period of three to twelve months, the facility must also comply with the following requirements:

(i) Leave vent lines open and functioning; and

(ii) Cap and secure all other piping, ancillary equipment, and manways.

(3) When a UST system is out-of-service for more than 12 months, the facility must permanently close the UST system in accordance with subdivisions (b) through (e) of this section.

(b) *Permanent closure and changes in service.*

(1) At least 30 days before beginning permanent closure or a change in service, a facility must notify the Department of its intent to permanently close or make the change in service, unless such action is in response to corrective action. The required assessment of the excavation zone under subdivision (c) of this section must be performed after notifying the Department but before completion of the permanent closure or a change in service. The resultant report must be submitted to the Department within 90 days after permanent closure. Within 30 days after permanent closure or a change in service, a facility must submit a registration application to the Department, in accordance with section 1.9(f) of this Part, indicating that the UST system has been permanently closed or that a change in service has occurred.

(2) To permanently close a UST system:

(i) The facility must empty and clean it by removing all liquids and accumulated sludge. Every tank that is part of a UST system that is permanently closed must also be either removed from the ground or filled with an inert solid material (such as sand or concrete slurry). If an inert solid material is used, all voids within the UST must be filled. All connecting and fill lines must be disconnected and removed or securely capped or plugged. Manways must be securely fastened in place.

(ii) The facility must ensure that all scheduled deliveries to the UST system are terminated.

(3) Use of a UST system to store a substance other than petroleum is considered a change in service. Before a change in service, the facility must empty and clean the UST by removing all liquid and accumulated sludge and conduct a site assessment in accordance with subdivision (c) of this section.

(4) One of the following codes of practice (refer to section 1.10 of this Part for complete citation of references) must be adhered to in order to comply with this subdivision:

(i) API RP 1604, March 1996;

(ii) API RP 2016, August 2001;

(iii) API RP 1631, June 2001; or

(iv) NFPA 326, 2010 edition.

(c) *Assessing the site at closure or change in service*.

(1) Before permanent closure or a change in service is completed, the facility must measure for the presence of a release where contamination is most likely to be present at the UST system location. In selecting sample types, sample locations, and measurement methods, the facility must consider the method of closure, the petroleum stored, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release. The requirements of this subdivision are satisfied if one of the external release detection

methods allowed in sections 2.3(c)(5) and (6) of this Part is operating in accordance with the requirements in section 2.3 of this Part at the time of closure, and indicates no release has occurred.

(2) If contaminated soils, contaminated groundwater, or petroleum as a liquid or vapor is discovered, the facility must begin corrective action in accordance with Subpart 6 of this Part.

(d) For any UST system that has been out-of-service since December 27, 1986 and was not properly permanently closed pursuant to Department regulations governing UST system closure, the facility owner must assess the excavation zone and permanently close the UST system in accordance with this section if the Department determines there is a potential for a release of petroleum from the UST system.

(e) *Records for permanent closure or change in service*. The facility must maintain for three years records that are capable of demonstrating compliance with closure requirements under this Subpart. In addition, the facility must transmit a copy of the records to the Department within 30 days after permanent closure or change in service.

Subpart 613-3 UST Systems Subject Only to Title 10

613-3.1 UST systems: design, construction, and installation

(a) *Applicability*. The provisions of this Subpart apply to every UST system that is part of a facility, where the UST system:

(1) contains heating oil used for on-premises consumption;

(2) has a design capacity of 1,100 gallons or less and is used to store motor fuel for non-commercial purposes (not for resale) at a farm or residence;

(3) is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR Part 50; or

(4) consists of a field-constructed tank.

(b) *Equipment standards for Category 2 and 3 UST systems*. In order to prevent releases due to structural failure, corrosion, or spills and overfills, any facility containing a Category 2 or 3 UST system must meet the following requirements.

(1) Tanks. Each UST must be properly designed and constructed, and any portion underground that routinely contains petroleum must be protected from corrosion, as specified in subparagraphs (i) through (iii) of this paragraph. In addition, all USTs must be secondarily contained in accordance with subparagraph (iv) of this paragraph:

(i) Every UST made of fiberglass-reinforced plastic (FRP) must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*a*) For Category 2 USTs:

(*1*) UL 1316, July 1983; or

(*2*) CAN4-S615-M83, 1983.

(*b*) For Category 3 USTs:

(*1*) UL 1316, January 1994; or

(*2*) ULC-S615-98, 1998.

(ii) Every UST made of steel that is cathodically protected must meet the following conditions:

(*a*) The UST must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) For Category 2 USTs:

(*i*) UL 58, April 1981; or

(*ii*) ULC-S603-M1981, 1981.

(*2*) For Category 3 USTs:

(*i*) UL 58, December 1996; or

(*ii*) ULC-S603-00, 2000.

(*b*) The UST must be cathodically protected in the following manner:

(*1*) The UST must be coated with a suitable dielectric material;

(*2*) The cathodic protection system must be designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*i*) For Category 2 USTs:

(*A*) API RP 1632, January 1983;

(*B*) ULC-S603.1-M1982, 1982; or

(*C*) sti-P_3®, July 1983.

(*ii*) For Category 3 USTs:

(*A*) sti-P_3®, September 2013;

(*B*) UL 1746, January 2007;

(*C*) ULC-S603.1-11, 2011;

(*D*) NACE SP0285-2011, 2011.

(*3*) Every field-installed cathodic protection system must be designed by a corrosion expert; and

(*4*) Every impressed current system must be designed to allow determination of current operating status as required in section 3.2(b)(3) of this Part.

(iii) Every UST made of steel that is clad or jacketed with a non-corrodible material must meet the following conditions:

(*a*) The UST must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) For Category 2 USTs:

(*i*) UL 58, April 1981; or

(*ii*) ULC-S603-M1981, 1981.

(*2*) For Category 3 USTs:

(*i*) UL 58, December 1996; or

(*ii*) ULC-S603-00, 2000.

(*b*) The tank in a Category 2 UST system must be clad with a non-corrodible material in accordance with the following requirements:

(*1*) The UST must be electrically insulated from the piping with dielectric fittings, bushings, washers, sleeves or gaskets which are compatible with petroleum, petroleum additives, and corrosive soils.

(*2*) The UST must have an exterior fiberglass reinforced plastic shell bonded firmly to the steel. This must consist of a base coat of resin five to eight mils (0.005 to 0.008 inch) in thickness overlain by two layers of resin with fiberglass reinforcement with a thickness of at least 85 mils (0.085 inch) after rolling. A final coat of resin must be applied to a thickness of 10 to 15 mils (0.01 to 0.015 inch). The thickness of the completed coating must be a minimum of 100 mils (0.1 inch) after curing. The coating's coefficient of thermal expansion must be compatible with steel so that stress due to temperature changes will not be detrimental to the soundness of the coating and a permanent bond between coating and steel is maintained. The coating must be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften, or separate and which must be capable of containing the product under normal service conditions in the event the steel wall is perforated. The coating must be non-corrodible under adverse underground electrolytic conditions and must be compatible with petroleum products and petroleum additives.

(*3*) The coating must be factory-inspected for air pockets, cracks, blisters, pinholes, and electrically tested at 10,000 volts for coating short circuits

or coating faults. Any defects must be repaired. The coating must be factory checked with a Barcol Hardness Tester or equivalent to assure compliance with the manufacturer's minimum specified hardness standard for cured resin.

(*c*) The tank in a Category 3 UST system must be clad or jacketed with a non-corrodible material which is designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 1746, January 2007;

(*2*) STI F894, September 2013;

(*3*) STI F961, September 2013; or

(*4*) STI F922, January 2013.

(iv) Every UST must be secondarily contained according to the following:

(*a*) The secondarily contained UST must:

(*1*) be able to contain petroleum leaked from the primary containment until it is detected and removed; and

(*2*) be able to prevent the release of petroleum.

(*b*) The tank in a Category 2 UST system must have a secondary containment system which must consist of one of the following:

(*1*) Double-walled USTs. A double-walled UST which is designed and manufactured in accordance with all of the following standards:

(*i*) the interstitial space of the double-walled UST can be monitored for tightness;

(*ii*) outer jackets made of steel must have a minimum thickness of 10-gauge and must be coated as prescribed in section 3.1(b)(1)(ii)(*b*)(*1*) or (iii)(*b*)(*2*) of this Part;

(*iii*) there are no penetrations of any kind through the jacket to the UST except top entry manholes and fittings required for filling the tank, venting the tank, or monitoring the interstitial space;

(*iv*) the outer jacket must cover at least the bottom 80 percent of the UST; and

(*v*) the jacket must be designed to contain an inert gas or liquid at a pressure greater than the maximum internal pressure or be able to contain a vacuum for a period of one month.

(*2*) Vaults. If a vault is used for secondary containment, the vault must be water tight, impervious to leakage of petroleum and able to withstand chemical deterioration and structural stresses from internal and external causes. The vault must be a continuous structure with a chemical-resistant water stop used at any joint. There must be no drain connections or other entries through the vault except there may be top entry manholes and other top openings for filling and emptying the UST, for venting, and for monitoring and pumping of petroleum which may leak into the vault.

(*3*) Cut-off walls. If a cut-off wall is used:

(*i*) The cut-off wall may be used only where groundwater levels are above the bottom of the UST excavation.

(*ii*) A cut-off wall must consist of an impermeable barrier which has a permeability rate to water equal to or less than 1×10^{-6} cm/sec. It must not deteriorate in an underground environment and in the presence of petroleum.

(*iii*) A cut-off wall must extend around the perimeter of the excavation and to an elevation below the lowest groundwater level.

(*iv*) If a synthetic membrane is used for a cut-off wall, any seams, punctures or tears in the membrane must be repaired and made leak tight prior to backfilling. No penetrations of the cut-off wall are allowed.

(*v*) Impervious native soil may serve as a cut-off wall when the impervious soil is continuous and is of sufficient depth, thickness, and extent to contain a leak. The soil must have a permeability rate to water equal to or less than 1×10^{-6} cm/sec.

(*4*) Impervious underlayment.

(*i*) An impervious underlayment may be used only under a UST at sites where groundwater levels are below the bottom of the excavation and where soils are well drained. This underlayment must have a permeability rate to water equal to or less than 1×10^{-6} cm/sec and must not deteriorate in an underground environment and in the presence of petroleum. The underlayment may consist of impervious native soils, an impervious concrete pad, a synthetic membrane or any equivalent material. If a synthetic membrane is used, any seams, punctures or tears must be repaired prior to backfilling.

(*ii*) The underlayment must extend at least one foot beyond the sides and ends of the UST and must have a slope of at least one-quarter inch per

foot to a sump. An observation well must be positioned in the sump and extend to the surface of the excavation for the purpose of sampling for leakage and pumping out water or product which may accumulate.

(*iii*) Surface waters must be drained from the site using practices which may include capping the site with asphalt, concrete or other impervious cover which is sloped to drainways leading away from the UST**.**

(*c*) The tank in a Category 3 UST system must be double-walled and must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 58, December 1996;

(*2*) UL 1316, January 1994;

(*3*) UL 1746, January 2007;

(*4*) STI F841, January 2006; or

(*5*) STI F922, January 2013.

(2) Piping. Piping that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with subparagraphs (i) or (ii) of this paragraph.

(i) Piping made of a non-corrodible material must meet the following conditions.

(*a*) The materials, joints, and joint adhesives must be compatible with petroleum, petroleum additives, and corrosive soils.

(*b*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*c*) All joints must be liquid and air tight.

(*d*) All underground piping must be tested for tightness before being covered, enclosed or placed in use.

(*e*) All piping that is installed after October 11, 2015 must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 971, February 2006; or

(*2*) ULC-S660-08, 2008.

(ii) Piping made of steel that is cathodically protected must meet the following conditions.

(*a*) The cathodic protection system must provide a minimum of 30 years of protection in corrosive soils.

(*b*) Cathodic protection must be provided by the use of sacrificial anodes or impressed current.

(*c*) Where sacrificial anodes or impressed current systems are used, monitors to check on the adequacy of the system must be installed and kept in proper working condition. If at any time the monitor shows that the electrical current necessary to prevent corrosion is not being maintained, the system must be repaired or the piping will be considered unprotected and must be tested for tightness in accordance with section 3.3(d)(2) of this Part.

(*d*) Except where cathodic protection is provided by impressed current, underground piping must have dielectric bushings, washers, sleeves, or gaskets installed at the end to electrically isolate the piping from the UST and the dispenser. These dielectric connectors must be compatible with petroleum, petroleum additives, and corrosive soils.

(*e*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*f*) All joints must be liquid and air tight.

(*g*) All underground piping must be tested for tightness in accordance with section 3.3(d)(2) of this Part before being covered, enclosed, or placed in use.

(*h*) All piping that is installed after October 11, 2015 must meet the following conditions:

(*1*) The piping is designed and constructed according to UL 971A, October 2006 (refer to section 1.10 of this Part for complete citation of references);

(*2*) The piping is coated with a suitable dielectric material;

(*3*) The cathodic protection system is designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*i*) API RP 1632, January 1996 (revised 2002);

(*ii*) STI R892, January 2006;

(*iii*) NACE SP0169-2013, 2013; or

(i*v*) NACE SP0285-2011, 2011.

(*4*) Any field-installed cathodic protection system is designed by a corrosion expert; and

(*5*) Any impressed current system is designed to allow determination of current operating status as required in section 3.2(b)(2) of this Part.

(3) Overfill prevention equipment.

(i) Overfill prevention equipment must be used that will:

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

(*b*) alert the operator or carrier when the UST is no more than 90 percent full by restricting the flow into the UST or triggering a high-level alarm; or

(*c*) restrict flow 30 minutes prior to overfilling, alert the operator or carrier with a high-level alarm one minute before overfilling, or automatically shut off flow into the UST so that none of the fittings located on top of the UST are exposed to product due to overfilling.

(ii) A facility is not required to use the overfill prevention equipment specified in subparagraph (i) of this paragraph if the UST system is filled by transfers of no more than 25 gallons at one time.

(4) Installation.

(i) Every Category 2 or 3 UST system must be installed in accordance with the manufacturer's instructions. This includes repair of any damage to the tank coatings prior to backfilling.

(ii) As-built information records. The facility must maintain an accurate diagram for the life of every Category 2 or 3 UST system:

(*a*) showing the location of:

(*1*) each UST and its associated piping, including registration identification number;

(*2*) fill ports;

(*3*) dispensing equipment;

(*4*) check valves;

(*5*) transition sumps (if any); and

(*6*) monitoring or recovery wells (if any).

(*b*) listing the following tank system attributes for Category 3 UST systems:

(*1*) physical dimensions of each UST; and

(*2*) installation date for each portion of piping installed after October 11, 2015.

(c) indicating at least one visible reference point (for example, facility structure), a frame of reference (for example, north arrow), and scale of the drawing.

(5) Valves.

(i) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the requirements of this subparagraph.

(ii) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the UST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets this requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this subparagraph.

(iii) Every fill pipe leading to a pump-filled UST must be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(iv) Each connection on a gravity-drained UST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this subparagraph.

(c) *Equipment standards for Category 1 UST systems*. In order to prevent releases due to structural failure, corrosion, or spills and overfills, any facility containing a Category 1 UST system must meet the following requirements.

(1) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this paragraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the requirements of this paragraph.

(2) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the UST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets this requirements of this paragraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this paragraph.

(3) Every fill pipe leading to a pump-filled UST must be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(4) Each connection on a gravity-drained UST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this paragraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this paragraph.

613-3.2 General operating requirements

(a) *Spill and overfill prevention.*

(1) Every facility must ensure that releases due to spilling or overfilling do not occur. One of the transfer procedures described in NFPA 385 (2012 edition) or API RP 1007 (March 2001 edition) must be used in order to comply with the requirement of this paragraph, unless those procedures are technically infeasible. In circumstances of technical infeasibility, the facility must develop and employ practices to ensure that releases due to spilling or overfilling do not occur.

(2) The facility must report, investigate, and clean up any spills and overfills in accordance with section 3.4(d) of this Part.

(3) Every Category 2 or 3 UST system must have a label at the fill port specifying tank registration identification number, tank design and working capacities, and type of petroleum that is able to be stored in the UST system.

(4) Every UST system fill port must be color coded in accordance with API RP 1637. If a UST system contains petroleum that does not have a corresponding API color code, the facility must otherwise mark the fill port (for example, with stenciled letters) to identify the petroleum currently in the UST system. For any fill port connected to multiple UST systems storing different types of petroleum, the facility may place the marking near the fill port (for example, with a label or placard) to identify the types of petroleum in the UST systems.

(5) Where there are monitoring wells located at a facility, every monitoring well must be clearly identified as a monitoring well to prevent accidental delivery of petroleum to the monitoring well and must be sealed or capped so as to prevent liquid from entering the well from the surface.

(6) The facility must keep all gauges, valves, and other equipment for spill prevention in good working order.

(7) Immediately prior to a delivery, the carrier must determine that the UST has available working capacity to receive the volume of petroleum to be delivered. Every aspect of the delivery must be monitored and immediate action must be taken to stop the flow of petroleum when the working capacity of the UST has been reached or should an equipment failure or emergency occur.

(b) *Operation and maintenance of corrosion protection*. Every facility having a metal UST system with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented until the UST system is permanently closed pursuant to section 3.5(b) of this Part:

(1) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the UST and piping that routinely contains petroleum and is in contact with the ground.

(2) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the

following requirements:

(i) Frequency. All cathodic protection systems must be tested at yearly intervals; and

(ii) Inspection criteria. All cathodic protection systems must provide adequate electrical current to prevent corrosion.

(3) For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained to demonstrate compliance with the requirements of this section. The records generated to meet the provisions of paragraph (2) of this subdivision must be kept for three years.

(c) *Compatibility*. Every facility must use a UST system made of or lined with materials that are compatible with the petroleum stored in the UST system.

(d) *Lining repairs for steel USTs.*

(1) Manufacturer's guarantee. A steel UST may be lined under the direction of the lining manufacturer or a certified representative. The manufacturer or representative must guarantee to the owner in writing that the lining will not fail, crack, separate, or deteriorate and the tank will not leak the product specified in storage for a period of ten years. A copy of the guarantee must be kept by the owner for the life of the tank.

(2) Structural requirements.

(i) A steel UST may be lined only if it meets the following structural conditions:

(*a*) the tank has a design shell thickness of seven gauge or more;

(*b*) the tank has a minimum metal thickness of 1/8 inch at holes after reaming;

(*c*) the tank has no open seam or split;

(*d*) the tank has fewer than ten holes with none larger than 1/2 inch in diameter; and

(*e*) the tank meets all standards for structural soundness of the lining manufacturer.

(ii) A steel UST which fails to meet all of the requirements of subparagraph (i) of this paragraph must be permanently closed in accordance with section 3.5(b) of this Part.

(iii) To determine adherence to the requirements of subparagraph (i) of this paragraph, the entire interior surface of the steel UST must be tapped with a ballpeen hammer for soundness or inspected using other equivalent or superior nondestructive methods. Weak areas, holes and seams must be ballpeen hammered (before and after sandblasting) to obtain structurally sound edges. Holes and seams must be reamed until the edges of the opening are a minimum of 1/8 inch thick.

(3) Preparation of tank interior.

(i) Cleaning of UST prior to lining. Prior to lining, a UST must be cleaned. Wash water must not be discharged to the lands or waters of the State unless the discharge is in conformance with the standards of Parts 701, 702, 703, and 750 of this Title, as applicable.

(ii) Sludge removal. Sludge accumulation on the bottom of the UST must be removed, transported, and disposed of in a manner consistent with all State and federal requirements for solid waste disposal.

(iii) Sandblasting of internal surfaces. The entire internal surface of the UST must be sandblasted completely free of scale, rust, and foreign matter. Following sandblasting, the entire surface must be brushed and vacuumed such that the surface when viewed without magnification is free of all moisture and foreign matter.

(iv) Plugging of perforations. All perforations must be tightly plugged with boiler plugs or screws made of noncorrodible plastic. Boiler plugs or screws must be covered with a laminate of resin and fiberglass cloth which overlaps all sides of the plug with a minimum of six inches and which has a minimum area of 144 square inches.

(4) Installation of striker plates. Prior to applying the coating material, a 10-gauge steel plate which covers a minimum of 144 square inches must be installed and centered under the fill tube and gauging tube. The plate must be bonded to the interior surface of the UST.

(5) Lining specifications.

(i) Any noncorrodible epoxy-based resins or equivalent coating may be used for lining a steel UST if the lining is of sufficient thickness, density, and strength to form a hard impermeable shell which will not leak, crack, wear, soften, or separate from the interior surface of the UST.

(ii) The lining’s coefficient of thermal expansion must be compatible with steel so that stress due to temperature changes will not be detrimental to the soundness of the coating.

(iii) The lining must be compatible with petroleum products and

petroleum additives.

(6) Application of lining.

(i) The lining must be applied and cured in strict accordance with manufacturer's specifications.

(ii) The lining must be applied as soon as possible but not later than eight hours after sandblasting and cleaning of the internal surface. Visible rust, moisture, or foreign material must not be present.

(7) Inspection of lining. The lining must be checked for air pockets and blisters, and electrically tested for pinholes. The lining thickness must be checked with an Elcometer Thickness Gauge or equivalent and the hardness checked with a Barcol Hardness Tester or equivalent to assure compliance with manufacturer's specifications. Any defects must be repaired.

(8) Tank closings.

(i) If the UST has a manway, the manway cover gasket must be replaced with a new one before resealing.

(ii) If the UST does not have a manway and an opening has been cut, the UST must have a manway properly welded in place prior to beginning work or the UST must be sealed as follows:

(*a*) A 1/4-inch thick steel cover plate, rolled to the contour of the tank exterior must be made to overlap the hole at least two inches on each side (for example, the cover plate should measure at least 26"×26" if the opening was cut 22"×22").

(*b*) The cover must be used as a template to locate 3/4-inch diameter holes on five-inch centers, one inch from the edge of the cover.

(*c*) The cover plate must be sandblasted and both sides and the entire inside surface of the plate must be covered with coating material to act as a gasket.

(*d*) Before the coating on the cover cures, the cover must be fastened to the UST using 1/2-inch minimum diameter bolts. The bolt shafts are to be placed through the holes from the inside of the tank and held in place by spring clips, then fastened with lock washers and nuts which have been dipped in a seam sealer.

(*e*) After being bolted to the UST, the cover plate and surrounding tank surface must be properly sandblasted, coated with coating material, and allowed to cure before backfilling the hole.

(9) Tank tightness testing. Following closure of the UST and before

backfilling, the relined UST must be given a tightness test in accordance with section 3.3(c)(1) of this Part.

(e) *Tank systems in locations subject to flooding*. For Category 1 and 2 UST systems located in an area where the UST may become buoyant because of a rise in the water table, flooding, or accumulation of water, the facility must maintain safeguards in accordance with sections 2-5.6 of NFPA 30 (1984 edition). If such safeguards include ballasting of a UST with water during flood warning periods, tank system valves and other openings must be closed and secured in a locked position in advance of the flood. Ballast water removed from the UST after the flood must not be discharged to the waters of the State unless the discharge is in conformance with the standards of Parts 701, 702, 703, and 750 of this Title, as applicable.

613-3.3 Leak detection

(a) *Leak detection requirements for all UST systems*.

(1) Every facility must provide a method, or combination of methods, of leak detection that:

(i) can detect a leak from any portion of the UST and the piping that routinely contains petroleum;

(ii) is installed and calibrated in accordance with the manufacturer's instructions; and

(iii) meets the requirements in subdivisions (c) and (d) of this section, as applicable.

(2) When a leak detection method operated in accordance with the requirements of subdivisions (c) and (d) of this section indicates that a leak may have occurred, the facility must notify the Department in accordance with section 3.4(a) of this Part.

(3) Additional testing and inspection. When a leak is suspected, or where inspections or tests required by this Part have not been performed, the Department may order the facility to inspect and to test the UST system or equipment for tightness and structural soundness. If the facility fails to conduct such inspections and tests within 10 days after receipt of the Department's order, the Department may conduct inspections or tests for tightness. The expenses of conducting such tests as ordered by the Department must be paid by the tank system owner.

(4) A facility that cannot implement a method of leak detection that complies with the requirements of this section must take the UST system out of service pursuant to section 3.5(a) of this Part.

(b) *Specific requirements for Category 1, 2, and 3 UST systems*.

(1) Tanks. USTs must be monitored for leaks as follows:

(i) Every tank that is part of a Category 1 UST system must be tested for tightness in accordance with section 3.3(c)(1) of this Part at yearly intervals, with the exception of the following:

(*a*) Any UST system storing No. 5 or No. 6 fuel oil;

(*b*) Any UST system that is monitored for leaks at weekly intervals using one of the methods listed in sections 3.3(c)(2) through (5) of this Part; or

(*c*) Any UST system having a tank that is encased in concrete that complies with section 3.3(c)(6) of this Part and is monitored at weekly intervals.

(ii) Every tank that is part of a Category 2 UST system must be monitored for leaks using one of the methods listed in sections 3.3(c)(2) through (5) of this Part at weekly intervals. Continuous electronic monitoring satisfies the weekly monitoring requirement.

(iii) Every tank that is part of a Category 3 UST system must be monitored for leaks in accordance with section 3.3(c)(5) of this Part at weekly intervals. Continuous electronic monitoring satisfies the weekly monitoring requirement.

(iv) All electronic tank monitoring systems must be inspected for operability at monthly intervals.

(2) Piping. Piping that routinely contains petroleum and is in contact with the ground must be monitored for leaks as follows:

(i) Pressurized piping.

(*a*) Piping installed before December 27, 1986 that conveys petroleum under pressure must be tested for tightness in accordance with section 3.3(d)(2) of this Part at yearly intervals, with the exception of the following:

(*1*) piping associated with any UST system storing No. 5 or No. 6 fuel oil;

(*2*) any pressurized piping that is equipped with an automatic line leak detector that is operated in accordance with section 3.3(d)(1) of this Part.

(*b*) Piping installed on or after December 27, 1986 that conveys petroleum under pressure and is part of a UST system storing motor fuel must be equipped with an automatic line leak detector that is operated in accordance with section 3.3(d)(1) of this Part.

(ii) Suction piping. Piping installed before December 27, 1986 that conveys petroleum under suction must be tested for tightness in accordance with section 3.3(d)(2) of this Part at yearly intervals, with the exception of piping associated with any UST system storing No. 5 or No. 6 fuel oil.

(iii) All electronic piping monitoring systems must be inspected for operability at monthly intervals.

(c) *Methods of leak detection for tanks*. Each method of leak detection for USTs used to meet the requirements of section 3.3(b)(1) of this Part must be conducted in accordance with the following:

(1) Periodic tightness testing.

(i) Qualifications of test technicians. All tightness tests must be performed by a technician who has an understanding of variables which affect the test and is trained in the performance of the test.

(ii) Test reports.

(*a*) A copy of the test report must be provided by the facility to the Department within 30 days after performance of the test.

(*b*) All test reports must be in a form satisfactory to the Department and must include the following information:

(*1*) facility registration number;

(*2*) tank identification number used on the application form required in section 1.9 of this Part for the UST and piping tested;

(*3*) date of test;

(*4*) results of test;

(5) test method;

(*6*) certification by the technician that test complies with criteria for a tightness test in subparagraph (iii) of this paragraph;

(*7*) statement of technician’s qualifications;

(*8*) address of technician; and

(*9*) signature of technician.

(iii) Tank tightness testing must be capable of detecting a leak at the rate of 0.1 gallons per hour from any portion of the UST that routinely contains petroleum while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(2) Automatic tank gauging. Equipment for automatic tank gauging which tests for the loss of petroleum must meet the following requirements:

(i) The automatic petroleum level monitor test can detect a leak at the rate of 0.2 gallons per hour from any portion of the UST that routinely contains petroleum; and

(ii) The test must be performed with the system operating in one of the following modes:

(*a*) In-tank static testing conducted on a weekly basis; or

(*b*) Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the system to gather incremental measurements to determine the leak status of the UST at weekly intervals.

(3) Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

(i) The materials used as backfill are sufficiently porous (for example, gravel, sand, crushed rock) to readily allow diffusion of vapors from leaks into the excavation area;

(ii) The stored petroleum, or a tracer compound placed in the UST system, is sufficiently volatile (for example, gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a leak from the UST;

(iii) The measurement of vapors by the monitoring device is not rendered inoperative by the groundwater, rainfall, or soil moisture or other known interferences so that a leak could go undetected for more than seven days;

(iv) The level of background contamination in the excavation zone will not interfere with the method used to detect leaks from the UST;

(v) The vapor monitors are designed and operated to detect any significant increase in concentration above background of the petroleum stored in the UST system, a component or components of that substance, or a tracer compound placed in the UST system;

(vi) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs (i) through (iv) of this paragraph and to

establish the number and positioning of monitoring wells that will detect leaks within the excavation zone from any portion of the UST that routinely contains petroleum; and

(vii) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(4) Groundwater monitoring. Testing or monitoring for liquids on the groundwater must meet the following requirements:

(i) The petroleum stored is immiscible in water and has a specific gravity of less than one;

(ii) Groundwater is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (for example, the soil should consist of gravels, coarse to medium sands, coarse silts, or other permeable materials);

(iii) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of petroleum on the water table into the well under both high and low groundwater conditions;

(iv) Monitoring wells must be sealed from the ground surface to the top of the filter pack;

(v) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;

(vi) The continuous electronic monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the groundwater in the monitoring wells;

(vii) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in subparagraphs (i) through (v) of this paragraph and to establish the number and positioning of monitoring wells or devices that will detect leaks from any portion of the UST that routinely contains petroleum; and

(viii) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(5) Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used if the system is designed, constructed, and installed to detect a leak from any portion of the UST that routinely contains petroleum; and if the system meets one of the requirements set forth in subparagraphs (i) through (iii) of this paragraph.

(i) For a double-walled UST system, the sampling or testing method

can detect a leak through the inner wall in any portion of the UST that routinely contains petroleum;

(ii) For a UST system with a secondary barrier within the excavation zone, the sampling or testing method used can detect a leak between the UST system and the secondary barrier, and the following conditions are met;

(*a*) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 1×10^{-6} cm/sec with respect to water) to direct a leak to the monitoring point and permit its detection;

(*b*) The barrier is compatible with the petroleum stored so that a leak from the UST system will not cause a deterioration of the barrier allowing a leak to pass through undetected;

(*c*) For a cathodically protected tank, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;

(*d*) The groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a leak could go undetected for more than seven days;

(*e*) 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; and

(*f*) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(iii) For a UST system using continuous vacuum, pressure, or liquid-filled methods of interstitial monitoring, the method must be capable of detecting a breach in both the inner and outer walls of the tank and/or piping.

(6) Weep holes. Holes in the base of a concrete form encasing a tank may be used to detect a leak from any portion of the tank. Holes in the concrete form must be directly visible to an observer.

(d) *Methods of leak detection for piping*. Each method of leak detection for piping used to meet the requirements of section 3.3(b)(2) of this Part must be conducted in accordance with the following:

(1) Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of petroleum through piping or triggering an audible or visual alarm may be used only if they detect leaks of three gallons per

hour at ten pounds per square inch line pressure within one hour.

(2) Line tightness testing. A periodic test of piping may be conducted only if it can detect a leak at the rate of 0.1 gallons per hour at one and one-half times the operating pressure.

(e) *Leak detection recordkeeping*. Every facility must maintain records demonstrating compliance with all applicable requirements of this section. These records must meet the following requirements:

(1) the results or records of any sampling, testing, or monitoring must be maintained for at least three years;

(2) the results of tank and line tightness testing must be retained until the next test is conducted;

(3) a copy of the results of tank and line tightness testing must be submitted to the Department within 30 days after performance of the test(s); and

(4) written documentation of all calibration, maintenance, and repair of leak detection equipment permanently located on-site must be maintained for at least three years after the servicing work is completed. Any schedules of required calibration and maintenance provided by the leak detection equipment manufacturer must be retained for three years from the date of installation.

613-3.4 Reporting, investigation, and confirmation

(a) *Reporting of suspected leaks*. A facility must report a suspected leak to the Department's Spill Hotline (518-457-7362) within two hours after discovery and follow the procedures in subdivision (c) of this section for any of the following conditions:

(1) The discovery of petroleum outside of a UST system at the facility or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water).

(2) Unusual operating conditions observed (such as the erratic behavior of petroleum dispensing equipment, the sudden loss of product from the UST system, an unexplained presence of water in the UST, or water or petroleum in the interstitial space of secondarily contained systems), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced.

(3) Monitoring results, including alarms, from a leak detection method required under sections 3.3(a) and (b) of this Part indicate that a leak may have occurred unless the monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result.

(b) *Investigation due to off-site impacts*. When required by the Department, a facility must follow the procedures in subdivision (c) of this section to determine if the UST system is the source of off-site impacts. These impacts include the discovery of petroleum (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the Department or brought to its attention by another party.

(c) *Leak investigation and confirmation steps*. Unless corrective action is initiated in accordance with Subpart 6 of this Part, a facility must investigate any suspected leak of petroleum using either one of the methods described in paragraphs (1) or (2) of this subdivision or another procedure approved by the Department. The investigation must commence within 48 hours following the reporting required under subdivision (a) of this section. The investigation must be completed within seven days following the reporting required under subdivision (a) of this section.

(1) System test. Every facility must conduct tightness tests pursuant to sections 3.3(c)(1) and (d)(2) of this Part to determine whether a leak exists in the UST system.

(i) If the system test confirms a leak, the facility must initiate corrective action in accordance with Subpart 6 of this Part before any repair to the UST system is undertaken.

(ii) Further investigation is not required if the test results for the UST system do not indicate that a leak exists and if environmental contamination is not the basis for suspecting a leak.

(iii) The facility must conduct a site check as described in paragraph (2) of this subdivision if the test results for the UST system do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.

(2) Site check. Every facility must measure for the presence of a release where contamination is most likely to be present at the facility. In selecting sample types, sample locations, and measurement methods, the facility must consider the nature of the type of petroleum, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release.

(i) If the test results for the excavation zone or the UST system location indicate that a release has occurred, the facility must begin corrective action in accordance with Subpart 6 of this Part;

(ii) If the test results for the excavation zone or the UST system location do not indicate that a release has occurred, further investigation is not required.

(d) *Response to spills and overfills*.

(1) A facility must report every spill to the Department's Spill Hotline (518-457-7362) within two hours after discovery, contain the spill, and begin corrective action in accordance with the requirements of Subpart 6 of this Part except if the spill meets the following conditions:

(i) It is known to be less than five gallons in total volume;

(ii) It is contained and under the control of the spiller;

(iii) It has not reached and will not reach the land or waters of the State; and

(iv) It is cleaned up within two hours after discovery.

(2) A facility must immediately discontinue operation of any leaking UST system and take the UST system out of service or close the UST system pursuant to provisions of sections 3.5(a) or (b) of this Part, respectively.

613-3.5 Out-of-service UST systems and closure

(a) *Out-of-service UST systems*.

(1) (i) When a UST system is out-of-service, the facility must continue operation and maintenance of corrosion protection in accordance with section 3.2(b) of this Part, and any leak detection in accordance with sections 3.3(a) and (b) of this Part. Subpart 6 of this Part must be complied with if a release is confirmed.

(ii) Leak detection required under sections 3.3(a) and (b) of this Part is not required as long as the UST system is empty. (The UST system is considered empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue remain in the system.) However, leak detection required under sections 3.3(a) and (b) of this Part must resume consistent with the original schedule or upon resumption of delivery of petroleum into the UST system, whichever is later.

(2) When a UST system is out-of-service for a period of three to twelve months, the facility must also comply with the following requirements:

(i) Leave vent lines open and functioning; and

(ii) Cap and secure all other piping, ancillary equipment, and manways.

(3) When a UST system is out-of-service for more than 12 months, the facility must permanently close the UST system in accordance with subdivisions (b) and (c) of this section.

(b) *Permanent closure*.

(1) At least 30 days before beginning permanent closure, a facility must notify the Department of its intent to permanently close, unless such action is in response to corrective action. Within 30 days after permanent closure, a facility must submit a registration application to the Department, in accordance with section 1.9(f) of this Part, indicating that the UST system has been permanently closed.

(2) To permanently close a UST system:

(i) The facility must empty and clean it by removing all liquids and accumulated sludge. Every tank that is part of a UST system that is permanently closed must also be either removed from the ground or filled with an inert solid material (such as sand or concrete slurry). If an inert solid material is used, all voids within the UST must be filled. All connecting and fill lines must be disconnected and removed or securely capped or plugged. Manways must be securely fastened in place. One of the following codes of practice (refer to section 1.10 of this Part for complete citation of references) must be adhered to in order to comply with this subparagraph:

(*a*) API RP 1604, March 1996;

(*b*) API RP 2016, August 2001;

(*c*) API RP 1631, June 2001; or

(*d*) NFPA 326, 2010 edition.

(ii) The facility must ensure that all scheduled deliveries to the UST system are terminated.

(c) *Records for permanent closure*. The facility must maintain for three years records that are capable of demonstrating compliance with closure requirements under this Subpart. In addition, the facility must transmit a copy of the records to the Department within 30 days after permanent closure.

Subpart 613-4 AST Systems

613-4.1 AST systems: design, construction, and installation

(a) *Applicability*. The provisions of this Subpart apply to every AST system that is part of a facility.

(b) *Equipment standards for Category 2 and 3 AST systems*. In order to prevent releases due to structural failure, corrosion, or spills and overfills, any facility containing a Category 2 or 3 AST system must meet the following requirements.

(1) Tanks.

(i) Every AST with a design capacity of 60 gallons or greater must be constructed of steel and must be designed and utilized according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references), as applicable:

(*a*) For Category 2 ASTs:

(*1*) UL 142, January 1985;

(*2*) API Standard 620, September 1982 (revised April 1985);

(*3*) API Standard 650, February 1984;

(*4*) CAN4-S601-M84, 1984; or

(*5*) CAN4-S630-M84, 1984.

(*b*) For Category 3 ASTs:

(*1*) UL 142, December 2006;

(*2*) UL 80, September 2007;

(*3*) UL 2258, August 2010;

(*4*) API Standard 620, February 2008;

(*5*) API Standard 650, March 2013; or

(*6*) ULC-S601-07, 2007.

(ii) Every AST must have a surface coating designed to prevent

corrosion and deterioration.

(iii) Every AST, if in contact with the ground, must be protected from corrosion. Any Category 3 AST in contact with the ground must be protected from corrosion in accordance with API Standard 651, January 2007.

(iv) ASTs storing Class IIIB petroleum are not required to be constructed of steel if installed in areas that would not be exposed to a spill or leak of Class I or Class II petroleum. The classes of petroleum are described in NFPA 30, 2012 edition (refer to section 1.10 of this Part for complete citation of references).

Note: The Department recognizes that some petroleum mixtures cannot be safely stored in steel ASTs. A facility owner seeking to store such petroleum mixtures should, pursuant to the provisions of section 1.8 of this Part, request a variance from the requirements of subparagraph (i) of this paragraph.

(v) Secondary containment.

(*a*) Any AST that has a design capacity of 10,000 gallons or more must have secondary containment that meets the following requirements:

(*1*) be able to contain petroleum leaked from any portion of the AST until it is detected and removed; and

(*2*) be able to prevent the release of petroleum.

(*b*) Any AST that has a design capacity of less than 10,000 gallons and is in close proximity to sensitive receptors is required to either have secondary containment as described in clause (*a*) of this subparagraph or utilize a design/technology such that a release is not reasonably expected to occur. ASTs within 500 horizontal feet of the following resources are considered to be in close proximity to sensitive receptors:

(*1*) a perennial or intermittent stream;

(*2*) a public or private well;

(*3*) a primary or principal aquifer as defined in USGS Water Resource Investigation Reports 87-4274, 87-4275, 87-4276, 87-4122, 88-4076, and Appendix C;

(*4*) a wetland as defined in Part 664 of this Title;

(*5*) a lake/pond, estuary, or other similar surface water body; or

(*6*) a storm drain.

(*c*) An impermeable barrier under an AST that is in contact with the ground must have a permeability rate to water equal to or less than 1×10^{-6} cm/sec and must not deteriorate in an underground environment or in the presence of petroleum. All ASTs must be capable of being monitored between the tank bottom and the impermeable barrier.

(*d*) The secondary containment may consist of a combination of dikes, under-tank liners, pads, ponds, impoundments, curbs, ditches, sumps, tanks used for emergency or overflow containment, or other equipment capable of containing the petroleum stored. Construction of diking and the capacity of the diked area must be in accordance with the following: Category 2 AST systems: NFPA 30 (1984 edition), section 2-2.3.3; or
Category 3 AST systems: NFPA 30 (2012 edition), section 22.11.2.

(*e*) If soil is used as part of the secondary containment, the soil must be of such character that any spill into the secondary containment will be readily recoverable.

(2) Piping. Piping that routinely contains petroleum and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with subparagraphs (i) or (ii) of this paragraph.

(i) Piping made of a non-corrodible material must meet the following conditions.

(*a*) The materials, joints, and joint adhesives must be compatible with petroleum, petroleum additives, and corrosive soils.

(*b*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*c*) All joints must be liquid and air tight.

(*d*) All underground piping must be tested for tightness before being covered, enclosed or placed in use.

(*e*) All piping installed after October 11, 2015 must be designed and constructed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*1*) UL 971, February 2006; or

(*2*) ULC-S660-08, 2008.

(ii) Piping made of steel that is cathodically protected must meet the following conditions.

(*a*) The cathodic protection system must provide a minimum of 30 years of protection in corrosive soils.

(*b*) Cathodic protection must be provided by the use of sacrificial anodes or impressed current.

(*c*) Where sacrificial anodes or impressed current systems are used, monitors to check on the adequacy of the system must be installed and kept in proper working condition. If at any time the monitor shows that the electrical current necessary to prevent corrosion is not being maintained, the system must be repaired or the piping will be considered unprotected and must be tested for tightness in accordance with section 4.3(d)(2) of this Part.

(*d*) Except where cathodic protection is provided by impressed current, underground piping must have dielectric bushings, washers, sleeves, or gaskets installed at the end to electrically isolate the piping from the AST and the dispenser. These dielectric connectors must be compatible with petroleum, petroleum additives, and corrosive soils.

(*e*) All underground piping must be designed, constructed, and installed with access ports to permit tightness testing without the need for extensive excavation.

(*f*) All joints must be liquid and air tight.

(*g*) All underground piping must be tested for tightness in accordance with section 4.3(d)(2) of this Part before being covered, enclosed, or placed in use.

(*h*) All piping installed after October 11, 2015 must meet the following conditions:

(*1*) The piping must be designed and constructed according to UL 971A, October 2006 (refer to section 1.10 of this Part for complete citation of references);

(*2*) The piping must be coated with a suitable dielectric material;

(*3*) The cathodic protection system must be designed, fabricated, and installed according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*i*) API RP 1632, January 1996 (revised 2002);

(*ii*) STI R892, January 2006;

(*iii*) NACE SP0169-2013, 2013; or

(*iv*) NACE SP0285-2011, 2011.

(*4*) Every field-installed cathodic protection system must be designed by a corrosion expert;

(*5*) Every impressed current system must be designed to allow determination of current operating status as required in section 4.2(b)(2) of this Part; and

(*6*) Every cathodic protection system must be operated and maintained in accordance with section 4.2(b) of this Part.

(3) Overfill prevention equipment. Every AST must be equipped with a gauge which accurately shows the level of petroleum in the AST. The gauge must be accessible to the carrier and be installed so it can be conveniently read. A high-level warning alarm, a high-level liquid pump cut-off controller, or equivalent device may be used in lieu of a gauge.

(4) Installation.

(i) Every AST system must be supported on a well-drained stable foundation which prevents movement, rolling, or settling of the AST and is designed to minimize corrosion of the tank bottom.

(ii) Prior to first receipt of petroleum, every AST must be tested for tightness. The tank in a Category 3 AST system must be tested for tightness and inspected according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*a*) API Standard 650, March 2013;

(*b*) API Standard 653, April 2009;

(*c*) PEI RP200, 2013 edition;

(*d*) STI SP001, September 2011; or

(*e*) UL 142, December 2006.

(5) Valves.

(i) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the

requirements of this subparagraph.

(ii) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the AST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this subparagraph.

(iii) Every fill pipe leading to a pump-filled AST must be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(iv) Each connection on a gravity-drained AST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this subparagraph.

(c) *Equipment standards for Category 1 AST systems*. In order to prevent releases due to structural failure, corrosion, or spills and overfills, any facility containing a Category 1 AST system must meet the following requirements.

(1) Secondary containment.

(i) Any AST that has a design capacity of 10,000 gallons or more must have secondary containment that meets the following requirements:

(*a*) be able to contain petroleum leaked from any portion of the AST until it is detected and removed; and

(*b*) be able to prevent the release of petroleum.

(ii) Any AST that has a design capacity of less than 10,000 gallons and is in close proximity to sensitive receptors is required to either have secondary containment as described in subparagraph (i) of this paragraph or utilize a design/technology such that a release is not reasonably expected to occur. ASTs within 500 horizontal feet of the following resources are considered to be in close proximity to sensitive receptors:

(*a*) a perennial or intermittent stream;

(*b*) a public or private well;

(*c*) a primary or principal aquifer as defined in USGS Water Resource Investigation Reports 87-4274, 87-4275, 87-4276, 87-4122, 88-4076, and Appendix C;

(*d*) a wetland as defined in Part 664 of this Title;

(*e*) a lake/pond, estuary, or other similar surface water body; or

(*f*) a storm drain.

(iii) The secondary containment may consist of a combination of dikes, under-tank liners, pads, ponds, impoundments, curbs, ditches, sumps, tanks used for emergency or overflow containment, or other equipment capable of containing the petroleum stored. Construction of diking and the capacity of the diked area must be in accordance with NFPA 30 (1984 edition), section 2-2.3.3.

(iv) If soil is used as part of the secondary containment, the soil must be of such character that any spill into the secondary containment will be readily recoverable.

(2) Overfill prevention equipment. Every AST must be equipped with a gauge which accurately shows the level of product in the AST. The gauge must be accessible to the carrier and be installed so it can be conveniently read. A high-level warning alarm, a high-level liquid pump cut-off controller, or equivalent device may be used in lieu of a gauge.

(3) Valves.

(i) Every dispenser of motor fuel under pressure from a remote pumping system must be equipped with a shear valve (impact valve) that is located in the supply line at the inlet of the dispenser. The valve must be designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 4-3.6 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 6.3.9 meets the requirements of this subparagraph.

(ii) Every dispenser of motor fuel that causes a gravity head must be equipped with a device such as a solenoid valve that is positioned adjacent to and downstream from the operating valve. The valve must be installed and adjusted so that liquid cannot flow by gravity from the AST system in case of piping or dispenser hose failure. For a valve installed on or before October 11, 2015, a valve meeting the standards set forth in NFPA 30A (1984 edition), section 2-1.7 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30A (2012 edition), section 4.2.4 meets the requirements of this subparagraph.

(iii) Every fill pipe leading to a pump-filled AST must be equipped with a properly functioning check valve or equivalent device which provides automatic

protection against backflow. A check valve is required only when the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.

(iv) Each connection on a gravity-drained AST through which petroleum can normally flow must be equipped with an operating valve to control the flow. For a valve installed on or before October 11, 2015, a valve which meets the standards set forth in NFPA 30 (1984 edition), section 2-2.7.1 meets the requirements of this subparagraph. For a valve installed after October 11, 2015, a valve meeting the standards set forth in NFPA 30 (2012 edition), section 22.13.1 meets the requirements of this subparagraph.

613-4.2 General operating requirements

(a) *Spill and overfill prevention.*

(1) Every facility must ensure that releases due to spilling or overfilling do not occur. One of the transfer procedures described in NFPA 385 (2012 edition) or API RP 1007 (March 2001 edition) must be used in order to comply with the requirement of this paragraph, unless those procedures are technically infeasible. In circumstances of technical infeasibility, the facility must develop and employ practices to ensure that releases due to spilling or overfilling do not occur.

(2) The facility must report, investigate, and clean up any spills and overfills in accordance with section 4.4(d) of this Part.

(3) Every AST must be marked (for example, with stenciled letters) with the tank registration identification number, as well as the tank design and working capacities.

(4) Every AST system must be color coded in accordance with API RP 1637 at or near the fill port. If an AST system contains petroleum that does not have a corresponding API color code, the facility must otherwise mark the AST (for example, with stenciled letters) to identify the petroleum currently in the AST system. If the fill port is remote from the AST such that the AST cannot be properly identified by sight from the fill port, the facility must also place the marking near the fill port to identify the petroleum currently in the AST system. For any fill port connected to multiple AST systems storing different types of petroleum, the facility may place the marking near the fill port (for example, with a label or placard) to identify the types of petroleum in the AST systems.

(5) Where there are monitoring wells located at a facility, every monitoring well must be clearly identified as a monitoring well to prevent accidental delivery of petroleum to the monitoring well and must be sealed or capped so as to prevent liquid from entering the well from the surface.

(6) The facility must keep all gauges, valves, and other equipment for spill prevention in good working order.

(7) Immediately prior to a delivery, the carrier must determine that the AST has available working capacity to receive the volume of petroleum to be delivered. Every aspect of the delivery must be monitored and immediate action must be taken to stop the flow of petroleum when the working capacity of the AST has been reached or should an equipment failure or emergency occur.

(b) *Operation and maintenance of corrosion protection*. Every facility having a Category 2 or 3 metal AST system with corrosion protection must comply with the following requirements to ensure that a release due to corrosion is prevented until the AST system is permanently closed pursuant to section 4.5(b) of this Part:

(1) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the AST and piping that routinely contains petroleum and is in contact with the ground.

(2) All AST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(i) Frequency. Every cathodic protection system must be tested at yearly intervals; and

(ii) Inspection criteria. The criteria that are used to determine that cathodic protection is adequate as required by this section must be according to one of the following codes of practice (refer to section 1.10 of this Part for complete citation of references):

(*a*) API RP 651, January, 2007; or

(*b*) NACE RP0193-2001, 2001 edition.

(3) Every AST system with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

(4) For AST systems using cathodic protection, records of the operation of the cathodic protection must be maintained to demonstrate compliance with the requirements of this section. The records generated to meet the provisions of paragraphs (2) and (3) of this subdivision must be kept for three years.

(c) *Compatibility*. Every facility must use an AST system made of or lined with materials that are compatible with the petroleum stored in the AST system.

(d) *Repairs*.

(1) Permanent repairs.

(i) All repairs must be equal to or better than the standards of original

construction. Such repairs must consist of:

(*a*) steel welds or steel patches which are welded in place; or

(*b*) practices set forth in paragraph (3) of this subdivision.

(ii) All welds associated with the repair of an AST must be inspected and tested for tightness before the AST is returned to service.

(2) Cleaning of tank prior to repair.

(i) Prior to repair, an AST must be cleaned. Wash water must not be discharged to the lands or waters of the State unless the discharge is in conformance with the standards of Part 701, 702, 703, and 750 of this Title, as applicable.

(ii) Sludge which has accumulated on the bottom of the AST must be removed, transported, and disposed of in a manner consistent with all applicable State and federal requirements for solid waste disposal.

(3) Lining specifications.

(i) Any noncorrodible epoxy-based resins or equivalent lining which is bonded firmly to the interior surfaces may be used as a lining to protect an AST from future corrosion.

(ii) The lining must be of sufficient thickness, density, and strength to form a hard impermeable shell which will not crack, soften, or separate from the interior surface of the AST.

(iii) The lining's coefficient of thermal expansion must be compatible with steel so that stress due to temperature changes will not be detrimental to the soundness of the lining.

(iv) The lining must be compatible with petroleum products and petroleum additives.

(v) The lining material must be applied and cured in strict accord with manufacturer's specifications.

(vi) Linings used to protect the bottom of an AST must extend up the side of the tank a minimum of 18 inches.

(4) Inspection of lining. The lining must be checked for air pockets and blisters, and electrically tested for pinholes. The lining thickness must be checked with an Elcometer Thickness Gauge or equivalent and the hardness checked with a Barcol Hardness Tester or equivalent to assure compliance with manufacturer's specifications. Any defects must be repaired.

(5) Manufacturer's guarantee. A lining must be installed under the direction of the lining manufacturer or a certified representative. The manufacturer or representative must guarantee to the owner in writing that the lining will not leak the product specified in storage and the lining will not deteriorate in any way for a period of 10 years. A copy of the guarantee must be kept by the owner for the life of the AST.

(e) *Tank systems in locations subject to flooding*. For Category 1 and 2 AST system located in an area where the AST may become buoyant because of a rise in the water table, flooding, or accumulation of water, the facility must maintain safeguards in accordance with sections 2-5.6 of NFPA 30 (1984 edition). If such safeguards include ballasting of an AST with water during flood warning periods, tank system valves and other openings must be closed and secured in a locked position in advance of the flood. Ballast water removed from the AST after the flood must not be discharged to the waters of the State unless the discharge is in conformance with the standards of Parts 701, 702, 703, and 750 of this Title, as applicable.

(f) *Stormwater management*. Stormwater which collects within the secondary containment system must be controlled by a manually operated pump or siphon, or a gravity drain pipe which has a manually controlled dike valve on the outside of the dike. All pumps, siphons and valves must be properly maintained and kept in good condition. If gravity drain pipes are used, all dike valves must be locked in a closed position except when the operator is in the process of draining clean water from the diked area. Stormwater or any other discharge at a facility must be uncontaminated and free of sheen prior to discharge. Stormwater which is contaminated must not be discharged to the waters of the State unless the discharge is in conformance with the standards of Parts 701, 702, 703, and 750 of this Title, as applicable.

613-4.3 Inspections and leak detection

(a) *Specific requirements for Category 1, 2, and 3 AST systems*.

(1) Tank systems.

(i) Every facility having an AST system must inspect the AST system at monthly intervals in accordance with section 4.3(b)(1) of this Part.

(ii) Except as provided in subparagraph (iii) of this paragraph, every Category 1 AST system that has a tank as described in clause (*a*) or (*b*) of this subparagraph must be inspected at ten-year intervals in accordance with section 4.3(b)(2) of this Part.

(*a*) An AST that has a design capacity of 10,000 gallons or more.

(*b*) An AST that has a design capacity of less than 10,000 gallons and is in close proximity to sensitive receptors. ASTs within 500 horizontal feet of the following resources are considered to be in close proximity to sensitive receptors:

(*1*) a perennial or intermittent stream;

(*2*) a public or private well;

(*3*) a primary or principal aquifer as defined in USGS Water Resource Investigation Reports 87-4274, 87-4275, 87-4276, 87-4122, 88-4076, and Appendix C;

(*4*) a wetland as defined in Part 664 of this Title;

(*5*) a lake/pond, estuary, or other similar surface water body; or

(*6*) a storm drain.

(iii) Any Category 1 AST system that has a tank as described in clause (*a*) or (*b*) of this subparagraph is exempt from the requirement established in subparagraph (ii) of this subdivision.

(*a*) An AST that is entirely aboveground, such as a tank on a rack, cradle or stilts.

(*b*) An AST that stores only No. 5 or No. 6 fuel oil.

(2) Underground piping that routinely contains petroleum must be monitored for leaks as follows:

(i) Underground pressurized piping.

(*a*) Underground piping installed before December 27, 1986 that conveys petroleum under pressure must be tested for tightness in accordance with section 4.3(d)(2) of this Part at ten-year intervals.

(*b*) Underground piping installed on or after December 27, 1986 that conveys petroleum under pressure and is part of an AST system storing motor fuel must be equipped with an automatic line leak detector that is operated in accordance with section 4.3(d)(1) of this Part.

(ii) Underground suction piping and gravity-fed piping. Underground piping installed before December 27, 1986 that conveys petroleum under suction or hydrostatic pressure from the AST must be tested for tightness in accordance with section 4.3(d)(2) of this Part at ten-year intervals.

(b) *Inspections of AST systems*. Inspections of AST systems must be conducted in accordance with the following:

(1) Monthly inspections. The inspection must include, as applicable, identification of leaks, cracks, areas of wear, corrosion and thinning, poor maintenance and operating practices, excessive settlement of structures, separation or swelling of tank insulation, malfunctioning equipment, and structural and foundation weaknesses.

(i) For an AST system that includes a tank that is fully enclosed within pre-fabricated secondary containment, the inspection must cover the exterior surfaces of:

(*a*) the secondary containment of the AST; and

(*b*) the accessible portions of piping and ancillary equipment.

(ii) For an AST system that includes a tank that is insulated in order to store heated petroleum and is within secondary containment, the inspection must cover the exterior surfaces of:

(*a*) the insulation of the AST; and

(*b*) the accessible portions of piping and ancillary equipment.

(iii) For an AST system not covered under subparagraph (i) or (ii) of this paragraph, the inspection must cover the exterior surfaces of the tank, piping, and ancillary equipment.

(iv) For every AST system, the inspection must cover any leak detection system, cathodic protection monitoring equipment, or other monitoring or warning system which may be in place.

(2) Ten-year inspections. The inspection must include:

(i) An inspection that is conducted in accordance with API Standard 653 (April 2009) or STI SP001 (September 2011), and a tightness test of any underground piping; or

(ii) A tightness test of the AST system that is performed in accordance with subdivision (c) of this section.

(c) *Tightness testing of ASTs*.

(1) Qualifications of test technicians. All tightness tests must be performed by a technician who has an understanding of variables which affect the test and is trained in the performance of the test.

(2) Test reports.

(i) A copy of the test report must be provided by the facility to the Department within 30 days after performance of the test.

(ii) All test reports must be in a form satisfactory to the Department and must include the following information:

(*a*) facility registration number;

(*b*) tank identification number used on the application form required in section 1.9 of this Part for the AST tested;

(*c*) date of test;

(*d*) results of test;

(*e*) test method;

(*f*) certification by the technician that test complies with criteria for a tightness test in subparagraph (iii) of this paragraph;

(*g*) statement of technician's qualifications;

(*h*) address of technician; and

(*i*) signature of technician.

(iii) Tank tightness testing must be capable of detecting a leak at the rate of 0.1 gallons per hour from any portion of the AST that routinely contains petroleum while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(d) *Methods of leak detection for underground piping*. Each method of leak detection for piping used to meet the requirements of section 4.3(a)(2) of this Part must be conducted in accordance with the following:

(1) Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of petroleum through piping or triggering an audible or visual alarm may be used only if it will detect a leak of three gallons per hour at ten pounds per square inch line pressure within one hour.

(2) Line tightness testing. A periodic test of piping may be conducted only if it can detect a leak at the rate of 0.1 gallons per hour at one and one-half times the operating pressure.

(e) *Inspection and leak detection recordkeeping*. Every facility must maintain records demonstrating compliance with all applicable requirements of this section. These

records must include the results of monthly and ten-year inspections. Monthly inspection records must be maintained for at least three years. Ten-year inspection records must be maintained for at least ten years. A copy of the results of tank tightness testing must be submitted to the Department within 30 days after performance of the test. At a minimum, the records must list each component tested and describe any action taken to correct an issue.

(f) *Additional testing and inspection*. When a leak is suspected, or where inspections or tests required by this Part have not been performed, the Department may order the facility to inspect and to test the AST system or equipment for tightness. If the facility fails to conduct such inspections and tests within 10 days after receipt of the Department's order, the Department may conduct inspections or tests for tightness. The expenses of conducting such tests as ordered by the Department must be paid by the tank system owner.

613-4.4 Reporting, investigation, and confirmation

(a) *Reporting of suspected leaks*. A facility must report a suspected leak to the Department's Spill Hotline (518-457-7362) within two hours after discovery and follow the procedures in subdivision (c) of this section for any of the following conditions:

(1) The discovery of petroleum outside of an AST system at the facility or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water).

(2) Unusual operating conditions observed (such as the erratic behavior of petroleum-dispensing equipment, the sudden loss of product from the AST system, an unexplained presence of water in the AST, or water or petroleum in the interstitial space of secondarily contained systems), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced.

(3) Monitoring results, including alarms, from an inspection or leak detection method required under section 4.3(a) of this Part indicate that a leak may have occurred unless the monitoring device is found to be defective, and is immediately repaired, recalibrated, or replaced, and additional monitoring does not confirm the initial result.

(b) *Investigation due to off-site impacts*. When required by the Department, a facility must follow the procedures in subdivision (c) of this section to determine if the AST system is the source of off-site impacts. These impacts include the discovery of petroleum (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the Department or brought to its attention by another party.

(c) *Leak investigation and confirmation steps*. Unless corrective action is initiated in accordance with Subpart 6 of this Part, a facility must investigate any suspected leak of petroleum using either one of the methods described in paragraphs (1) or (2) of this subdivision or another procedure approved by the Department. The investigation must commence within 48

hours following the reporting required under subdivision (a) of this section. The investigation must be completed within seven days following the reporting required under subdivision (a) of this section.

(1) Inspection. Every facility must conduct an AST system inspection in accordance with section 4.3(b)(2)(i) of this Part to determine whether a leak exists in the AST system.

(i) If the inspection confirms a leak, the facility must initiate corrective action in accordance with Subpart 6 of this Part before any repair to the AST system is undertaken.

(ii) Further investigation is not required if the inspection results do not indicate that a leak exists and if environmental contamination is not the basis for suspecting a leak.

(iii) The facility must conduct a site check as described in paragraph (2) of this subdivision if the inspection results for the AST system do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.

(2) Site check. Every facility must measure for the presence of a release where contamination is most likely to be present at the facility. In selecting sample types, sample locations, and measurement methods, the facility must consider the nature of the type of petroleum, the type of initial alarm or cause for suspicion, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release.

(i) If the samples indicate that a release has occurred, the facility must begin corrective action in accordance with Subpart 6 of this Part.

(ii) If the samples do not indicate that a release has occurred, further investigation is not required.

(d) *Response to spills and overfills.*

(1) A facility must report every spill to the Department's Spill Hotline (518-457-7362) within two hours after discovery, contain the spill, and begin corrective action in accordance with the requirements of Subpart 6 of this Part except if the spill meets the following conditions:

(i) It is known to be less than five gallons in total volume;

(ii) It is contained and under the control of the spiller;

(iii) It has not reached and will not reach the land or waters of the State; and

(iv) It is cleaned up within two hours after discovery.

(2) A facility must immediately discontinue operation of any leaking AST system and take the AST system out of service or close the AST system pursuant to provisions of section 4.5(a) or (b) of this Part, respectively.

613-4.5 Out-of-service AST systems and closure

(a) *Out-of-service AST systems.*

(1) (i) When an AST system is out-of-service, the facility must continue operation and maintenance of corrosion protection in accordance with section 4.2(b) of this Part, and inspections and leak detection in accordance with section 4.3(a) of this Part. Subpart 6 of this Part must be complied with if a release is confirmed.

(ii) Inspections and leak detection required under section 4.3(a) of this Part are not required as long as the AST system is empty. (The AST system is considered empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue remain in the system.) However, inspections and leak detection required under section 4.3(a) of this Part must resume consistent with the original schedule or upon resumption of delivery of petroleum into the AST system, whichever is later.

(2) When an AST system is out-of-service for more than three months, the facility must also comply with the following requirements:

(i) Leave vent lines open and functioning; and

(ii) Cap and secure all other piping, ancillary equipment, and manways.

(3) When an AST system is out-of-service for more than 12 months, the facility must permanently close the AST system in accordance with subdivision (b) of this section, unless the AST system is located at a facility where one or more other tank systems are not out-of-service.

(b) *Permanent closure*.

(1) At least 30 days before beginning permanent closure, a facility must notify the Department of its intent to permanently close, unless such action is in response to corrective action. Within 30 days after permanent closure, a facility must submit a registration application to the Department, in accordance with section 1.9(f) of this Part, indicating that the AST system has been permanently closed.

(2) To permanently close an AST system, the facility must empty and clean it by removing all liquids, vapors, and accumulated sludge. One of the following codes of practice

(refer to section 1.10 of this Part for complete citation of references) must be adhered to in order to comply with this paragraph:

(i) API RP 2016, August 2001; or

(ii) NFPA 326, 2010 edition.

(3) Every tank that is part of an AST system that is permanently closed must, if not removed, be stenciled with the date of permanent closure.

(4) ASTs that are permanently closed that remain at the facility must be protected from flotation.

(5) AST systems that have been permanently closed may not be returned to service unless the entire AST system meets the requirements for Category 3 AST systems.

(c) *Records for permanent closure*. The facility must maintain for three years records that are capable of demonstrating compliance with closure requirements under this Subpart. In addition, the facility must transmit a copy of the records to the Department within 30 days after permanent closure.

Subpart 613-5 Delivery Prohibition

613-5.1 Circumstances and process for imposing a delivery prohibition

(a) *Tier 1 conditions*.

(1) When the Department finds that a Tier 1 condition exists at a facility, the Department will affix a tag on the fill pipe of the relevant tank system.

(2) At the time that it affixes a tag, the Department will provide to the facility operator, if one is present, a written notification of the imposition of the delivery prohibition that will include the finding of the relevant condition(s) at the facility. The Department will then send the written notification to the facility via certified mail to the correspondence address listed in the current facility registration or license within five business days following the time that the tag is affixed to the tank system.

(3) The following are Tier 1 conditions:

(i) A tank system is known to be releasing petroleum. If the source of the release cannot be determined upon inspection, then all tank systems at the facility that are probable sources of the release will be tagged.

(ii) A UST system covered under sections 2.1(a), 3.1(a)(2), or 3.1(a)(4) of this Part does not have one or more of the following:

(*a*) secondary containment equipment required under sections 2.1(b)(1)(iv), 2.1(b)(2)(ii)(*c*), and 3.1(b)(1)(iv) of this Part;

(*b*) spill and overfill prevention equipment required under section 2.1(b)(3) of this Part or overfill prevention equipment required under section 3.1(b)(3) of this Part;

(*c*) corrosion protection equipment required under sections 2.1(b)(1)(ii), 2.1(b)(2)(ii), 2.1(c)(2)(ii), 2.1(c)(2)(iii), 2.1(c)(3), 3.1(b)(1)(ii), or 3.1(b)(2)(ii) of this Part; or

(*d*) leak detection equipment required under sections 2.3(a) and (b), or 3.3(a) and (b) of this Part.

(b) *Tier 2 conditions*.

(1) When the Department finds that a Tier 2 condition exists at a facility, the Department may affix a tag on the fill pipe of the relevant tank system.

(2) Prior to affixing a tag, the Department will send a written statement to the

facility informing the facility of the relevant condition(s). The Department will send the statement via certified mail to the correspondence address listed in the current facility registration or license.

(3) At the time that it affixes a tag, the Department will provide to the facility operator, if one is present, a written notification of the imposition of the delivery prohibition that will include the finding of the relevant condition(s) at the facility. The Department will then send the written notification to the facility via certified mail to the correspondence address listed in the current facility registration or license within five business days following the time that the tag is affixed to the tank system.

(4) The following are Tier 2 conditions:

(i) The results of leak detection required by sections 2.3(a) and (b) of this Part, sections 3.3(a) and (b) of this Part, or inspections and leak detection required by sections 4.3(a) and (b) of this Part indicate that the tank system may be leaking petroleum or would not contain a leak if one were to occur, unless the facility submits, within ten days after receipt of the Department's statement issued pursuant to paragraph (2) of this subdivision, acceptable documentation to the Department that demonstrates that the relevant tank system is not leaking or has been appropriately repaired.

(ii) With respect to the operation of a UST system covered under sections 2.1(a), 3.1(a)(2), or 3.1(a)(4) of this Part, the facility has not demonstrated within 30 days following receipt of the Department's statement issued pursuant to paragraph (2) of this subdivision compliance with the following standards:

(*a*) spill and overfill prevention operating standards under section 2.2(a) of this Part;

(*b*) corrosion protection operating standards under section 2.2(b) of this Part; or

(*c*) applicable leak detection methods under section 2.3(c) and (d) of this Part.

(iii) With respect to the operation of a UST system covered under sections 3.1(a)(1) or 3.1(a)(3) of this Part, one or more of the following is missing and the facility has not documented to the Department that the missing component has been put in place within 30 days after receipt of the Department's statement issued pursuant to paragraph (2) of this subdivision:

(*a*) secondary containment equipment required under section 3.1(b)(iv) of this Part;

(*b*) overfill prevention equipment required under section 3.1(b)(3) of this Part;

(*c*) corrosion protection equipment required under sections 3.1(b)(1)(ii) and 3.1(b)(2)(ii) of this Part; or

(*d*) leak detection equipment required under sections 3.3(a) and (b) of this Part.

(iv) With respect to the operation of an AST system covered under section 4.1(a) of this Part, one or more of the following is missing and the facility has not documented to the Department that the missing component has been put in place within 30 days after receipt of the Department's statement issued pursuant to paragraph (2) of this subdivision:

(*a*) secondary containment equipment required under sections 4.1(b)(1)(v) and 4.1(c)(1) of this Part;

(*b*) overfill prevention equipment required under sections 4.1(b)(3) and 4.1(c)(2) of this Part;

(*c*) corrosion protection equipment required under sections 4.1(b)(1)(ii) and (iii), and 4.1(b)(2)(ii) of this Part; or

(*d*) leak detection equipment required under section 4.3(a) of this Part.

(c) The Department may issue the written finding, consistent with paragraphs (a)(2) or (b)(3) of this section, that a Tier 1 or Tier 2 condition exists, but withhold the imposition of the delivery prohibition for a period that may not exceed 180 days, where:

(1) there is no evidence that the tank system is leaking; and

(2) imposing the delivery prohibition would jeopardize public health or safety or the availability of, or access to, fuel in a rural and remote area.

613-5.2 Prohibitions

(a) *Delivery prohibition*. No person may deliver or cause the delivery of petroleum to any tank system to which a tag is affixed. No person may accept petroleum to any tank system to which a tag is affixed.

(b) *Tag tampering and removal prohibition*. Unless authorized by the Department, no person may tamper with or remove a tag affixed to a tank system or cause such tampering or removal.

613-5.3 Notifications

(a) *Notice of delivery prohibition to facility and carrier*. The presence of a tag affixed to the fill pipe of a tank system constitutes notice of the delivery prohibition.

(b) *Notification to carrier by facility*. After the Department affixes a tag to the fill pipe of a tank system, the facility must, prior to the next scheduled delivery of petroleum, inform all carriers that normally deliver to the tank system that delivery is prohibited. The facility must retain a record of any correspondence regarding the delivery prohibition.

613-5.4 Termination of delivery prohibition

(a) A delivery prohibition may be terminated by the Department on its own initiative, or following the conclusion of review of compliance submissions or an expedited hearing.

(1) Department initiative. If the Department terminates a delivery prohibition on its own initiative, the Department will send a written notification to the facility confirming that the prohibition has been terminated. The Department will send the notification via certified mail to the correspondence address listed in the current facility registration or license.

(2) Review of compliance submissions.

(i) A facility may, at any time, submit information to the Department demonstrating that the facility is in compliance or has corrected the condition(s) that prompted the Department to impose the prohibition.

(ii) Upon submission of information to the Department, the Department will designate an individual to review submissions and provide a written decision as set forth below.

(iii) The designated individual will provide a written decision to the facility within five business days after the Department receives the facility's submission. If the designated individual decides to deny termination of the delivery prohibition, the decision will set forth the reasons for the denial including a description of any deficiency in the information supplied by the facility.

(iv) The decision of the designated individual will constitute a final agency determination subject to challenge under Article 78 of the Civil Practice Law and Rules.

(v) The Department will retain the record generated during the staff review process for one year.

(3) Expedited hearing.

(i) Not later than 15 days after a tag has been affixed to a tank fill

port, the Department will provide the facility with an opportunity to present proof on the limited issue of whether the Department incorrectly determined that any Tier 1 or Tier 2 conditions existed at the facility. Notice of such hearing will be sent together with the written notification of any delivery prohibition issued pursuant to sections 5.1(a)(2) or (b)(3) of this Part.

(ii) The Department will bear the burden of proof at the expedited hearing.

(iii) The failure of the facility to appear at the time and place scheduled for the expedited hearing will constitute a waiver of the opportunity for an expedited hearing.

(iv) The expedited hearing will be held before a Department hearing officer. The hearing officer will make a report to the Commissioner setting forth the appearances, the arguments presented at the hearing, findings of fact and conclusions of law, and a recommended determination for consideration by the Commissioner.

(v) The hearing officer may, to the extent practicable and without prejudice to the facility's right to have a timely expedited hearing, consolidate the expedited hearing regarding the existence of Tier 1 or 2 conditions with any hearing regarding the facility's violation of other provisions of the Environmental Conservation Law, or any order, rule, or regulation issued or promulgated thereunder.

(vi) The hearing officer will have the powers and authority provided to a presiding officer under the State Administrative Procedure Act.

(vii) The expedited hearing will be recorded. The hearing officer will cause a typed transcript of the record to be prepared for the Department's files, but will not wait for the preparation of this transcript before making a report to the Commissioner, if so requested by the facility or the Commissioner.

(viii) The hearing officer will issue his or her report within 30 days after the close of the hearing, unless the parties agree to an extension of this time.

(b) *Removal of a tag*. Within two business days after a decision by the Department that all Tier 1 and Tier 2 conditions at a facility have been resolved, the Department will remove, or authorize the removal of, the tag.

Subpart 613-6 Release Response and Corrective Action

613-6.1 General

A facility must, in response to a release from a tank system, comply with the requirements of this section.

613-6.2 Initial response

In response to a release from a tank system, a facility must immediately perform the following initial response actions:

(a) identify and mitigate fire, explosion, and vapor hazards;

(b) take immediate action to prevent any further release of petroleum; and

(c) report the release to Department's Spill Hotline (518-457-7362) within two hours after discovery.

613-6.3 Initial abatement measures and site check

(a) Unless directed to do otherwise by the Department, the facility must perform the following abatement measures:

(1) remove as much of the petroleum from the tank system as is necessary to prevent further release;

(2) visually inspect any aboveground releases or exposed belowground releases and prevent further petroleum migration;

(3) continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the excavation zone and entered into subsurface structures (such as sewers or basements);

(4) remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the facility must comply with applicable State and local requirements;

(5) measure for the presence of a release where contamination is most likely to be present at the facility, unless the presence and source of the release have been confirmed in accordance with the site check required by sections 2.4(c)(2), 3.4(c)(2), or 4.4(c)(2) of this Part, or the site assessment required by section 2.6(c) of this Part. In selecting sample types, sample

locations, and measurement methods, the facility must consider the nature of the petroleum stored, the type of backfill, depth to groundwater and other factors as appropriate for identifying the presence and source of the release; and

(6) investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with section 6.5 of this Part.

(b) Within 20 days after release confirmation, a facility must submit:

(1) a report to the Department summarizing the initial abatement steps taken under subdivision (a) of this section; and

(2) any resulting information or data.

613-6.4 Initial site characterization

(a) Unless directed to do otherwise by the Department, a facility must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in section 6.3 of this Part. This information must include:

(1) data on the nature and estimated quantity of release;

(2) data from available sources and/or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(3) results of the site check required under sections 2.4(c)(2), 3.4(c)(2), or 4.4(c)(2) of this Part; and

(4) results of the free product investigations required under section 6.3(a)(6) of this Part, to be used by a facility to determine whether free product must be recovered under section 6.5 of this Part.

(b) Within 45 days after release confirmation or another reasonable period of time determined by the Department, a facility must submit the information collected in compliance with subdivision (a) of this section to the Department in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the Department.

613-6.5 Free product removal

At a facility where an investigation under section 6.3(a)(6) of this Part indicates the

presence of free product, the facility must undertake corrective action to meet the cleanup objectives of Part 611 of this Title. In meeting the requirements of this section, the facility must:

(a) conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the facility, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, State, and Federal regulations;

(b) use abatement of free product migration as a minimum objective for the design of the free product removal system;

(c) handle any flammable products in a safe and competent manner to prevent fires or explosions; and

(d) unless directed to do otherwise by the Department, prepare and submit to the Department, within 45 days after confirming a release, a free product removal report that provides at least the following information:

(1) the name of the person(s) responsible for implementing the free product removal measures;

(2) the estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;

(3) the type of free product recovery system used;

(4) whether any discharge will take place on the facility or off the facility during the recovery operation and where this discharge will be located;

(5) the type of treatment applied to, and the effluent quality expected from, any discharge;

(6) the steps that have been or are being taken to obtain necessary permits for any discharge; and

(7) the disposition of the recovered free product.

613-6.6 Investigations for soil and groundwater cleanup

(a) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the groundwater, the facility must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:

(1) there is evidence that groundwater wells have been affected by the release (for example, as found during release confirmation or previous corrective action measures);

(2) free product is found to need recovery in compliance with section 6.5 of this Part;

(3) there is evidence that contaminated soils may be in contact with groundwater (for example, as found during conduct of the initial response measures or investigations required under sections 6.2 through 6.5 of this Part); and

(4) the Department requests an investigation, based on the potential effects of contaminated soil or groundwater on nearby surface water and groundwater resources.

(b) A facility must submit the information collected under subdivision (a) of this section as soon as practicable or in accordance with a schedule established by the Department.

613-6.7 Corrective action plan

(a) At any point after reviewing the information submitted in compliance with sections 6.2 through 6.4 of this Part, the Department may require the facility to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater. If a plan is required, the facility must submit the plan according to a schedule and format established by the Department. Alternatively, the facility may, after fulfilling the requirements of sections 6.2 through 6.4 of this Part, choose to submit a corrective action plan for responding to contaminated soil and groundwater. In either case, the facility is responsible for submitting a plan that provides for adequate protection of public health and the environment as determined by the Department, and must modify the facility's plan as necessary to meet this standard.

(b) The Department will approve the corrective action plan only after ensuring that implementation of the plan will adequately protect public health, safety, and the environment. In making this determination, the Department will consider the following factors as appropriate:

(1) The physical and chemical characteristics of the petroleum, including its toxicity, persistence, and potential for migration;

(2) The hydrogeologic characteristics of the facility and the surrounding area;

(3) The proximity, quality, and current and future uses of nearby surface water and groundwater;

(4) The potential effects of residual contamination on nearby surface water and groundwater;

(5) An exposure assessment; and

(6) Any information assembled in compliance with this Subpart.

(c) Upon approval of the corrective action plan or as directed by the Department, the facility must implement the plan, including modifications to the plan made by the Department. The facility must monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the Department.

(d) The facility may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and groundwater before the corrective action plan is approved provided that the facility:

(1) notifies the Department of the facility's intention to begin cleanup;

(2) complies with any conditions imposed by the Department, including halting cleanup or mitigating adverse consequences from cleanup activities; and

(3) incorporates these self-initiated cleanup measures in the corrective action plan that is submitted to the Department for approval.

613-6.8 Public participation

(a) For each confirmed release that requires a corrective action plan, the Department will provide an opportunity for public involvement by those members of the public directly affected by the release and the planned corrective action. This notice may include public notice in local newspapers, block advertisements, public service announcements, e-mail, publication in a state register, letters to individual households, or personal contacts by field staff.

(b) The Department will ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.

(c) Before approving a corrective action plan, the Department may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.

(d) The Department will provide public notice that complies with subdivision (a) of this section if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the Department.