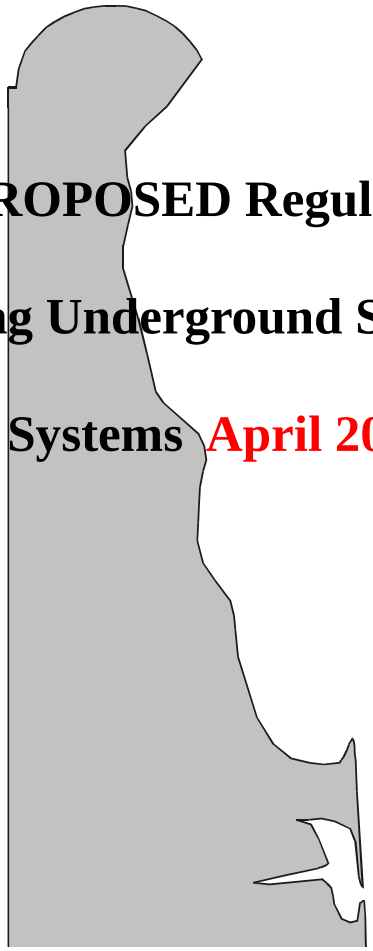
PROPOSED Regulations

Governing Underground Storage Tank Systems April 2009



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Department of Natural Resources and Environmental Control

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PART A.

GENERAL REQUIREMENTS FOR UNDERGROUND STORAGE TANK SYSTEMS

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Section 1. General Provisions

1.1. Statement of Authority and Purpose

1.1.1. These Regulations are enacted in accordance with ~~Title~~ 7 **Del.C.** Chapter 60, *Environmental Control*, and 7 **Del.C.** Chapter 74, *Delaware Underground Storage Tank Act*.

1.1.2. The Delaware Department of Natural Resources and Environmental Control (DNREC) is responsible for protecting, preserving and enhancing the environmental quality of the water, air, and land of the State. The Department recognizes that groundwater quality protection and improvement is an important goal. In addition, the General Assembly of the State of Delaware has found "that it is necessary to provide for more stringent control of the installation, operation, Retrofitting and abandonment of Underground Storage Tanks (USTs) to prevent leaks, and where leaks should occur, to detect them at the earliest possible stage and thus minimize further degradation of groundwater." The Delaware *Regulations Governing Underground Storage Tank Systems* are intended to address Releases from UST systems as well as prevent future Releases.

1.1.3. The intent of the Department with these Regulations is three-fold. First, to ensure the detection of any Release. This will be achieved by ensuring an acceptable design and installation of new UST Systems and improvement of all UST Systems. Second, to prevent the Release of Regulated Substance to the environment by requiring UST Systems be designed to contain a Release. Finally, to assess and address potential risks of Releases to provide for the protection of human health, safety, and the environment.

1.2. Applicability

1.2.1. The requirements of these Regulations shall apply to any Person, including without limitation, to all Owners and Operators of an UST System as defined in ~~Title~~ 7 **Del.C.** §7402 (20) unless specifically exempted. The following UST Systems shall only be subject to the requirements of Part A §4.10., and Part B §4.6., and Part C §4.5., and Part D §3.6., and Part E of these Regulations:

1.2.1.1. Agricultural/Farm and residential UST Systems of 1,100 gallons or less used for storing Motor Fuels for non-commercial purposes.

1.2.1.2. UST Systems containing Heating Fuel of 1,100 gallons or less for Consumptive Use On The Premises Where Stored.

1.2.1.3. Any UST System holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other Regulated Substances.

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1.2.1.4. Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under §402 or 307(b) of the Clean Water Act.

1.2.1.5. Equipment and machinery that contains Regulated Substances for operational purposes such as Hydraulic Lift Tanks and electrical equipment tanks.

1.2.1.6. Any UST System whose capacity is 110 gallons or less.

1.2.1.7. Any emergency spill or overflow containment UST System that is expeditiously emptied after use.

1.2.2. The requirements contained in these Regulations with the exception of requirements in Part E of these Regulations do not apply to any of the following UST Systems:

1.2.2.1. Any UST System containing radioactive material that is regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011).

1.2.2.2. Any UST System that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission in accordance with 10 CFR Part 50, Appendix A.

1.2.2.3. Airport Hydrant Fuel Systems.

1.2.2.4. UST Systems with field constructed tanks.

1.3. Prohibition for Deferred UST Systems

1.3.1. No Person may install an UST System as described under §1.2.2. of this Part for the purpose of storing Regulated Substances unless the UST System:

1.3.1.1. Will prevent Releases due to corrosion or structural failure for the Operational Life of the UST System; and

1.3.1.2. Is cathodically protected against corrosion, constructed of non-corrodible material, steel clad with a non-corrodible material, or designed in a manner to prevent the Release or threatened Release of any stored substance; and

1.3.1.3. Is constructed or lined with material that is Compatible with the stored substance.

1.4. Enforcement

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1.4.1. Any Person who violates these Regulations shall be subject to all appropriate legal sanctions including but not limited to the provisions set forth in ~~Title~~ 7 **Del.C.**~~,~~ Chapter 74, §7411 or ~~Title~~ 7 **Del.C.** Chapter 60.

1.4.2. The Department reserves the right to order a hydrogeologic investigation in accordance with Part E of these Regulations or an UST System tightness test in accordance with Parts B, C and D of these Regulations when:

1.4.2.1. A Department representative cannot determine that an UST Facility is in compliance with these Regulations based upon the information made available by the Owner and Operator; or

1.4.2.2. A Department representative determines that a Facility is not in compliance with these Regulations; or

1.4.2.3. An imminent threat to human health, safety or the environment exists.

1.5. Severability

1.5.1. If any provisions of these regulations are adjudged to be unconstitutional or invalid by a court of competent jurisdiction, the remainder of these Regulations shall not be affected thereby.

1.6. Right of Appeals

1.6.1. Any Person or party whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board in accordance with 7 **Del.C.**~~,~~ Chapter 60, *Environmental Control*, §6008.

1.6.2. Any Person or party to an appeal before the Environmental Appeals Board who is substantially affected by a decision of the Environmental Appeals Board may appeal to the Superior Court in accordance with 7 **Del.C.**~~,~~ Chapter 60, *Environmental Control*, §6009.

1.7. Joint and Several Liability

1.7.1. Throughout these Regulations, Owners and Operators are jointly and severally liable for all duties and requirements. When used in these Regulations, "Owners or Operators" shall mean that the Owners and Operators are jointly and severally liable for the applicable duties and requirements.

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Section 2. Definitions

The following words, terms and phrases have the meaning ascribed to them in this Section, except where the context clearly indicates a different meaning.

"Above Ground Release" means any Release to the surface of the land or to surface water. This includes, but is not limited to, Releases from the above ground portion of an UST System and Above Ground Releases associated with overfills and transfer operations as the Regulated Substance moves to or from an UST System.

"Accidental Release" means any sudden or non-sudden release of Regulated Substance from an UST System that results in a need for corrective action and/or compensation for bodily injury or property damage neither expected nor intended by the tank Owner or Operator.

"Agricultural/Farm Tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. An agricultural/farm tank shall be located on the farm property. "Agricultural/Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

"Airport Hydrant Fuel System" means a fuel distribution system utilizing underground ~~p~~Piping that supplies vertical Pipe dispensing points located in flush, surface mounted, below grade pits.

"Ancillary Equipment" means any devices including, but not limited to, such devices as ~~p~~Piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of Regulated Substances to and from an UST.

"API" means American Petroleum Institute.

"ASTM" means American Society for Testing and Materials.

"Below Ground Release" means any Release to the subsurface of the land and to groundwater. This includes, but is not limited to, Releases from the below ground portions of an UST System and below ground Releases associated with overfills and transfer operations as the Regulated Substance moves to or from an Underground Storage Tank System.

"Beneath the Surface of the Ground" means beneath the ground surface or otherwise covered with earthen materials.

"Bodily Injury" shall have the meaning given to this term by state law; however this term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for bodily injury.

"Cathodic Protection" means a technique to prevent the corrosion of a metal surface by making that surface the cathode of an electrochemical cell. Protection can be accomplished by means of an impressed current system or a Sacrificial Anode system.

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"CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

"Change In Service" means a change in status of the UST System from either In Service to Out Of Service or a change in status of the UST System from Out Of Service to In Service.

"Change in Substance Stored" means the exchange of one substance stored in an UST System for another.

"**Chief Financial Officer"** in the case of local government owners and operators, means the individual with the overall authority and responsibility for the collection, disbursement, and use of funds by the local government.

"Class A Operator" means an individual having primary responsibility for the overall operation and maintenance of an UST System.

"Class B Operator" means an individual having responsibility and direct control over daily on-site operation and maintenance of an UST System.

"Class C Operator" means an individual, on-site employee having primary responsibility for addressing emergencies presented by a Release from an UST System.

"Closed In Place" means the cleaning and filling of an UST System through the use of prescribed techniques to render it permanently unfit for service.

"Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the UST System under conditions likely to be encountered in the UST System.

"Connected Piping" means all ~~p~~Piping including valves, elbows, joints, flanges, and flexible connectors attached to an UST System through which Regulated Substances flow. For the purpose of determining how much ~~p~~Piping is connected to any individual UST System, the ~~p~~Piping that joins two UST Systems should be allocated equally between them.

"Consumptive Use" with respect to Heating Fuel means consumed On The Premises Where Stored.

"Containment Sump" means Product Tight under dispenser, Piping and Underground Storage Tank top structures, enclosing equipment ~~and~~or Piping or used for Release Detection, such that there are no pathways for Regulated Substances to enter the environment.

"Controlling Interest" means direct ownership of at least fifty (50) percent of the voting stock of another entity.

"Corrective Action" means the sequence of actions, or process, that includes confirming a release, site assessment, interim remedial action, remedial action, monitoring, and termination of the remedial action.

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"Department" means the Department of Natural Resources and Environmental Control.

"Dielectric Material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST Systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST System (e.g., ~~t~~Tank from ~~p~~Piping).

"Domestic Well" means a well primarily used for potable non-public water supply purposes and which may be used for non-potable purposes, excluding heat pump supply.

"Effective Date" means the most recent date of Promulgation of these Regulations.

"Electrical Equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

"Electrically Isolated" means the electrical separation of the Underground Storage Tank from the ~~p~~Piping and from other metallic structures and the environment by means of a nonconductive fitting or bushing.

"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.

"Facility" means any location or part thereof containing one or more Underground Storage Tank Systems.

"Financial Reporting Year" means the latest consecutive twelve-month period for which any of the following reports used to support a financial test is prepared:

(1) A 10-K report submitted to the SEC; or
(2) An annual report of tangible net worth submitted to a recognized rating service such as Dun and Bradstreet; or
(3) Annual reports submitted to the Energy Information Administration or the Rural ~~Electrification Administration~~Utilities Service. Financial Reporting Year may thus comprise a fiscal or a calendar year period; or
(4) Audited financial report; or
(5) Annual reports submitted to the Board of Governors of the Federal Reserve System, the Comptroller of the Currency, or the Federal Deposit Insurance Corporation.

"Flow-Through Process Tank" is a tank 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 Tanks 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.

"Gathering Lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

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"Hazardous Substance" means a substance as defined in 101(14) of the CERCLA, or any mixture of such hazardous substance and petroleum, but not including any substance regulated as a hazardous waste under RCRA Subtitle C.

"Hazardous Substance UST System" means an UST System that contains a hazardous substance defined in 101(14) of the CERCLA, but not including any substance regulated as a hazardous waste under RCRA Subtitle C, or any mixture of such substances and petroleum, and which is not a Petroleum UST System.

"Heating Fuel" also known as heating oil, means petroleum that is one of eight technical grades. These grades are: No. 1; No. 2; No. 4-light; No. 4-heavy; No. 5-light; No. 5-heavy; No. 6 technical grade of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels used as substitutes for one of these fuels such as kerosene, Used Oil diesel or biodiesel when used for heating purposes. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

"Heating Fuel UST System" means an UST System that contain~~sing~~ Heating Fuel ~~or Used Oil~~ that is used solely for the operation of equipment used for the generation of heat, and is connected directly~~-~~ or via a day tank to the heat generating equipment and is for consumptive use~~d~~ on the property where the UST System is located.

"Hydraulic Lift Tank" means a tank holding hydraulic fluid for a closed loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

"Impervious Material" means a material of sufficient thickness, density and composition that is impenetrable to the Regulated Substance, has a permeability of less than 1 X 10^{-7} cm/sec., and that will prevent the discharge to the lands, ground waters, or surface waters of the State of any Regulated Substance for a period of at least as long as the maximum anticipated time during which the Regulated Substance will be in contact with the material.

"Industrial Well" means a well which is used in the processing, washing, packaging, or manufacturing of a product excluding food and beverages.

"In Service" means an UST System which is not abandoned, contains Regulated Substances and/or has Regulated Substances regularly added or withdrawn.

"Legal Defense Cost" means any expense that an Owner or Operator or provider of financial assurance incurs in defending against claims or actions brought by:

(1) EPA or Department to require investigations and/or corrective action or to recover the costs of investigations and/or corrective action; or
(2) On behalf of a third party for bodily injury or property damage caused by an accidental release; or
(3) Any person to enforce the terms of a financial assurance mechanism.

"LNAPL" means a Light Non-Aqueous Phase Liquid having a specific gravity less than one (1) and composed of one or more organic compounds that are immiscible or sparingly soluble in

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water. The term encompasses all potential occurrences of LNAPL including free, mobile, and residual.

"**Free LNAPL"** means LNAPL that is hydraulically connected in the pore space and has the potential to be mobile in the environment.

"LNAPL Body" means the 3-dimensional form and distribution of LNAPL in the subsurface existing in any phase.

"LNAPL Conceptual Site Model (LCSM)" means a model describing the physical properties, chemical composition, occurrence and geologic setting of the LNAPL body from which estimates of flux, risk and potential remedial action can be generated. The LCSM may be a dynamic, living model that changes through time as a function of natural attenuation or engineered remedial action processes, or additional site knowledge.

"Mobile LNAPL" means free LNAPL that is moving laterally or vertically in the environment under prevailing hydraulic conditions. The result of the LNAPL movement is a net mass flux from one point to another. Not all free LNAPL is mobile, but all mobile LNAPL must be free LNAPL.

"Residual LNAPL" means LNAPL that is hydraulically discontinuous and immobile under prevailing conditions. Residual LNAPL cannot move, but is a source for chemicals of concern dissolved in groundwater or in the vapor phase in soil gas. The residual LNAPL saturation is a function of the initial or maximum LNAPL saturation and the porous medium.

"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.

"Local Government" shall have the meaning given this term by applicable state law and includes Indian tribes. The term is generally intended to include:

(1) Counties, municipalities, townships, separately chartered and operated special districts (including local government public transit systems and redevelopment authorities), and independent school districts authorized as governmental bodies by state charter or constitution; and

(2) Special districts and independent school districts established by counties, municipalities, townships, and other general purpose governments to provide essential services.

"Maintenance" means the operational upkeep as described by manufacturer's recommendations or the Department requirements to prevent an UST System from releasing product.

"Monitor Well" means a well installed in accordance with Delaware's Regulations Governing the Construction of Water Wells that will be used for the monitoring of ground water quality.

"Motor Fuel" means petroleum or other substance that includes motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, alternative fuels including but not limited to ethanol, methanol or biodiesel and is typically used in the operation of a motor engine.

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"Motor Oil" means a petroleum product used to lubricate the internal parts of an engine. The term includes lubricating and operational fluids for the mechanical components associated with the engine, including any hydraulic, transmission, gear or braking systems.

"NACE" means National Association of Corrosion Engineers.

"NFPA" means National Fire Protection Association, Inc.

"Non-Commercial Purposes" with respect to Motor Fuel, Heating Fuel, or Hazardous Substance means the product in the UST System is not used for any activities that result in monetary gain.

"Observation Tube" means a leak detection device placed within the Excavation Zone which reaches the water table and can be inspected periodically to determine whether contamination of the aquifer by a Regulated Substance has occurred.

"Occurrence" means an accident, including continuous or repeated exposure to conditions, which results in a release from an UST System. This definition is not intended either to limit the meaning of "occurrence" in a way that conflicts with standard insurance usage or to prevent the use of other standard insurance terms in place of "occurrence."

"On The Premises Where Stored" with respect to Heating Fuel means UST Systems located on the same property where the stored Heating Fuel is used.

"Operational Life" refers to the period beginning when installation of the UST System has commenced until the time the UST System is properly Removed or Closed In Place in accordance with the requirements of these Regulations.

"Operator" means any Person who has responsibility for the care, custody, and control of the daily operation of an UST System, including but not limited to responsibility conferred by lease, contract or other form of authorization agreement. An Operator's duties and responsibilities under 7 Del.C. Chapter 74 and these Regulations continue regardless of whether the UST System is in fact operational.

"Out Of Service" means an UST System which:

(a) Is not in use; that is, which does not have Regulated Substances added to or withdrawn from the UST System, and
(b) Is intended to be placed back In Service.

"Overfill Release" is a Release that occurs when an Underground Storage Tank is filled beyond its capacity, resulting in a discharge of the Regulated Substance to the environment.

"Owner" means a Person who has or has had a legal interest in a Facility or UST System, or who has or has had an equitable interest in a Facility or UST System except when a Person holds an interest in an UST System, as a security interest unless through foreclosure or other such action the holder has taken possession of or operated the UST System; and in the case of an UST System in use on November 8, 1984, or brought into use after that date, any Person who owns an UST System used for storage, use, or dispensing of Regulated Substances; and in the case of any

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UST System in use before November 8, 1984 but no longer in use on that date, any Person who owned such UST System immediately before the discontinuation of its use.

"Person" means any individual, entity, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body, a consortium, a joint venture, a commercial organization, and the United States Government.

"Person in Charge" means the UST Owner or Person designated by the UST Owner, an UST Operator, or any Person delivering Regulated Substance to an UST, as the one with direct supervisory responsibility for an activity or operation at a Facility, such as the transfer of a Regulated Substance to or from any point in the Facility.

"PEI" means Petroleum Equipment Institute.

"Petroleum Marketing Facility" means all facilities at which petroleum is produced or refined and all facilities from which petroleum is sold or transferred to other petroleum marketers or to the public.

"Petroleum Marketing Firm" means all firms owning petroleum marketing facilities. Firms owning other types of facilities with USTs as well as petroleum marketing facilities are considered to be Petroleum Marketing Firms.

"Pipe" or "**Piping" or "Line"** means an impermeable hollow cylinder or tubular conduit that conveys or transports Regulated Substances, or is used for venting, filling, vapor recovery ~~or removing~~ Regulated Substances.

"Pipeline Facilities" are new and existing Pipe right-of-ways and any associated equipment including Gathering Lines, facilities, or buildings.

"Positive Pressurized Delivery System" means a Regulated Substance delivery system in which part or all of the system is continuously under pressure greater than the atmospheric pressure.

"Precision Test" means a test capable of detecting a Release and that is approved by the EPA and meets or exceeds NFPA 329, *Underground Leakage of Flammable and Combustible Liquids*.

"Product Tight" means under dispenser containment and UST top sumps that are impervious to the substance contained, or to be contained, so as to prevent seepage of Regulated Substance from the containment into the environment.

"Property Damage" shall have the meaning given this term by applicable state law. This term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.

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"Provider of Financial Assurance" means an entity that provides financial assurance to an Owner or Operator of an underground storage tank through one of the mechanisms listed in these Regulations, including a guarantor, insurer, risk retention group, surety, issuer of a letter of credit, issuer of a state required mechanism, or a state.

"Public Well" means a well which is used to supply water to more than three (3) dwelling units; twenty-five (25) or more employees; in the manufacture of ice, foods, or beverages; to the public in food washing, processing, or preparation in a plant, restaurant, or other facility.

"RCRA" means the Resource Conservation and Recovery Act of 1976 as amended.

"Registration Certificate" means a document issued by the Department to implement the registration and notification requirements of these Regulations.

"Regulated Substance" means a liquid that contains:

(a) One percent (1%) or more by volume of a hazardous substance as defined in ~~in 101(14) of~~ the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and any amendments thereto; but not including any substance regulated as a hazardous waste under RCRA Subtitle C; ~~and~~ or

(b) One tenth percent (.1%) or more by volume of a carcinogen as defined by EPA in the Integrated Risk Information System (IRIS) April 2002 and as updated; ~~and~~or

(c) Petroleum, including crude oil or any fraction thereof, which is liquid at standard conditions of temperature (60 degrees Fahrenheit) and pressure (14.7 pounds per square inch absolute), including without limitation, petroleum and substances containing petroleum comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading and finishing, such as Motor Fuels, Motor Oil, Heating Fuel, residual fuel oils, lubricants, petroleum solvents, Used Oils, and biodiesel; ~~and~~ or

(d) Alternative fuels including but not limited to ethanol and methanol in concentrations up to one hundred percent (100%); ~~and~~ or

(e) Any mixture of the foregoing ~~A~~a through ~~D~~d.

"Release" means any spilling, overfilling, leaking, emitting, discharging, escaping, leaching or disposing of a Regulated Substance into groundwater, surface water, air or soils that is not permitted by law, regulation or permit.

"Release Detection" means a method or process of determining whether a Release of a Regulated Substance has occurred from the UST System into the environment or into the interstitial space between the UST System and its secondary barrier or Secondary Containment around it.

"Remedial Action" means activities conducted to protect human health, safety, and the environment. These activities include evaluating risk, making no further action determinations, monitoring institutional and engineering controls, and designing and operating cleanup equipment.

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"Removal" or **"Removed"** means the process of removing and disposing of an UST System, through the use of prescribed techniques for the purging of residues and vapors and removal of the vessel from the ground.

"Repair" means to restore or replace an UST System component that is not functioning per manufacturer's specifications or Department requirements.

"Residential Tank" is a tank located on a single family property used primarily for dwelling purposes.

"Responsible Party" means any Person who:

(a) Owns or has a legal or equitable interest in a Facility or an UST;
(b) Operates or otherwise controls activities at a Facility;
(c) At the time of storage of Regulated Substances in an UST System, operated or otherwise controlled activities at the Facility or UST System, or owned or held a legal or equitable interest therein;
(d) Arranged for or agreed to the placement of an UST System by contract, agreement or otherwise;
(e) Caused or contributed to a Release from an UST System; or
(f) Caused a Release as a result of transfer of a Regulated Substance to or from an UST System.

"Retrofit" means to modify an UST System to meet standards contained in these Regulations.

"Sacrificial Anode" means a device to reduce or prevent corrosion of a metal in an electrolyte by galvanic coupling to a more anodic metal.

"Secondary Containment" means a system installed to prevent any volume of Regulated Substance Released from the ~~primary containment t~~Tank and Piping system from reaching the soils or water outside the system for the anticipated period of time necessary to detect and recover the Released substance.

"Secretary" means the Secretary of the Department of Natural Resources and Environmental Control or a duly authorized designee.

"Septic Tank" is a water-tight 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.

"Site Assessment" means to measure for the presence of a Release where contamination is most likely to be present at an UST site. Selection of sample types, sample locations and measurement methods shall be based on the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment is not restricted to the property containing the UST System.

"State" means the State of Delaware.

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“Storm Water” 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 storm water and wastewater does not include treatment except where incidental to conveyance.

“Substantial Business Relationship” means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from and depends on existing economic transactions between the guarantor and the owner or operator.

“Substantial Governmental Relationship” means the extent of a governmental relationship necessary under applicable state law to make an added guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from a clear commonality of interest in the event of an UST Release such as coterminous boundaries, overlapping constituencies, common ground-water aquifer, or other relationship other than monetary compensation that provides a motivation for the guarantor to provide a guarantee.

“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.

“Tangible Net Worth” means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties. For purposes of this definition, "assets" means all existing economic benefits obtained or controlled by a particular entity as a result of past transactions.

“Tank” means that portion of an Underground Storage Tank System that consists of the~~a~~ stationary containment vessel ~~or stationary device~~ designed to contain an accumulation of Regulated Substances and does not include any connected Piping or Ancillary Equipment. ~~and constructed of non-earthen materials (e.g., concrete, steel, plastic) that provides structural support.~~

“Termination” in ~~Appendix~~§3.3,Form C and §3.4, Form D of Part F means only those changes that could result in a gap in coverage as where the insured has not obtained substitute coverage or has obtained substitute coverage with a different retroactive date of the original policy.

“UL” means Underwriters Laboratories.

“Underground Area” means an underground room, such as a basement, cellar, shaft or vault, providing enough space to permit physical inspection of the entire UST situated on or above the surface of the floor.

“Underground Release” means any below ground Release.

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"Underground Storage Tank" or **"UST"** means any one or combination of Tanks including underground Pipes connected thereto, which is used to contain an accumulation of Regulated Substances, and the volume of which, including the volume of underground Pipes connected thereto, is 10 percent or more beneath the surface of the ground. Such term does not include any:

(a) Septic Tank;
(b) Pipeline facility (including Gathering Lines) regulated under:
  (1) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.), or
  (2) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.), or
  (3) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in paragraph B (1) or (2) of this definition;
(c) Surface Impoundment, pit, pond, or lagoon;
(d) Storm Water or Wastewater Collection System;
(e) Flow-Through Process Tank;
(f) Liquid Trap or associated Gathering Lines directly related to oil or gas production and gathering operations; or
(g) Storage ~~T~~tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage Tank is situated upon or above the surface of the floor.
(h) The term "Underground Storage Tank" or "UST" does not include any Pipes connected to any ~~T~~tank which is described in Subsections a through g of this definition.

"Underground Storage Tank System" or "**UST System"** means an Underground Storage Tank, connected underground product, vent, and vapor recovery Piping and its associated Ancillary Equipment, ~~and~~ containment systems, and all appurtenances including but not limited to spill containment systems, overfill protection systems, and Release detection systems.~~, if any.~~

"Used Oil" means a petroleum based or synthetic oil used as an engine lubricant, engine oil, Motor Oil or lubricating oil for use in an internal combustion engine, or a lubricant for motor vehicle transmissions, gears or axles which through use, storage or handling has become unsuitable for its original purpose due to the presence of impurities or loss of original properties.

"Used Oil UST System" means an UST System used for storing Used Oil and its associated Ancillary Equipment and containment system.

"Upgrade" means the addition of a component to improve the ability of an UST System to prevent or detect the Release of Regulated Substances from the UST System.

"U-Tube" means a Release Detection device placed under the longitudinal axis of an UST in an excavation which is always above the water table, and that can collect Regulated Substances released from an UST and can be inspected periodically to determine if a Release of a Regulated Substance has occurred.

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“Vadose Zone Vapor Detection Tube” means a Release Detection device placed within the tank field which does not reach the water table and can be continuously monitored by electronic means or periodically inspected for vapors emanating from released Regulated Substances.

“Wastewater Treatment Tank” means a ~~T~~tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

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Section 3. Referenced Standards

3.1. Referenced Standards Organizations

3.1.1. The referenced standards listed in this Section have served in part as the basis for the standards enacted under these Regulations. The most recent editions of the referenced standards are available for review and inspection with prior notification at the Department of Natural Resources and Environmental Control, Tank Management Branch and from the following sources (addresses of the cited organizations are subject to change):

3.1.2. American Petroleum Institute (API), 1220 L Street, N.W., Washington, D.C. 20005, (202) 682-8375. http://www.api.org

3.1.3. ASTM International, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19429-2959, (610) 832-9585. http://www.astm.org

3.1.4. National Association of Corrosion Engineers (NACE), P. O. Box 218340, Houston, Texas 77218, (713) 492-0535. http://www.nace.org

3.1.5. National Fire Protection Association (NFPA), Batterymarch Park, Quincy, MA 02269, (800) 344-3555. http://www.nfpa.org

3.1.6. National Leak Prevention Association (NLPA), 75-4 Main Street, Suite 300, Plymouth, NH 03264, (815) 301-2785. http://www.nlpa-online.org/index.html

3.1.7. Petroleum Equipment Institute (PEI), P. O. Box 2380, Tulsa, OK 74101, (918) 494-9696. http://www.pei.org

3.1.8. Steel Tank Institute (STI), 570 Oakwood Road, Lake Zurich, Illinois 60047, (847) 438-8265. http://www.steeltank.com

3.1.9. Underwriters Laboratories (UL), 333 Pfingsten Road, Northbrook, Illinois 60062, (847) 272-8800. http://www.ul.com

3.1.10. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), Frances Perkins Building, 200 Constitution Avenue, NW, Washington, DC 20210, (866)-487-2365. http://www.osha.gov

3.2. Applicability

3.2.1. In these Regulations, all referenced standards mean the most recent edition or version in effect on ~~at the time of the Effective Date of these Regulations~~January 11, 2008. Where there is an irreconcilable conflict between a standard or recommendation published by an industry or professional organization and referenced by these Regulations, and a requirement in these Regulations, the most stringent shall apply and control.

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Where there is an irreconcilable conflict between standards or recommendations published by industry or professional organizations and referenced by these Regulations, the most stringent shall apply and control.

3.3. Titles of Documents

3.3.1. American Petroleum Institute (API)

3.3.1.1. Specification Number 12F, *Shop Welded Tanks for Storage of Production Liquids*

3.3.1.2. RP 1604, *Closure of Underground Petroleum Storage Tanks*

3.3.1.3. RP 1615, *Installation of Underground Petroleum Storage Systems*

3.3.1.4. RP 1621, *Bulk Liquid Stock Control at Retail Outlets*

3.3.1.5. RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*

3.3.1.6. RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks*

3.3.1.7. RP 1635, *Management of Underground Petroleum Storage Systems at Marketing and Distribution Facilities* [final edition, now out of print]

3.3.1.8. RP 1637, *Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals*

3.3.1.9. RP 1646, *Safe Work Practices for Contractors Working at Retail Petroleum/Convenience Facilities*

3.3.1.10. IP 1542, *Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fueling Equipment*

3.3.1.11. RP 1626, *Storing and Handling Ethanol and Gasoline-ethanol Blends at Distribution Terminals and Service Stations*

3.3.1.12. Standard 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*

3.3.1.13. RP 2016, *Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks*

3.3.2. National Association of Corrosion Engineers (NACE)

3.3.2.1. RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*

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3.3.2.2. TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*

3.3.2.3. RP 0169, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*

3.3.3. National Fire Protection Association (NFPA)

3.3.3.1. NFPA 30, *Flammable and Combustible Liquids Code*

3.3.3.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*

3.3.3.3. NFPA 31, *Standard for the Installation of Oil Burning Equipment*

3.3.3.4. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gas*es

3.3.3.5. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*

3.3.4. National Leak Prevention Association (NLPA)

3.3.4.1. NLPA Standard 631, *Chapter A, Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks and Chapter B, Future Internal Inspection Requirements for Lined Tanks*

3.3.5. Petroleum Equipment Institute (PEI)

3.3.5.1. RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*

3.3.5.2. RP300, *Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling S*ites

3.3.6. Steel Tank Institute (STI)

3.3.6.1. STI-P_3, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks*

3.3.6.2. F-841, *Standard for Dual Wall Underground Steel Storage Tank*s

3.3.6.3. F-894, ACT-100® *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*

3.3.6.4. F-961, ACT-100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks*

3.3.6.5. R-972, *Recommended Practice for the Addition of Supplemental Anodes to sti-P_3® USTs*

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3.3.6.6. F-922, *Specification for Permatank®*

3.3.7. Underwriters Laboratories Standards (UL)

3.3.7.1. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*

3.3.7.2. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol Gasoline Mixtures*

3.3.7.3. UL 1746, *Standard for Safety: External Corrosion Protection Systems For Steel Underground Storage Tanks*

3.3.7.4. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*

3.3.7.5. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*

3.3.8. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA)

3.3.8.1. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*

3.3.8.2. OSHA, 29 CFR, 1926 Subpart P, *Excavations*

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Section 4. Registration and Notification Requirements

4.1. General Requirements

4.1.1. No Person shall own or operate an UST System unless the UST is registered with the Department utilizing a form provided by the Department, unless specifically exempted in this Part. At a minimum, the notice must specify to the extent known, the location, size, type of UST System, type of Release protection, age of the UST, and the type of Regulated Substance(s) stored.

4.1.2. Beginning May 14, 1993, any Person who owns or operates an UST System containing Heating Fuel with a storage capacity of greater than 1,100 gallons must register each Underground Storage Tank with the Department utilizing a form provided by the Department.

4.1.3. UST Systems that were in the ground on or after July 12, 1985, unless taken out of operation and Closed In Place on or before January 1, 1974, are required to be registered with the Department in accordance with 7 **Del.C.** Chapter 74 on a form provided by the Department. Owners and Operators who have not complied with the registration requirements may obtain a notification form from the Department which must be accurately completed, signed, dated and returned to the Department.

4.1.4. Owners and Operators must provide notification for each UST. Owners and Operators may provide notice for multiple USTs at a single Facility using one notification form. Owners with USTs located at more than one Facility must file a separate notification form for each Facility.

4.1.5. Registration of UST Facilities must be renewed on or before February 1 of every year from the date of the last valid Registration Certificate and until the Department receives a formal notice that the UST Facility has been permanently Removed or Closed In Place or that the ownership of the Facility has been transferred. Registration shall be automatically renewed by the Department upon receipt of the annual Tank registration fee. Nonpayment of fees shall render the Registration Certificate invalid.

4.1.6. The Owner shall sign and date all UST registration submittals.

4.1.7. The Owner shall notify the Department in writing of any significant change in the information presented on the original registration form including but not limited to change of address, change in UST System status including Removal, Closure in Place, ~~and~~ Change in Service, or ~~change in product stored~~Change in Substance Stored, Retrofit, or Upgrade- at least ten (10) calendar days prior to the change.

4.1.8. No Person shall order or accept delivery of a Regulated Substance into an UST System unless the UST Facility has a valid Registration Certificate issued by the Department.

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4.1.9. No Person shall deposit a Regulated Substance into an UST System unless the UST Facility has a valid Registration Certificate issued by the Department.

4.1.10. Any Person who sells an UST System must notify the new Owner and Operator of the UST System registration requirements of this Part.

4.2. Registration Fees

4.2.1. On or before February 1 of each calendar year, Owners and Operators of UST Systems must pay an annual per Underground Storage Tank registration fee in accordance with 7 **Del.C.** §7418.

4.2.2. Beginning May 14, 1993, on or before February 1 of each calendar year thereafter, Owners and Operators of UST Systems containing Heating Fuel with a storage capacity greater than 2,000 gallons must pay an annual per Tank registration fee in accordance with 7 **Del.C.** §7418.

4.2.3. No annual registration fee will be required if an UST System is Removed or Closed In Place prior to the February 1 deadline for payment of the UST fee. To qualify for this exemption, the Owner and Operator of the UST System must comply with the notification and Removal or Closure In Place requirements of these Regulations.

4.3. Registration Certificate

4.3.1. The Department shall issue a validated Registration Certificate for each UST Facility upon initial registration or notification of Change In Service or change in ownership. The Owner and Operator of the UST Facility must display a current and valid Registration Certificate on the premises of the UST Facility at all times. The Registration Certificate shall be made available for inspection upon request by any authorized local, state or federal representative.

4.4. Transfer of Ownership of UST Systems Notification Requirements

4.4.1. Any Person who sells a UST System intended to be used as an UST System shall notify the purchaser of such UST System of the new Owner's notification obligations under these Regulations.

4.4.2. Any Person who assumes ownership of an UST System from a previous registrant shall complete and return to the Department a new notification form and a transfer of ownership form with documentation of compliance with the Financial Responsibility requirements of Part F of these Regulations and a copy of the bill of sale for the property no later than thirty (30) days after the transfer.

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4.4.3. The new Owner and Operator may operate the UST System for no more than 72 hours after assuming ownership without the Department having received the new notification form and a transfer of ownership form with documentation of compliance with the Financial Responsibility requirements of Part F of these Regulations and a copy of the bill of sale.

4.4.4. The seller or former Owner shall, at the time of transfer of ownership, deliver to the new Owner all available documents and information relevant to the UST System, including but not limited to the following:

4.4.4.1. Regulated Substance storage records; and

4.4.4.2. Any approved plans for new installations; and

4.4.4.3. Copies of Registration forms and certificate; and

4.4.4.4. Testing data and reports; and

4.4.4.5. Reports documenting UST System Closure In Place and Removal; and

4.4.4.6. UST lining specifications used, if applicable; and

4.4.4.7. Monitoring reports; and

4.4.4.8. Soil and groundwater sampling and laboratory chemical analyses reports; and

4.4.4.9. Site Assessment reports; and

4.4.4.10. Equipment Maintenance schedules and logs; and

4.4.4.11. Repair, Upgrade and Retrofit records.

4.4.5. Any change in the structure of the UST Owner, including but not limited to any change in the corporate form and any change in the form of the business entity, shall constitute a transfer of ownership.

4.5. Multiple Use USTs Notification Requirements

4.5.1. Owners and Operators shall provide written notification to the Department when UST Systems are to be used for multiple purposes.

4.5.2. UST Systems storing one Regulated Substance utilized for multiple purposes including but not limited to petroleum used for heating buildings and fueling emergency generators and diesel fuel used for fueling vehicles and heating buildings, shall meet the more stringent requirements for installation, leak detection, spill and overfill protection, corrosion protection and financial responsibility requirements in Parts A, B, C, D and F of these Regulations.

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4.6. Installation Notification Requirements

4.6.1. No Person shall install an UST System used for storing Regulated Substances without prior written approval from the Department.

4.6.2. UST System Owners and Operators must notify the Department of the planned installation of all UST Systems used for storing Regulated Substances, at least thirty (30) days prior to installation. Notice must include information as required in Parts B, C or D of these Regulations.

4.6.3. Upon notification by the Owner and Operator, a review by the Department of the notification and accompanying documents shall be made for compliance with these Regulations.

4.6.4. A formal letter of approval or denial of the installation shall be issued by the Department to the Owner and Operator.

4.6.5. The Owner and Operator shall comply with all requirements stated by the Department in the installation approval letter.

4.6.6. If within the thirty (30) day notification period, the Department or its designee issues a formal letter of approval, the installation of the UST System may begin.

4.6.7. If a denial is issued, the Plan may be re-submitted provided all corrections required by the Department have been made.

4.6.8. During construction, an Owner and Operator shall not cause or allow a design change which is not in accordance with the approved plans and all terms and conditions of the Department's approval.

4.6.9. A formal approval of installation shall be valid for one year from the date of approval. If installation of the UST System is not completed within one year of issuance of the Department's letter of approval, the approval shall lapse.

4.6.10. Department approval for installation of an UST System shall not eliminate the need to obtain applicable approvals and permits from the authority(ies) enforcing the *Delaware ~~State~~ Fire Prevention Commission Regulations*, local building codes or other State or Federal or Local rules or regulations.

4.6.11. Owners and Operators must certify that they are in compliance with the financial responsibility requirements in Part F of these Regulations prior to a Regulated Substance being placed in the UST system.

4.6.12. At the completion of the UST ~~s~~System installation the Owner and Operator shall not commence operation of the UST System~~tank~~ without written approval from the Department.

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4.7. Retrofit or Upgrade Notification Requirements

4.7.1. UST Systems Owners and Operators shall notify the Department of all scheduled Retrofits or Upgrades of UST Systems, on a form provided by the Department, at least ten (10) days prior to the proposed date of construction.

4.7.2. The Department shall approve or deny the Retrofit or Upgrade construction work plans within ten (10) days of receipt of the notification form and construction plans.

4.7.3. The Retrofit or Upgrade construction may proceed after the Department has acknowledged receipt of the notification form and has approved the Retrofit or Upgrade construction plans.

4.7.4. UST System Owners and Operators must notify the Department within 48 hours of the commencement of Retrofit or Upgrade construction work after receipt of the Department's approval of the Retrofit or Upgrade construction plans.

4.7.5. If the Retrofit or Upgrade construction work has not begun within sixty (60) days of receipt of the Department's approval, a new notification form must be submitted to the Department.

4.8. Removal, Closure In Place and Change In Service Notification Requirements

4.8.1. UST System Owners and Operators shall notify the Department of all scheduled UST System Removals, UST System Closures In Place, or UST System Changes In Service, on a form provided by the Department. The notification form shall be completed and signed by the Owner and Operator and must be received by the Department at least ten (10) days prior to beginning the Removal, Closure In Place or Change In Service of the UST System, unless such action is in response to an imminent threat to human health, safety or the environment.

4.8.2. Removal, Closure In Place or Change In Service of an UST System without required notification to the Department is prohibited.

4.9. Posting of Approval Letters and Change in Schedule of Construction

4.9.1. A copy of all Department approvals and permits must be kept at the UST site and be available to Department representatives upon request. UST installation, Retrofit or Upgrade work may be halted for failure to maintain a copy of approvals and permits at the construction site.

4.9.2. Any change in the schedule of work must be communicated to the Department a minimum of forty-eight (48) hours prior to the new scheduled date of work. All schedule changes must be approved by the Department.

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4.10. UST Tightness Test Failure Reporting Requirements

4.10.1. Results of any UST System which fails an UST System tightness test must be reported to the Department within 24 hours by the Owner and Operator and the UST System test contractor. A paper copy of the test result(s) shall be sent to the Department within seven (7) days of the test failure.

4.10.2. The Department reserves the right to request confirmatory system tightness tests to verify any test results submitted by an Owner, Operator, or contractor.

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Section 5. Recordkeeping

5.1. General Requirements

5.1.1. Owners and Operators of UST System Facilities shall maintain records in an orderly permanent form. To demonstrate recent UST Facility compliance status, Owners and Operators must maintain records of monitoring, testing, Repairs, Retrofits, Upgrades, Removal or Closure In Place.

5.1.2. Owners and Operators of UST System Facilities shall make all records available for inspection upon request by the Department within ten (10) days of the request.

5.1.3. Records of any of the following shall be maintained by the Owner and Operator throughout the lifetime of the UST Facility:

5.1.3.1. Dates and details of the UST System installation, including an as built plan drawn to a specified scale of the UST and Piping Systems, and photos taken during the installation; and

5.1.3.2. Documentation of operation and Maintenance of corrosion protection equipment; and

5.1.3.3. Records and dates of Retrofit~~ting~~, Repair or Upgrad~~ing~~e of UST Systems; and

5.1.3.4. Dates and results of all tests of UST Systems; and

5.1.3.5. Dates, descriptions, and written documentation of Repairs, Retrofits or Upgrades of the UST Systems and associated Ancillary Equipment; and

5.1.3.6. Results of the Site Assessment conducted at each site for the purpose of demonstrating compliance with investigation requirements of Part E of these Regulations; and

5.1.3.7. Dates and details of installation of Release Detection systems and records of monitoring or inspections of Release Detection systems conducted at the Facility. These records shall include the following:

5.1.3.7.1. All written performance claims pertaining to any Release Detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer.

5.1.3.7.2. The records and results of any sampling, testing, monitoring or inspections.

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5.1.3.7.3. Written documentation of all calibration, Maintenance, and Repair of Release Detection equipment located on site.

5.1.4. Records relating to the permanent Removal or Closure In Place of an UST System shall be retained for a minimum of three (3) years by the UST Owner.

5.1.5. Inventory control records shall be maintained by the Owner and Operator for a period of not less than three (3) years and shall be made available for Department inspection within ten (10) days upon request.

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Section 6. Alternative Procedures Approval Requirements

6.1. General Requirements

6.1.1. The Owner and Operator of an UST subject to the provisions of these Regulations may request in writing a determination from the Department that any requirement of these Regulations shall not apply to such UST, and shall request approval of an alternative procedure as required.

6.1.2. The Department in its discretion may approve alternative procedures or technology or a combination of alternative procedures or technologies not specified in the Regulations if the following requirements are met. The requirements shall be submitted in writing and shall set forth as a minimum the following information:

6.1.2.1. Name and location of the Facility and the specific UST(s) for which an alternative procedure is sought; and

6.1.2.2. The specific provision of the Regulations for which an alternative procedure is sought; and

6.1.2.3. The contents of the UST; and

6.1.2.4. The basis for the alternative procedure, including but not limited to the technical difficulties that would result from compliance with the established provision; and

6.1.2.5. The alternative procedure or technology for which approval is sought; and

6.1.2.6. Documentation that demonstrates that the alternative procedure or technology meets or exceeds the performance standard for approved technologies and that the alternative procedure or technology offers a no less stringent degree of protection for human health, safety or the environment as would the requirements specifically established in these Regulations.

6.1.3. The Department will provide a written response to all requests for alternative technology approvals. The request may be denied, approved or approved with conditions. If the technology or procedure or a combination of technologies or procedures is approved, the Owner and Operator shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

6.1.4. In the case of a denial of a request under this Section the Department will respond to the request stating the justification for the denial.

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Section 7. Information Access

7.1. General Requirements

7.1.1. For the purpose of developing or assisting in the development of a standard regulation or enforcement of these Regulations, an Owner and Operator shall, upon the request of a duly designated officer or employee of the State designated by the Secretary of the Department, furnish information relating to the UST System and its contents and shall permit the designated officer or employee at all reasonable times to have access to and to copy all records relating to the UST System or its contents and to conduct monitoring or require remediation activities, pursuant to ~~Title~~ 7 **Del.C.**~~,~~ Chapter 74, *The Delaware Underground Storage Tank Act*, which the designated officer or employee deems necessary. For the purpose of developing or assisting in the development of a standard or regulation or enforcement of these Regulations, the designated officer or employee is authorized to:

7.1.1.1. Enter at reasonable times the Facility or other place where an UST or its records are located. The Owner and Operator shall permit unannounced inspections of UST Systems pursuant to these Regulations; and

7.1.1.2. Inspect and obtain samples of Regulated Substances from any Person and to conduct monitoring of the UST System, contents, or surrounding soils, water, and air. An inspection shall be commenced and completed with reasonable promptness.

7.1.2. In submitting data under ~~Title~~ 7 **Del.C.**~~,~~ Chapter 74, *The Delaware Underground Storage Tank Act*, and these Regulations, a Person required to provide such data may:

7.1.2.1. Designate the data which the Person believes is entitled to protection as business or corporate property; and

7.1.2.2. Submit such designated data separately from other data submitted under these Regulations.

7.1.3. Any such records, reports or information obtained shall be entitled to protection under United States Code Title 18 §1905, *Disclosure of ~~c~~Confidential ~~i~~Information ~~g~~Generally*.

7.1.4. Any information submitted to the Department in which a confidential business information designation is requested shall be subject to Part A §8 of these Regulations and the *Freedom of Information Act Regulations* adopted pursuant to 29 **Del.C.**~~,~~ Chapter 100 as amended.

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Section 8. Submittal of Confidential Information

8.1. General Requirements

8.1.1. Any claim of confidentiality as to the name and address of applicants on any registration or notification forms will be denied.

8.1.2. A business confidentiality claim shall be asserted at the time of submission of the information or at the first opportunity provided, and shall be asserted by a Person claiming confidentiality, or the Department may release the information without further notice to the Person. Business information is entitled to confidential treatment if:

8.1.2.1. The business has asserted a business confidentiality claim which has not expired by its terms, nor been waived nor withdrawn; and

8.1.2.2. The business has satisfactorily shown that it has taken reasonable measures to protect the confidentiality of the information and that it intends to continue to take such measures; and

8.1.2.3. The information is not, nor has been, reasonably obtainable without the business' consent by other Persons (other than governmental bodies) by the use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding); and

8.1.2.4. No statute specifically requires disclosure of the information; and

8.1.2.5. The business has satisfactorily shown that disclosure is likely to cause substantial harm to its competitive position or the information is voluntarily submitted and its disclosure would likely impair the Department's ability to obtain necessary information in the future.

8.1.3. Any information to which this Section applies, which may be entitled to confidential treatment as determined by the Department, may be released upon request to the United States Environmental Protection Agency (EPA).

8.1.4. Any information submitted to the Department in which a confidential business information designation is requested shall be subject to the *Freedom of Information Act Regulations* adopted Pursuant to 29 **Del.C.**, Chapter 100 as amended.

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Section 9. Delivery Prohibition

9.1. Requirements for Delivery Prohibition

9.1.1. "Delivery Prohibition Tag" shall mean a tamper resistant tag, approximately 4.5 inches x 7.5 inches, colored red, which shall include without limitation the following wording, printed in white, in all capital letters, in at least 36 point bold-faced type:

9.1.1.1. "PETROLEM DELIVERY PROHIBITED"; and

9.1.1.2. "No person shall remove, deface, alter or otherwise tamper with this Delivery Prohibition Tag. This Delivery Prohibition Tag is affixed by the Tank Management Branch, Delaware Department of Natural Resources and Environmental Control, pursuant to Part A, §§9.1.1**.** through 9.1.15. of the *Regulations Governing Underground Storage Tank Systems*, as amended. Violators are subject to civil and criminal penalties pursuant to 7 **Del.C.** §§6005, 6013 and 7411." Contact information for the Tank Management Branch shall be included on the Delivery Prohibition Tag.

9.1.2. "Violation that poses an imminent threat" means a violation of the *Regulations Governing Underground Storage Tank Systems*, or 7 **Del.C.** Chapter 60 or 74, that poses an imminent threat to human health or safety or the environment, or that creates a substantial probability of harm when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate the actual or potential damages to human health or safety or the environment.

9.1.3. No Person shall order, deliver or accept delivery of a Regulated Substance into an UST System that has a Delivery Prohibition Tag affixed to the UST System.

9.1.4. No Person shall remove, deface, alter or otherwise tamper with a Delivery Prohibition Tag so that any information contained on it becomes illegible or otherwise is rendered unavailable to any person considering or commencing delivery of Regulated Substance into the UST System.

9.1.5. At any time information becomes available to the Tank Management Branch, that causes it to conclude that the violation(s) upon which a Delivery Prohibition Tag is based no longer exists, the Tank Management Branch shall cause the Delivery Prohibition Tag to be removed as soon as practical by DNREC personnel or by other persons so authorized in writing by the Tank Management Branch.

9.1.6. The Tank Management Branch and the Department shall retain all other legal rights and remedies for violations upon which a Delivery Prohibition Tag is based, including without limitation all civil and administrative, daily

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monetary penalties. Affixing of the Delivery Prohibition Tag shall not be construed to preclude, estop or otherwise limit the exercise at any time of any right or remedy by the Tank Management Branch and the Department, including without limitation all civil and administrative, daily penalties. Due to the nature of the Delivery Prohibition Tag, an Owner and Operator should expect that additional enforcement action may be taken.

9.1.7. Any failure of the Tank Management Branch to take any action specified in §§9.1.1. through 9.1.15. of this Part shall not be a condition on the effectiveness of the Delivery Prohibition Tag to prevent deliveries under penalty of law, and shall not constitute a defense to any violations under the *Regulations Governing Underground Storage Tank Systems* or 7 **Del.C.** Chapter 60 and 74.

9.1.8. There are two procedures for affixing a Delivery Prohibition Tag with separate tracks to an Expedited Evidentiary Hearing. Sections 9.1.9., 9.1.10. and 9.1.11. of this Part apply to a violation that poses an imminent threat. Section 9.1.12. of this Part applies to all other violations.

9.1.9. Upon a determination of a violation that poses an imminent threat, Tank Management Branch staff may immediately affix the Delivery Prohibition Tag to the fill pipe of the UST System(s) involved, so that it is immediately noticeable and available to any person considering or commencing delivery of Regulated Substances in to the UST System(s).

9.1.10. The Tank Management Branch shall contact the Owner and Operator, as soon as practical subsequent to the affixing of the Delivery Prohibition Tag pursuant to §9.1.9. of this Part, and inform the Owner and Operator of the affixing of the Delivery Prohibition Tag, the violation(s) that pose an imminent threat upon which it is based, and procedures for filing a Notice of Appeal. An Owner or Operator may at any time submit a written Notice of Appeal, disputing the underlying violation(s) that pose an imminent threat, to the Tank Management Branch. The Notice of Appeal shall provide all information, substantiation, and documentation to allow an informed decision on the appeal, and contact information. A Manager of the Tank Management Branch shall issue a written response to the Notice of Appeal within five (5) business days of receipt, and shall arrange for it to be delivered to the Owner or Operator submitting the Notice of Appeal as soon as practical. An Owner or Operator may submit more than one written Notice of Appeal.

9.1.11. Within seven (7) business days of receipt by an Owner or Operator of the Manager's written response, as provided in §9.1.10., the Owner or Operator may submit a Request for an Expedited Evidentiary Hearing to the Tank Management Branch. Within seven (7) business days of receipt of the Request, the Tank Management Branch shall schedule an Expedited Evidentiary Hearing, with written notice to the Owner or Operator. This

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notice shall be received by the Owner and Operator at least thirty (30) days before the date of the Expedited Evidentiary Hearing.

9.1.12. Upon determination by the Tank Management Branch of a violation of the *Regulations Governing Underground Storage Tank Systems* or 7 **Del.C.** Chapter 60 or 74, other than a violation that poses an imminent threat, the Branch may give written notice to the Owner or Operator of the following: The violation(s), the scheduling of an Expedited Evidentiary Hearing, and the preliminary intention to affix a Delivery Prohibition Tag at the conclusion of the Expedited Evidentiary Hearing, subject to consideration of the evidence submitted and any other pertinent considerations. This notice shall be received by the Owner and Operator at least thirty (30) days before the date of the Expedited Evidentiary Hearing.

9.1.13. The Program Manager II, as administrative head of the Tank Management Branch, or his or her designee, shall preside at the Expedited Evidentiary Hearing, and shall make a written ruling within five (5) business days after the Expedited Evidentiary Hearing is concluded. The Owner or Operator may appear at the Expedited Evidentiary Hearing and submit evidence. For a violation other than one that poses an imminent threat, the written ruling may direct Tank Management Branch staff to affix a Delivery Prohibition Tag.

9.1.14. The Owner or Operator may appeal an adverse determination from the Expedited Evidentiary Hearing by requesting a public hearing pursuant to the procedural provisions for a public hearing found in 7 **Del.C.** Chapter 60 and 74. The request for a public hearing shall be made by the Owner or Operator to the Secretary's Office in writing within thirty (30) days of receipt of an adverse determination of the Expedited Evidentiary Hearing. The public hearing may be consolidated with any public hearing requested of Release Prevention Regulations underlying the Delivery Prohibition Tag.

9.1.15. The focus of the appeal process shall be the existence of the violation(s) underlying the affixing of the Delivery Prohibition Tag, and, by extension, whether the Tank Management Branch should remove the Delivery Prohibition Tag or forbear from affixing it. If at any time during the appeal process, the Tank Management Branch removes the Delivery Prohibition Tag, the appeal process shall be ceased, no further actions need be taken by the Tank Management Branch, and no further proceedings shall be available or provided to the Owner or Operator concerning the Delivery Prohibition Tag. The appeal process shall not act as a stay of the effect of the Delivery Prohibition Tag or any other legal requirements.

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Section 10. Requirements for Operator Training

10.1. Requirements for Class A, Class B and Class C Operators

10.1.1. Owners and Operators shall submit to the Department on a form provided by the Department a list of the individuals designated as the Class A and Class B ~~and Class C~~ Operator for each UST System that is subject to the requirements of Part B, or Part C with the exception of Heating Fuels UST Systems used for single family residential heating purposes, or Part D of these Regulations, and that is In Service, Out of Service and is not empty, or has not been Removed or Permanently Closed in Place in accordance with these Regulations. The list shall include the name of the operator(s), classification of the operator(s), date each operator assumed the responsibility for their classification and date the operator training or written assessment was successfully completed.

10.1.2. A list in accordance with the requirements of §10.1.1. shall be received by the Department no later than August 8, 2012 for UST Systems in existence on that date.

10.1.3. A list in accordance with the requirements of §10.1.1. shall be submitted to the Department a minimum of ten (10) days prior to the operation of an UST System installed after August 8, 2012.

10.1.4. Owners and Operators shall notify the Department in writing within ten (10) days of any change in the information provided in §10.1.1. of this Part.

10.1.5. An individual may be designated as a Class A, Class B, or Class C Operator or any combination of the three (3) classes at a single Facility.

10.1.6. An individual may be designated as a Class A, Class B, or Class C Operator at more than one Facility.

10.1.7. A Facility shall not operate after August 8, 2012 unless a Class A, Class B, and Class C Operator has been designated for each UST System and Class A & Class B Operators have successfully completed a Department approved training program and Class C Operators have been trained in accordance with §10.1.12. of this Part.

10.1.8. Individuals designated as a Class A or Class B Operator in another state may comply with the training requirements of §10.1.7. of this Part by successfully completing a written assessment approved by the Department.

10.1.9. In addition to successful completion of an initial training program as required in §10.1.7. of this Part, upon notification from the Department that an UST System is not in compliance with these Regulations, Owners and Operators shall ensure that the Class A and Class B Operators at the Facility

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successfully complete additional training as required in a written notice issued by the Department.

10.1.10. Individuals assuming responsibility for the duties of a Class A or Class B Operator after August 8, 2012 must successfully complete Department approved training in the ~~area~~topics listed in §10.1.11. of this Part within forty-five (45) days of being designated as the Class A or Class B Operator.

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10.1.11. Training for Class A and Class B Operators shall be provided to ensure that the UST System is operated in compliance with these Regulations and shall include but is not limited to the following topics as applicable:

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10.1.11.1. Registration and Notification Requirements; and

10.1.11.2. Operation and maintenance of UST System components; and

10.1.11.3. Operation and maintenance of spill prevention systems; and

10.1.11.4. Operation and maintenance of overfill prevention systems; and

10.1.11.5. Operation and maintenance of Release Detection systems; and

10.1.11.6. Operation and maintenance of corrosion protection systems; and

10.1.11.7. Emergency response procedures; and

10.1.11.8. Compatibility of Regulated Substances and UST Systems; and

10.1.11.9. Financial responsibility requirements; and

10.1.11.10. Routine inspection requirements; and

10.1.11.11. Release and indicated Release reporting requirements; and

10.1.11.12. Operator training requirements; and

10.1.11.13. Operation and maintenance of vapor recovery systems; and

10.1.11.14. Change in Service, Removal, Retrofit, Closure in Place requirements; and

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10.1.11.15. Materials of Underground Storage Tank Systems.

10.1.12. Owners and Operators shall ensure that ~~A~~all Class C Operators ~~shall be~~ are trained in emergency response procedures specific to the Facility prior to assuming Class C Operator responsibilities.

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PART B.

REQUIREMENTS FOR INSTALLATION, OPERATION AND MAINTENANCE OF UNDERGROUND STORAGE TANK SYSTEMS STORING REGULATED SUBSTANCE EXCLUDING HEATING FUEL OR HAZARDOUS SUBSTANCE

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Section 1. Installation, Operation and Maintenance Requirements For UST Systems Storing Regulated Substance Excluding Heating Fuel or Hazardous Substance Installed After ~~The Effective Date Of These Regulations~~January 11, 2008

1.1. General Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.1.1. Owners and Operators shall ensure that all UST Systems storing Regulated Substances shall be designed, constructed, installed and operated in accordance with manufacturer's specifications, and accepted engineering practices and procedures; and in a manner which will prevent Releases of Regulated Substances to the ground waters, surface waters or soils of the State due to corrosion, structural failure, manufacturing defects and spills and overfills for the Operational Life of the Underground Storage Tank System.

1.1.2. The material used in the construction and lining of the UST System shall be Compatible with the substances to be stored in the UST System.

1.1.3. Components of the UST System shall be approved by Underwriters Laboratories or equivalent third party certified.

1.1.4. All UST Systems installed after ~~the Effective Date of these Regulations~~January 11, 2008 shall be designed and installed in accordance with the secondary containment requirements in accordance with §1.4 of this Part, except where specifically exempted.

1.1.5. Bare steel UST Systems or steel UST Systems coated with asphalt are prohibited.

1.1.6. Owners and Operators shall install, operate and maintain all equipment such that manufacturer's warranties are not voided.

1.1.7. Regulated Substance shall not be deposited into an UST System that is not in compliance with the Financial Responsibility requirements of Part F of these Regulations.

1.1.8. Dispenser hoses shall be a maximum of eighteen (18) feet in length unless otherwise approved by the Department. When not in use, hoses shall be reeled, racked or otherwise protected from damage.

1.2. General Installation Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.2.1. Prior to the installation of any UST System a site survey shall be initiated by the Facility Owner and Operator. The pre-installation site survey shall be

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conducted to determine the locations of nearby buildings, underground utilities and sewer lines.

1.2.2. Private and/public drinking water wells, rivers, streams, lakes, canals, and other environmentally sensitive locations shall be recorded and incorporated into the design of the UST System Facility.

1.2.3. UST System Owners and Operators shall notify the Department at least thirty (30) days prior to installation of all UST Systems. Notice shall include a site plan, the scale of which shall be one inch to ten feet or less (1 inch-10ft.), and which shall at a minimum include the following:

1.2.3.1. The information determined from the pre-installation site survey in §1.2.1. of this Part; and

1.2.3.2. Size and location of Tanks including Tank dimensions, depth of cover, empty Tank weight, Tank manufacturer and Tank type; and

1.2.3.3. The UST System Tank installation location, streets, roads, other properties bordering the construction site; and

1.2.3.4. Piping dimensions and layout; and

1.2.3.5. Dimensions and locations of vents; and

1.2.3.6. Type of Regulated Substance to be stored; and

1.2.3.7. Location of dispensers; and

1.2.3.8. Location of overfill device, spill prevention system and monitoring devices including dimensions of spill containment devices and sumps when applicable; and

1.2.3.9. Materials of construction for Tank(s), linePipings and associated appurtenances, including manufacturer name, model numbers and any manufacturers catalog information requested by the Department; and

1.2.3.10. Location of and access to check valves, antisiphon valves, automatic lLine leak detectors, and flexible connectors; and

1.2.3.11. Location of Cathodic Protection components and test stations; and

1.2.3.12. Location of utilities (both above and underground); and

1.2.3.13. Location of electrical service components; and

1.2.3.14. Details and dimensions of anchoring method including hold down pads, cover pads or deadmen and electrical isolation methods

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associated with the anchoring system if applicable. Indicate on plan if area is subject to vehicle traffic; and

1.2.3.15. Map with the distance clearly labeled in feet from the UST System to all Domestic~~, Public~~ and Industrial wells and surface water bodies within one hundred and fifty feet (150) of the UST System. ~~Location of nearby private/public drinking water wells and surface water bodies.~~

1.2.4. After the Effective Date of these Regulations new UST Systems shall not be installed within a minimum distance of a one hundred and fifty (150) foot radius from a Public or Industrial well~~s~~, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

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1.2.5. After the Effective Date of these Regulations new UST Systems shall not be installed within a minimum distance of a one hundred (100) foot radius from a Domestic well, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

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1.3. UST System Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.3.1. Acceptable designs for UST System construction include:

1.3.1.1. Secondarily contained Cathodically Protected Steel; or

1.3.1.2. Secondarily contained Fiberglass Reinforced Plastic; or

1.3.1.3. Secondarily contained Steel with Non-Metallic or Coated Outer Shell; or

1.3.1.4. Other equivalent design approved by the Department.

1.3.2. UST Systems shall be installed in accordance with these Regulations, the manufacturer's specifications, accepted engineering practices and the following industry standards:

1.3.2.1. PEI RP100, *Recommended Practices For Installation Of Liquid Storage Systems*.

1.3.2.2. NFPA 30, *Flammable and Combustible Liquids Code*.

1.3.2.3. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.3.2.4. OSHA, 29 CFR, 1926 Subpart P, *Excavations*.

1.3.3. All Tanks shall be equipped with a strike plate located beneath all Tank openings.

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1.4. Secondary Containment Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.4.1. The Department reserves the right to require Secondary containment or equivalent protection on any portion of the UST System where aquifers underlying the UST Facility are determined to need such protection, or where groundwater below the UST Facility is within a well head protection area, or where groundwater is susceptible to contamination in order to protect the safety, health, welfare or environment of the State.

1.4.2. Secondary containment systems shall be designed, constructed and installed to:

1.4.2.1. Contain the Regulated Substances released from the UST System until they are detected and removed; and

1.4.2.2. Prevent the Release of Regulated Substance to the environment at any time during the Operational Life of the UST System; and

1.4.2.3. Be checked for evidence of a Release at least once every thirty (30) calendar days.

1.4.3. Secondary containment systems shall include the following:

1.4.3.1. Double-walled Tank; and

1.4.3.2. Double-walled Regulated Substance and vapor return Piping and, where required, vent Piping; and

1.4.3.3. Containment Sumps at the Tank top and under each dispenser that meet the requirements of §1.25. of this Part; and

1.4.3.4. Tanks and Piping shall have interstitial monitoring that shall be checked for evidence of a Release at a minimum of once every thirty calendar days and shall comply with the preventative maintenance program requirements of §1.9.4.4. of this Part; or

1.4.3.5. Other equivalent technology approved by the Department.

1.4.4. All Secondary containment systems shall be constructed in accordance with acceptable engineering practice and industry standards and shall have Release Detection in accordance with §1.9. of this Part.

1.5. Double-Walled UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.5.1. Acceptable UST System designs in §1.3. of this Part shall be fabricated in double walled construction for Tanks and Piping in accordance with accepted engineering practice and industry standards.

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1.5.2. A double-walled Tank which is designed and manufactured in accordance with the following requirements satisfies the requirements for Secondary containment in §1.4. of this Part:

1.5.2.1. The interstitial space of the double-walled Tank can be monitored for Releases; and

1.5.2.2. Outer jackets made of steel shall be coated as prescribed in §1.6.2. of this Part; and

1.5.2.3. There are no penetrations of any kind through the jacket to the Tank except top entry manholes and fittings; and

1.5.2.4. The outer jacket shall cover the entire circumference of the Tank; and

1.5.2.5. The jacket shall be able to contain a liquid or be able to contain a vacuum from the time of manufacture completion until the time of installation.

1.6. Cathodically Protected Steel UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.6.1. Cathodically Protected steel UST Systems shall be designed, constructed, installed and tested in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the applicable industry standards, including but not limited to the following:

1.6.1.1. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

1.6.1.2. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.6.1.3. STI-P_3, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks.*

1.6.1.4. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

1.6.1.5. STI R-972, *Recommended Practice for the Addition of Supplemental Anodes to sti-P_3® USTs*.

1.6.2. The Tank shall be coated with a suitable Dielectric Material in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection.*

1.6.3. Field-installed Cathodic Protection systems shall be designed, constructed, installed and tested in accordance with manufacturer's specifications, accepted engineering practice and the requirements listed in this Section.

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1.6.4. Each Cathodic Protection system shall include sufficient monitoring stations to enable Owners and Operators to check on the adequacy of the Cathodic Protection system.

1.6.5. UST Systems that are protected by Sacrificial Anodes shall be electrically insulated from the Piping system with dielectric fittings, bushings, washers, sleeves or gaskets which are chemically stable when exposed to Regulated Substances, additives, corrosive soils or groundwater.

1.7. Fiberglass Reinforced Plastic UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.7.1. Fiberglass reinforced plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standard:

1.7.1.1. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol-Gasoline Mixtures.*

1.7.2. Fiberglass reinforced plastic UST Systems shall be of sufficient structural strength to withstand normal handling and underground use and shall be Compatible with the Regulated Substance and additives stored, corrosive soils and groundwater. UST System construction materials shall be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften or separate under normal service conditions.

1.7.3. Fiberglass reinforced plastic Tanks shall be tested for deflection in accordance with the manufacturer's requirements at the time of installation.

1.8. Steel with Non-Metallic or Coated Outer Shell UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.8.1. Steel with Non-Metallic or Coated Outer Shell UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.8.1.1. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.8.1.2. UL 58; *Standard for Steel Underground Tanks for Flammable and Combustible Liquids.*

1.8.1.3. STI F-922, *Specification for Permatank®*.

1.8.1.4. STI F-894, ACT-100® *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks.*

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1.8.1.5. STI F-961, ACT-100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks.*

1.8.1.6. STI F-841,*Standard for Dual Wall Underground Steel Storage Tanks.*

1.8.2. The coating shall not corrode under adverse underground electrolytic conditions and shall be Compatible with the Regulated Substances and additives stored.

1.8.3. The coating shall be factory inspected for air pockets, cracks, blisters, pinholes and electrically tested by a ten thousand (10,000) volts holiday test performed over 100 percent of the surface for coating short circuits or coating faults or in accordance with the manufacturer's specifications.

1.8.4. Any defects shall be Repaired in accordance with standard engineering practice and the manufacturer's requirements.

1.9. Release Detection Requirements for Underground Storage Tanks Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.9.1. General Requirements

1.9.1.1. Owners and Operators of UST Systems shall provide a method, or combination of methods of Release Detection on all UST Systems that meets the following requirements:

1.9.1.1.1. Can detect a Release from any portion of the Tank and the connected underground Piping that routinely contain Regulated Substance; and

1.9.1.1.2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, including routine Maintenance and service checks for operability or running condition; and

1.9.1.1.3. Meets the performance standards for Release Detection in this Section, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. The method shall be capable of detecting the leak rate or quantity specified for ~~p~~Precision ~~tank t~~Testing, automatic tank gauging, ~~l~~Line leak detectors, and ~~l~~Line tightness testing methods specified in these Regulations with a probability of detection of at least 0.95 and a probability of false alarm no greater than 0.05.

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1.9.1.2. Owners and Operators shall implement the indicated Release investigation procedures in Part E of these Regulations if the Release Detection equipment or method shows indication of a Release.

1.9.1.3. Failure by Owners and Operators to maintain records of required Release Detection monitoring and inspection may be cause for the Department to require ~~Tank~~ UST System tightness test(s) and inspection(s) of the UST Facility and a Release~~-~~ investigation in accordance with Part E of these Regulations at the expense of Owners and Operators.

1.9.2. Methods of Release Detection for Underground Storage Tanks

1.9.2.1. Owners and Operators shall monitor UST Systems for Releases through the use of inventory control procedures and at least one of the following Release Detection methods:

1.9.2.1.1. Continuous ~~I~~interstitial ~~M~~monitoring; or

1.9.2.1.2. Automatic t~~T~~ank ~~G~~gauge performing monthly Tank tightness testing; or

1.9.2.1.3. Department ~~A~~approved ~~A~~alternative ~~M~~method.

1.9.3. Inventory Control Requirements

1.9.3.1. Inventory control procedures shall meet the following requirements:

1.9.3.1.1. Every Owner and Operator shall perform inventory control procedures and shall maintain inventory control records for each Tank containing a Regulated Substance. Records shall be kept for each Tank, or cluster of Tanks if they are interconnected, and shall include measurements of bottom water levels, sales, use, deliveries, inventory on hand and losses or gains. Reconciliation of records shall be kept current, shall account for all variables which could affect an apparent loss or gain and shall be in accordance with generally accepted practices. The data shall be accumulated for each day a Tank has Regulated Substance added or withdrawn but not less frequently than once every seven (7) calendar days ~~a week~~, and shall include as a minimum:

1.9.3.1.1.1. Description and amount of Regulated Substance in the Tank measured in gallons to the nearest one-eighth (1/8") of an inch. The equipment used shall be capable of measuring the level of Regulated

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Substance over the full range of the Tank's height to the nearest one eighth (1/8") of an inch. These measurements shall be converted from inches to gallons and these measurements and conversions shall be performed daily; and

1.9.3.1.1.2. Inputs and outputs of Regulated Substance in gallons recorded daily; and

1.9.3.1.1.3. All deliveries and measurements shall be made through a drop tube that extends to within 5.9 inches of the Tank bottom; and

1.9.3.1.1.4. Regulated Substance dispensing equipment is metered and recorded within the local standards for meter calibration or an accuracy of six (6) cubic inches for every five (5) gallons of Regulated Substance withdrawn; and

1.9.3.1.1.5. Weekly assessment of the amount of water in UST Systems storing non-ethanol Regulated Substance excluding Heating Fuel or Hazardous Substance or other UST Systems with prior Department approval. The measurement of water level in the bottom of the Tank shall be made to the nearest one eighth (1/8") of an inch. If the measurement is two (2) inches or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements; and

1.9.3.1.1.6. Daily assessment of the amount of water in UST Systems storing ethanol blended Regulated Substance. The measurement of water level in the bottom of the Tank shall be made to the nearest one eighth (1/8") of an inch; and

1.9.3.1.1.7. For UST Systems 8000 gallons or less, if the measurement is one (1) inch or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements; and

1.9.3.1.1.8. For UST Systems greater than 8000 gallons, if the measurement is two (2) inches or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements; and

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1.9.3.1.1.9. Daily reconciliation of the amount of Regulated Substance added to and removed from the Tank. Recommended procedures for Tank inventory and reconciliation procedures are detailed in API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*, and shall include at a minimum:

1.9.3.1.1.9.1 Losses or gains from each day's inventory shall be reconciled at the end of ~~once during~~ each calendar month; and

1.9.3.1.1.9.2 For any day in which there is a loss of five percent (5%) or more of the Regulated Substance, or for any month in which there is a significant loss or gain of Regulated Substance that meets or exceeds one percent (1%) of the total monthly throughput plus 130 gallons, or any month in which there is an unexplainable consistent negative trend, the Release investigation procedure in Part E of these Regulations shall be followed; and

1.9.3.1.1.9.3 Tanks equipped with automatic inventory control systems or continuously operating automatic in-tank gauging systems may use these devices to perform inventory reconciliation procedures; and

~~1.9.3.1.1.9.3~~1.9.3.1.1.9.4 All automatic systems utilized for performing inventory procedures shall comply with -the preventative maintenance program requirements of §1.9.5.3. of this Part.

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1.9.3.2. The Department may, at its discretion, approve other types of inventory control methods or a combination of methods or devices not specified in this section upon a determination that the proposed method or combination of methods is no less protective of human health, safety or the environment than the above requirements.

1.9.3.3. Failure to maintain and reconcile inventory control records may be cause for the Department to require ~~Tank~~ UST System tightness test(s) and inspection(s) of the UST Facility at the expense of Owners and Operators.

1.9.4. Interstitial Monitoring Release Detection Requirements for Tanks

1.9.4.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a leak from any portion of the Tank that routinely contains Regulated Substance.

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1.9.4.2. At a minimum of once every thirty (30) calendar days~~during each calendar month~~, Owners and Operators shall inspect all interstitial monitoring devices utilized for Release Detection for evidence of a Release from the UST System and shall record the results.

1.9.4.3. The interstitial monitoring equipment shall be capable of producing a record of Release Detection monitoring results.

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~~1.9.4.3.~~1.9.4.4. Owners and Operators shall maintain records of the monthly interstitial Release monitoring inspections for the life of the UST System.

~~1.9.4.4.~~1.9.4.5. Owners and Operators shall have all interstitial monitoring equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

~~1.9.4.4.1.~~1.9.4.5.1. Inspection of the console for printer operation if so equipped; and

~~1.9.4.4.2.~~1.9.4.5.2. Verification of the system setup values and battery backup; and

~~1.9.4.4.3.~~1.9.4.5.3. Verification of the test programming; and

~~1.9.4.4.4.~~1.9.4.5.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

~~1.9.4.4.5.~~1.9.4.5.5. Inspection and testing of all probes and interstitial sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

~~1.9.4.4.6.~~1.9.4.5.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

~~1.9.4.4.7.~~1.9.4.5.7. Correction of any problems found as a result of the required inspection.

~~1.9.4.5.~~1.9.4.6. Owners and Operators shall maintain records of the annual inspections of the interstitial monitoring equipment and any Repairs performed as a result of the inspection for the life of the UST System.

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1.9.5. Automatic Tank Gauge Release Detection Requirements for Tanks

1.9.5.1. Monthly Tank tightness testing using Automatic tank gauging (ATG) equipment shall meet the following requirements:

1.9.5.1.1. The ATG equipment can detect a 0.1 gallons per hour leak rate from any portion of the Tank that routinely contains Regulated Substance; and

1.9.5.1.2. The ATG equipment shall be capable of producing a record of Release Detection test results; and

1.9.5.1.3. At a minimum of once every thirty (30) calendar days~~during each calendar month~~ the ATG equipment shall perform a Release Detection test for each Tank and shall produce a record of such test; and

1.9.5.1.4. Owners and Operators shall maintain records of the ATG Release Detection tests for the life of the UST System; and

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~~1.9.5.1.4.~~1.9.5.1.5. If used for inventory control, the ATG equipment shall be capable of conducting inventory control in accordance with §1.9.3. of this Part.

1.9.5.2. Owners and Operators shall maintain a record of all Release Detection tests performed by the ATG equipment for the life of the UST System.

1.9.5.3. Owners and Operators shall have all ATGs inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

1.9.5.3.1. Inspection of the ATG console for printer ~~operation if so equipped~~; and

1.9.5.3.2. Verification of the system setup values and battery backup; and

1.9.5.3.3. Verification of the test programming; and

1.9.5.3.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

1.9.5.3.5. Inspection and testing of the probes and sensors in accordance with the manufacturer's specifications or as

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directed by the Department to verify proper probe and sensor operation; and

1.9.5.3.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

1.9.5.3.7. Correction of any problem noted as a result of the required inspection.

1.9.5.4. Owners and Operators shall maintain records of the annual inspections of the ATG and any Repairs performed as a result of the inspection for the life of the UST System.

1.9.6. Alternative Release Detection Methods for Tanks

1.9.6.1. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

1.9.6.1.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.9.6.1.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §1.9.2. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.10. Anchoring Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.10.1. Support and anchorage shall be provided for all new installations to avoid Tank flotation and shall be installed in accordance with the PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems.*

1.10.2. One or more of the following methods of anchorage shall be utilized:

1.10.2.1. Reinforced concrete deadmen anchors; or

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1.10.2.2. Bottom hold-down pad which consists of eight inches of reinforced concrete that extends 18 inches beyond the Tank sides and twelve (12) inches beyond each end; or

1.10.2.3. Reinforced concrete slab over the Tank.

1.10.3. All exposed metallic components of hold down systems shall be Electrically Isolated and Cathodically Protected when the hold down system is required by the Department.

1.10.4. The backfill depth shall be consistent with the requirements in PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.11. Backfill Material Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.11.1. Backfill material shall consist of sand, crushed rock or pea gravel. The material shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length of crushed rock or pea gravel shall be no less than 1/8 inch and no more than 3/4inch in size. Backfill material shall comply with the Tank manufacturer's specifications. Mixing of backfill with native soil or foreign objects is prohibited.

1.11.2. The backfill depth shall be consistent with the requirements in PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.12. Installation of an UST System Storing Regulated Substance excluding Heating Fuel or Hazardous Substance In An Existing UST Field Requirements

1.12.1. If an UST System shall be installed in or near a previous UST System Facility, Owners and Operators shall provide a means of Release Detection that will, at a minimum, detect any future Release from any portion of the UST System.

1.13. Tank and Piping Installation, Inspection and Testing Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.13.1. Prior to installation -Tank system materials and equipment shall be inspected for flaws, surface cracks, holes, large scrapes, blisters, indentations and other indications of damage. All defects and repairs to the UST System shall be recorded and the record submitted with a site completion report to the Department.

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1.13.2. UST(s) shall be pressure tested according to the manufacturer's specifications prior to installation of the UST(s) into the excavation. The installer shall soap the exterior, particularly its seams and fittings, and pressure test the UST(s) using the manufacturer's specifications to locate and correct defects. Tank and interstitial space testing shall be conducted according to the manufacturer's recommendations and accepted engineering practices.

1.13.3. After installation all Piping, including all interstitial spaces, shall be pressure tested according to the manufacturer's specifications prior to backfilling the excavation.

1.13.4. After installation of the Tank and integral Piping is complete and prior to the initial use of the UST System, the entire system shall be tested in accordance with current industry standards and practices and in the following manner to ensure the system is tight:

1.13.4.1. All testing of UST Systems shall be accomplished by the Precision Test method described in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases,* or other test approved by the Department which is of equivalent or superior accuracy; and

1.13.4.2. All testing of UST Systems shall be able to account for the effects of thermal expansion or contraction of the Regulated Substances, vapor pockets, Tank deformation, evaporation or condensation, temperature stratification in the UST and the location of the water table; and

1.13.4.3. The required Precision Tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer and current industry standards and practices.

1.13.5. The Department reserves the right to request confirmatory system tightness tests to verify any test results submitted by an Owner, Operator, or contractor.

1.13.6. Owners and Operators shall permit periodic inspection of the UST System installation by the Department.

1.13.7. During the installation of all new Underground Storage Tank Systems, every stage of the construction shall be documented with photographs to demonstrate that the UST System was installed in compliance with the requirements for new UST Systems. Upon completion of the installation, copies of the photographs, as built plan, and required certification(s) as required in Part A §§4.6.11. and §4.6.12. of these Regulations shall be submitted to the Department within thirty (30) days of the completion of the

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installation. The Facility Owner and Operator shall keep copies of all documents and photographs on file for the life of the UST Facility.

1.14. General Piping Installation Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.14.1. Piping shall be installed in accordance with the manufacturer's specifications.

1.14.2. The Piping layout shall be designed to minimize crossed lines and interference with conduit and other UST System components. If crossing of lines is unavoidable, clearance shall be provided to prevent contact of the pipes.

1.14.3. All Regulated Substance, vent and vapor return Piping shall slope back to the Tank with a minimum slope of one-eighth (1/8") inch per foot.

1.14.4. The pipe joints shall be cut and deburred according to manufacturer's specifications to provide liquid tight seals.

1.14.5. When rigid Piping is used, flexible connector(s) shall be installed at the Tank end of each Regulated Substance ~~line~~Piping, vent ~~line~~Pipe and vapor recovery Pipe~~line a~~as well as at the base of each dispenser and vent riser on all new installations. Double elbow swing joints are prohibited.

1.14.6. All underground metal fittings, flexible connectors, joints, and pipes shall be isolated from contact with the soil.

1.15. UST Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.15.1. Underground Piping shall be protected from corrosion in accordance with accepted corrosion engineering practices and shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.15.1.1. NFPA 30, *Flammable and Combustible Liquids Code.*

1.15.1.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages.*

1.15.1.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

1.15.1.4. UL Standard 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids.*

1.15.1.5. UL Standard 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-connection Fittings for Petroleum Products and LP-Gas.*

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1.15.1.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems.*

1.15.2. All integral Piping systems shall be designed, constructed, and installed in a manner which will permit periodic tightness testing of the entire Piping system without the need for excavation.

1.15.3. Acceptable designs for Underground Piping construction include fiberglass reinforced plastic and flexible plastic Piping.

1.16. Fiberglass Reinforced Plastic and Flexible Plastic Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.16.1. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the manufacturer's specifications.

1.16.2. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the following industry codes, as applicable:

1.16.2.1. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids.*

1.16.2.2. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-connection Fittings for Petroleum Products and LP-Gas.*

1.16.2.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases.*

1.16.2.4. NFPA 30, *Flammable and Combustible Liquids Code.*

1.16.2.5. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages.*

1.16.2.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems.*

1.16.3. The construction materials, joints and joint adhesives of all Fiberglass reinforced plastic and flexible plastic Pipes shall be Compatible with the Regulated Substance and additives stored, soil and groundwater.

1.16.4. Pipes, fittings and adhesives shall be designed, fabricated, and factory tested in accordance with generally accepted structural, material and performance standards for underground Piping systems.

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1.16.5. All underground Piping systems shall be designed, constructed and installed with access ports to permit ~~l~~Line tightness testing without the need for extensive excavation.

1.17. Suction Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.17.1. Suction Piping shall be designed, constructed, and installed to meet the requirements of §1.17.1.1. or §1.17.1.2. of this Part:

1.17.1.1. Safe suction Piping systems shall be designed and constructed in accordance with the following requirements:

1.17.1.1.1. The below grade Piping shall be constructed so that if suction is released the contents of the pipe will drain back into the Tank; and

1.17.1.1.2. Only one (1) check valve shall be included in each suction ~~line~~Pipe; and

1.17.1.1.3. The check valve shall be located directly below and as close as practical to the suction pump.

1.17.1.2. Suction Piping systems with a foot valve (U.S. Suction) shall be designed and constructed in accordance with the following requirements:

1.17.1.2.1. The below grade Piping shall be constructed so that the Piping slopes back to the Tank; and

1.17.1.2.2. A foot valve is installed at the ~~storage~~ Tank.

1.18. General Release Detection Requirements for UST Piping for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.18.1. Owners and Operators shall equip all underground Piping that routinely contains Regulated Substances with a method, or combination of methods of Release Detection that can detect a Release from any portion of the underground Piping that routinely contains Regulated Substance.

1.18.2. UST Piping interstitial and sump monitoring systems shall be designed, constructed installed and maintained to detect a Release from any portion of the Piping that routinely contains Regulated Substance.

1.18.3. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior

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to installation for approval. Alternative methods shall meet the following requirements:

1.18.3.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.18.3.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §1.19. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.18.4. Owners and Operators shall implement the indicated Release investigation procedure in Part E of these Regulations if the Piping Release Detection equipment or method shows indication of a Release.

1.19. Pressurized Piping Release Detection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.19.1. Line Leak Detector Requirements

1.19.1.1. Underground Piping that conveys Regulated Substances under pressure shall be equipped with an automatic ~~l~~Line leak detector.

1.19.1.2. The automatic ~~l~~Line leak detector shall alert the Owner and Operator to the presence of a Release by restricting or shutting off the flow of the Regulated Substance.

1.19.1.3. Mechanical and Electronic automatic ~~l~~Line leak detectors shall be capable of reacting to leaks of three (3) gallons per hour at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.1.4. Owners and Operators shall conduct an annual test of the operation of the automatic ~~l~~Line leak detector while installed in the UST System and under normal operating conditions. ~~in accordance with the manufacturer's test protocol~~. All Mechanical and Electronic automatic ~~l~~Line leak detectors shall pass a function test at least once every twelve (12) months at three (3) gallons per hour (gph) at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.2. Tightness Test Requirements

1.19.2.1. Owners and Operators shall conduct an annual tightness test of the entire pressurized underground Piping system, including the primary and secondary Piping, in accordance with NFPA 329, *Recommended*

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Practice for Handling Releases of Flammable and Combustible Liquids and Gases.

1.19.2.2. Owners and Operators of UST Systems with underground pressurized Piping systems shall use a ~~p~~Piping tightness test method designed to detect a Release from any portion of the underground Piping system that routinely contains Regulated Substances.

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1.19.2.3. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize continuous interstitial monitoring systems to comply with the annual Piping tightness test requirements in §1.19.2.1. of this Part if the following requirements are met:

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1.19.2.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

1.19.2.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring equipment that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.2.3.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection automatic tank gauge records for the life of the UST System; and

1.19.2.3.4. The interstitial monitoring system shall be designed and maintained to alert the Owner and Operator to the presence of a Release by shutting off the flow of the Regulated Substance; and

1.19.2.3.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part; and

1.19.2.3.6. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part.

1.19.3. Line Leak Detector and Tightness Test Requirements for Double Wall Piping Systems

1.19.3.1. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize continuous interstitial monitoring systems to comply with the ~~l~~Line leak detector requirements of §1.19.1. of this Part and the ~~p~~Piping

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tightness test requirements in §1.19.2. of this Part if the following requirements are met:

1.19.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

1.19.3.1.2. The system shall be designed and maintained to ensure that the delivery system will automatically shut off if a Release is detected; and

1.19.3.1.3. At a minimum of once every thirty (30) calendar days~~during each calendar month,~~ Owners and Operators shall provide proof via the ~~automatic tank gauge~~ interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.3.1.4. Owners and Operators shall maintain records of the monthly interstitial Release Detection ~~ATG~~ records for the life of the UST System; and

1.19.3.1.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part; and

1.19.3.1.6. All ~~t~~Tank top ~~c~~Containment ~~s~~Sumps containing the interstitial monitoring device shall be tested once every twelve (12) calendar months in accordance with §1.25. of this Part.

1.20. Suction Piping Release Detection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.20.1. Release Detection is not required for suction Piping that is designed and constructed to meet the requirements of §1.17.1.1.of this Part.

1.20.2. Suction Piping designed and constructed to meet the requirements of §1.17.1.2. of this Part shall have Release Detection in accordance with §1.18. of this Part.

1.20.3. Owners and Operators of UST Systems with underground suction Piping systems constructed of double wall design may utilize continuous interstitial monitoring systems to comply with the Release Detection requirements of §1.18. this Part if the following requirements are met:

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1.20.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

1.20.3.1.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the automatic tank gauge record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.20.3.1.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection ~~automatic tank gauge~~ interstitial monitoring records for the life of the UST System; and

1.20.3.1.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part; and

1.20.3.1.5. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part.

1.21. Spill Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.21.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to spilling do not occur.

1.21.2. To prevent spilling associated with Regulated Substance transfer to the UST System, Owners and Operators shall comply with the requirements of one of the following industry standards:

1.21.2.1. NFPA 30, *Flammable and Combustible Liquids Code*; or

1.21.2.2. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*; or

1.21.2.3. API RP 1621, Bulk Liquid Stock Control at Retail Outlets.

1.21.3. Owners and Operators shall equip all UST Systems with impervious spill containment devices that form a liquid tight seal around the fill pipe connection and the Stage I vapor recovery connections, where applicable.

1.21.4. All spill containment devices around the fill pipe shall have a minimum containment capacity of fifteen (15) gallons or be of a design that provides equivalent environmental protection.

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1.21.5. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any spill containment device. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

1.21.6. All precautions shall be taken to prevent Tank overfilling, spilling and dripping.

1.21.7. Owners and Operators shall test spill containment devices once every twelve (12) calendar months for tightness, or in accordance with the manufacturer's specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

1.21.8. Spill containment devices of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.21.7. of this Part if the following requirements are met:

1.21.8.1. Owners and Operators shall check the interstitial monitoring at a minimum of once every thirty (30) calendar days for evidence of a Release; and

~~1.21.8.~~1.21.8.2. Owners and Operators shall maintain written records of the required monitoring in §1.21.8.1. of this Part for the life of the UST System. of the spill containment device.

1.21.9. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.22. Overfill Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.22.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to overfilling do not occur.

1.22.2. The Person In Charge of the transfer of Regulated Substance to the UST shall adhere to proper safety precautions and procedures for transfer as found in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids* and API RP 1621, *Bulk Liquid Stock Control at Retail Outlets* and shall comply with the following:

1.22.2.1. The Person In Charge of the transfer operation shall first check the UST to ensure that the volume available in the UST is greater than the volume of Regulated Substance to be transferred to the UST before the transfer is made; and

1.22.2.2. During the transfer, the Person In Charge shall continuously monitor the transfer operation to prevent an Overfill Release; and

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1.22.2.3. At the conclusion of the transfer, the Person in Charge shall collect any Regulated Substance that remains in the transfer hose in a container and shall ensure it is properly managed and does not reach the environment; and

1.22.2.4. The Person in Charge shall take all reasonable precautions to prevent spilling and dripping.

1.22.3. Owners and Operators shall install and maintain overfill protection equipment that shall:

1.22.3.1. Automatically shut off the flow into the UST when the UST is no more than ninety five (95%) percent full; or

1.22.3.2. Alert the transfer operator when the UST is no more than ninety (90%) percent full by restricting the flow into the UST or triggering a high-level alarm; or

1.22.3.3. Restrict flow 30 minutes prior to overfilling, alert the Operator 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 Tank are exposed to Regulated Substance due to overfilling; or

1.22.3.4. Be an automatic partial flow shut-off float vent or vapor valve installed inside the UST(s) set to restrict flow when the UST is no more than ninety (90%) full. Vent or vapor restriction devices shall not be installed in UST Systems that are equipped with suction pumps, remote fill ~~lines~~Piping, remote vapor ~~lines~~Piping or receive pressurized deliveries.

1.22.4. UST Systems that receive pressurized deliveries require a high level alarm that is triggered at no more than ninety (90%) percent full for overfill protection or an automatic flow shut-off valve designed for pressurized deliveries.

1.22.5. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.23. Fill Line Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.23.1. Owners and Operators shall clearly mark all fill ~~l~~Lines for UST Systems to indicate the size of the Tank and the type of Regulated Substance stored. These markings shall be as follows:

1.23.1.1. A label or permanent tag at the fill connection which states the size of the UST and the specific type of Regulated Substance stored; and

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1.23.1.2. A color-symbol system implemented according to the following requirements:

1.23.1.2.1. All fill and vapor recovery covers shall be marked consistent with API RP 1637, *Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals* or API IP 1542, *Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuel Equipment*; and

1.23.1.2.2. A different color-symbol shall be used for each type of Regulated Substance or grade of Regulated Substance being stored at the Facility.

1.23.2. Pipes and other openings not used for transfer of Regulated Substance at the UST Facility shall not be painted any color which would be associated with the color-symbol designated for marking the Regulated Substance stored at the Facility. It is particularly important that openings with access to soil and ground water, such as Monitor Wells, not be confused with Regulated Substance fill-Lines.

1.24. Corrosion Protection Operation and Maintenance Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.24.1. General Requirements

1.24.1.1. Owners and Operators of steel UST Systems with corrosion protection systems shall operate and maintain the system in accordance with the following industry standards:

1.24.1.1.1. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

1.24.1.1.2. NACE TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*.

1.24.1.1.3. NFPA 30, *Flammable and Combustible Liquids Code* ;

1.24.1.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.24.1.2. Owners and Operators of steel UST Systems with corrosion protection systems shall maintain and operate the corrosion protection system to continuously provide corrosion protection to the metal components of

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the UST System that routinely contain a Regulated Substance and are in contact with the ground to ensure that Releases due to corrosion are prevented for the life of the UST System.

1.24.1.3. Cathodic Protection systems shall be designed and installed to allow determination of the current operating status.

1.24.2. Sacrificial Anode Cathodic Protection System Operation and Maintenance Requirements

1.24.2.1. Owners and Operators shall test all UST Systems equipped with Sacrificial Anode Cathodic Protection systems for proper operation using standard corrosion engineering practices and in accordance with the following requirements:

1.24.2.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the manufacturer's specifications and shall include the following:

1.24.2.1.1.1. A minimum of three (3) voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

1.24.2.1.1.2. A minimum of one (1) voltage reading for every ten (10) feet of Piping.

1.24.2.2. All Sacrificial Anode Cathodic Protection systems that protect underground Facility components shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) months of installation and at least once every twelve (12) months thereafter.

1.24.2.3. The Sacrificial Anode Cathodic Protection system shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) weeks after underground work is performed at or near a site with a Sacrificial Anode Cathodic Protection system and once every twelve (12) months thereafter.

1.24.2.4. Owners and Operators shall Repair or replace the Sacrificial Anode Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic*

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Protection and the requirements of §1.6. of this Part if the Sacrificial Anode Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the corrosion protection system.

1.24.2.5. UST System Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of a Sacrificial Anode Cathodic Protection system.

1.24.2.6. The Department shall approve, either verbally or in writing, all Cathodic Protection Repair or replacement plans prior to work commencing.

1.24.2.7. The Department shall review the Release Detection and Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST System if the Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the corrosion protection system.

~~1.24.2.7.~~1.24.2.8. The following information shall be submitted to the Department prior to Repairs to the Sacrificial Anode Cathodic Protection system:

1.24.2.8.1. Results of one of the following:

1.24.2.8.1.1. The two (2) most recent Sacrificial Anode Cathodic Protection system tests including the failed test, or

1.24.2.8.1.2. The results of an internal assessment, or

1.24.2.8.1.3. The results of a third party approved integrity assessment; and

1.24.2.8.2. Records of the Tank Release Detection method from the date of the most recent passed Sacrificial Anode Cathodic Protection test.

1.24.2.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

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~~1.24.2.8.~~1.24.2.10. Impressed current Cathodic Protection systems shall not be utilized as a Repair, Upgrade or Replacement after ~~the Effective Date of these Regulations~~January 11, 2008

~~1.24.2.9.~~1.24.2.11. The use of alternate methods of monitoring shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and shall only be used with prior written approval from the Department.

~~1.24.2.10.~~1.24.2.12. Owners and Operators shall maintain a record of the operation of Sacrificial Anode Cathodic Protection systems to demonstrate compliance with the requirements of this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~1.24.2.10.1.~~1.24.2.12.1. The results of all tests and inspections of the Sacrificial Anode Cathodic Protection system.

1.25. Containment Sump Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.25.1. All dispenser, Tank top, transition and any other Containment Sumps of single wall design shall be Product Tight and shall be tested for Product tightness once every thirty-six (36) months, or in accordance with the manufacturers' specifications, or -when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

1.25.2. All dispenser, Tank top, transition and any other Containment Sumps of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.25.1. of this Part.

1.25.3. All dispenser, Tank top, transition and any other Containment Sumps tightness testing methods utilized shall be in accordance with the manufacturer's specifications or approved by the Department.

1.25.4. All access manholes associated with Containment Sumps shall be sized such that the manhole skirt is sufficiently larger than the Containment Sump lid to allow adequate access to the sump and allow for surface water drainage.

1.25.5. All dispenser Containment ~~s~~Sumps shall be installed and maintained as to be capable of being visually inspected at all times for evidence of a Release and shall not be filled with any material such as pea gravel or native soil, or the dispenser Containment ~~s~~Sump shall be continuously monitored for Releases.

1.25.6. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any Containment Sump.

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1.26. Dispenser Sump Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.26.1. Dispenser sumps shall be designed and installed such that any Regulated Substance accumulating within the sump is contained and conveyed to the Tank top sump via the Piping interstitial space where it can be monitored and detected.

1.26.2. If equipped with a dispenser sump sensor, the sensor shall be equipped with an automatic audible or visual Release Detection alarm system.

1.27. Testing and Monitoring Procedures for Sump and Interstitial Sensors for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.27.1. All sensors shall be equipped with an automatic audible and visual alert system and shall shut down the UST System in the event of an alarm.

1.27.2. Owners and Operators shall inspect and test all sensors at a minimum of once every twelve (12) months in accordance with the manufacturer's specifications or as directed by the Department to verify proper sensor operation.

1.27.3. All sensors installed in a sump for the purpose of detecting a Release from the UST System shall be installed no more than one inch (1") from the bottom of the sump such that the sensor is capable of detecting any accumulation of Regulated Substance.

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1.28. Repair, Upgrade and Retrofit Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.28.1. All Repairs, Upgrades, Retrofits and replacements to UST Systems shall meet the applicable design, installation, maintenance and operational standards in Part B, §1 of these Regulations.

1.28.2. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch in accordance with the requirements of Part E, §1.2. of these Regulations.

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~~1.28.2.Documentation of Repair completion shall be submitted to the Department in accordance with Part E, §2.2.2. of these Regulations.~~

1.28.3. All equipment installed after ~~the Effective Date of these Regulations~~ January 11, 2008 shall be installed, operated and maintained such that manufacturer's warranties are not voided.

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1.28.4. Owners and Operators shall ensure that Repairs, Upgrades or Retrofits will prevent Releases due to structural failure or corrosion as long as the UST System is used to store Regulated Substance.

1.28.5. Owners and Operators shall test the Cathodic Protection system in accordance with §1.24. of this Part within six (6) weeks and every twelve (12) months thereafter following the Repair of any Cathodically Protected UST System, to ensure it is operating properly.

1.28.6. Owners and Operators shall maintain records for each Repair, Retrofit and Upgrade for the Operational Life of the UST System.

1.28.7. After any Repair, Retrofit or Upgrade to an UST System, Owners and Operators shall have the applicable portions of the UST System tested for tightness in accordance with ~~§§1.13.4.of this Part~~ these Regulations or as directed by the Department before the UST System is placed into service.

1.28.8. Repairs to fiberglass-reinforced plastic Tanks may be made only by the manufacturer or by its authorized representatives.

1.28.9. Owners and Operators may not Repair holes in Piping and fittings, but shall replace any piece of such Piping or fittings from which a Release has occurred. Replacement Piping and fittings shall meet all applicable Piping requirements in §1of this Part. Loose fittings and joints in Piping that have been tightened to eliminate leakage may be put back into service.

1.28.10. At any time during the course of a Repair, Retrofit or Upgrade there is an indication of a Release the requirements of Part E of these Regulations shall be followed.

1.28.11. At any time excavation of soil or removal of concrete, asphalt or other cover is required during the course of a Repair, Retrofit or Upgrade, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Repair, Retrofit or Upgrade of the UST System.

1.28.12. Within sixty (60) days of completion of a Repair, Retrofit or Upgrade of an UST System Owners and Operators and UST Contractors shall submit documentation to the Tank Management Branch including but not limited to the following:

1.28.12.1. Repair, Retrofit or Upgrade completion documentation; and

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1.28.12.2. Results of sampling required in Part E of these Regulations or §1.28.10. of this Part; and

1.28.12.3. Results of any UST System tests required by the Department.

1.29. Used Oil Underground Storage Tank Systems Requirements

1.29.1. General Requirements

1.29.1.1. Owners and Operators of UST Systems used solely for the storage of Used Oil shall comply with all the requirements of these Regulations except where modifications are specifically listed in this Section.

1.29.2. Release Detection Requirements for Used Oil UST Systems

1.29.2.1. Owners and Operators shall monitor ~~all~~ Used Oil UST Systems for Releases through the use of one of the inventory control procedures in §1.29.3. of this Part and at least one of the following Release Detection methods:

1.29.2.1.1. Continuous ~~I~~interstitial ~~M~~monitoring as prescribed in §1.9. of this Part; or

1.29.2.1.2. Automatic t~~T~~ank ~~G~~gauge performing monthly Tank tightness testing as prescribed in §1.9. of this Part; or

1.29.2.1.3. Manual ~~T~~tank ~~G~~gauging as prescribed in §1.29.4. of this Part; or

1.29.2.1.4. Department ~~A~~approved ~~A~~alternative ~~M~~method.

~~1.29.2.2.~~1.29.3. Inventory Control Requirements for Used Oil UST Systems

~~1.29.2.2.1.~~1.29.3.1. Owners and Operators of UST Systems used solely for the storage of Used Oil ~~shall~~may utilize inventory control procedures performed in accordance ~~comply~~ with the ~~I~~inventory control ~~R~~requirements of §1.9.3 of this Part to comply with inventory control requirements; or~~.~~

1.29.3.2. Owners and Operators of UST Systems with a storage capacity less than or equal to two thousand (2,000) gallons and used solely for the storage of Used Oil, may utilize manual ~~T~~tank gauging performed in accordance with the requirements of §1.29.4. to comply with inventory control requirements; or

~~1.29.2.2.2.~~1.29.3.3. Owners and Operators of UST Systems used solely for the storage of Used Oil may utilize modified inventory control procedures performed in accordance with the requirements of §1.29.5. of this Part to comply with inventory control requirements.

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~~1.29.2.3.~~1.29.4. Manual Tank Gauging Requirements for Used Oil UST Systems~~Methods of Release Detection for Used Oil UST Systems~~

~~1.29.2.3.1.~~1.29.4.1. Owners and Operators of UST Systems with a storage capacity of one thousand (1,000) gallons or less and used solely for the storage of Used Oil, may utilize manual tank gauging to comply with Release Detection requirements when used in conjunction with inventory control.

~~1.29.3.~~1.29.4.2. Owners and Operators of UST Systems, used solely for the storage of Used Oil, shall not utilize manual ~~T~~tank gauging to simultaneously comply with both Release Detection and inventory control requirements.

~~1.29.4.~~1.29.4.3. Owners and Operators shall utilize ~~M~~manual ~~T~~tank gauging test procedures that meet the following requirements:

~~1.29.4.1.~~1.29.4.3.1. Once every seven (7) days the Used Oil UST System shall be tested. No ~~Regulated Substance~~ Used Oil shall be added to or removed from the Used Oil UST during the prescribed test period in Table 1 of this Part; and

~~1.29.4.2.~~1.29.4.3.2. At the beginning and at the end of the test period the liquid level in the Used Oil UST shall be measured to the nearest one-eighth (1/8) inch and the measurements recorded; and ~~.~~

~~1.29.4.3.~~1.29.4.3.3. At the end of each test period the change in Tank volume shall be calculated and compared to the weekly test standard in Table 1 of this Part; and

~~1.29.4.4.~~1.29.4.3.4. At a minimum of once every thirty (30) calendar days~~month~~ the monthly cumulative change in Tank volume shall be compared to the monthly test standard in Table 1 of this Part; and

~~1.29.4.5.~~1.29.4.3.5. If at any time the weekly or monthly change in Tank volume exceeds the test standard in Table 1 of this Part, Owners and Operators shall notify the Department of an indicated Release within twenty-four (24) hours of the end of the test period; and~~.~~

~~1.29.4.6.~~1.29.4.3.6. Owners and Operators shall keep all manual tank gauging records utilized to comply with inventory control requirements on file for a minimum of three (3) years and shall make the records available to the

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Department within ten (10) days of the Department's ~~upon~~ request; and~~.~~

~~1.29.4.7.~~1.29.4.3.7. Owners and Operators shall keep all manual tank gauging records utilized to comply with Release Detection requirements on file for the life of the UST System and shall make the records available to the Department within ten (10) days of the Department's request.

Table 1

Tank Size	Minimum Duration of Test	Weekly Standard (1 test)	Monthly Standard (4-test average)
Up to 550 gallons	36 hours	10 gallons	5 gallons
551-1,000 gallons (when Tank diameter i~~f~~s 64")	44 hours	9 gallons	4 gallons
551-1,000 gallons (when Tank diameter is 48")	58 hours	12 gallons	6 gallons
1,001 -2,000 gallons (also requires 2nd Release Detection method)	36 hours	26 gallons	13 gallons

1.29.5. Modified Inventory Control Requirements for Used Oil UST Systems

1.29.5.1. Owners and Operators shall utilize modified inventory control procedures that meet the following requirements:

1.29.5.1.1. The Regulated Substance level shall be measured in gallons to the nearest one-eighth (1/8") of an inch and shall be recorded each day that an UST has Used Oil added to or withdrawn from the UST, or at least once every seven (7) days; and

1.29.5.1.2. The water level shall be measured in gallons to the nearest one-eighth (1/8") of an inch and shall be recorded at least once every seven (7) days. If the water measures two (2) inches or more, the water shall be removed from the UST within seven (7) days, and shall be properly disposed in accordance with all local, state and federal requirements; and

1.29.5.1.3. The amount of Used Oil removed from the UST shall be recorded, and receipts for Used Oil removal shall be

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maintained and made available to the Department upon request; and

1.29.5.1.4. If there is an unexplainable consistent negative trend in any given month, or if the amount of Used Oil removed from the UST is less than the amount indicated by the modified inventory control, the Department shall be notified, and the Release investigation procedures in Part E of these Regulations shall be followed; and

1.29.5.1.5. Failure to maintain modified inventory control records for Used Oil UST Systems may be cause for the Department to require Tank tightness test(s) and inspection(s) of the UST Facility at the expense of Owners and Operators

~~1.29.5.~~1.29.6. Overfill Requirements for Used Oil UST Systems

~~1.29.5.1.~~1.29.6.1. Owners and Operators of Used Oil UST Systems shall comply with the overfill requirements in §1.22 of this Part or shall have a written standard operating procedure that includes the following minimum requirements:

~~1.29.5.1.1.~~1.29.6.1.1. Determine and record the maximum gallons allowable such that the UST shall not be more than ninety percent (90%) full; and

~~1.29.5.1.2.~~1.29.6.1.2. The level of Used Oil shall be measured each day an UST has Used Oil added to or withdrawn from the UST to determine the current amount of ullage space available; and

1.29.6.1.3. The amount of Used Oil added shall be such that the UST is not more than ninety percent (90%) full ; and~~or removed from the UST shall be recorded~~

1.29.6.1.4. The amount of Used Oil removed from the UST shall be recorded; and

~~1.29.5.1.4.~~1.29.6.1.5. Receipts for Used Oil removal shall be maintained and made available to the Department upon request to ensure that the UST is not filled beyond ninety percent (90%) capacity.

~~1.29.6.~~1.29.7. Spill Protection Requirements for Used Oil UST Systems

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~~1.29.6.1.~~1.29.7.1. No Person shall construct, install, use or maintain an UST storing Used Oil without providing a reliable means of ensuring that Releases due to spilling do not occur.

~~1.29.6.2.~~1.29.7.2. Owners and Operators shall equip ~~all~~ Used Oil UST Systems with an impervious spill containment device that forms a liquid tight seal around any pump out location.

~~1.29.6.3.~~1.29.7.3. All spill containment devices shall have a minimum containment capacity of fifteen (15) gallons or be of a design that provides equivalent environmental protection.

~~1.29.6.4.~~1.29.7.4. Owners and Operators shall immediately remove water, Used Oil or debris that accumulates in the spill containment device. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

~~1.29.6.5.~~1.29.7.5. All precautions shall be taken to prevent Tank overfilling, spilling and dripping.

~~1.29.6.6.~~1.29.7.6. Owners and Operators shall test spill containment devices shall once every twelve (12) months for tightness in accordance with the manufacturer's specifications or as directed by the Department to determine if a threat to human health, safety or the environment exists.

~~1.29.6.7.~~1.29.7.7. Owners and Operators shall report, investigate and clean up any spills and overfills in accordance with Part E of these Regulations.

1.30. Emergency Generator Underground Storage Tank Systems Requirements

1.30.1. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment shall comply with all the requirements of these Regulations except where modifications are specifically listed in this Section.

1.30.2. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment are exempt from the inventory control Requirements of §1.9.3 of this Part.

1.30.3. Owners and Operators of UST Systems used solely for the storage of a Regulated Substance to power emergency generation equipment may utilize annual ~~T~~tank tightness testing as a method of Release Detection for the life of the UST provided the ~~T~~tank tightness testing is performed in accordance with the ~~T~~tank tightness test requirements in §2.9.7. of this Part, or may utilize a method in §1.9. of this Part.

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1.30.4. Owners and Operators of UST Systems used solely for the storage of a Regulated Substance to power emergency generation equipment shall not utilize an annual Line tightness test to comply with the pressurized Piping Release Detection tightness test requirements of §1.19.2. of this Part. Owners and Operators shall utilize interstitial monitoring in accordance with the requirements of §1.19.2.3. of this Part to comply with the pressurized Piping Release Detection tightness test requirements of §1.19.2. of this Part.

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1.31. Routine Inspection for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.31.1. Owners and Operators shall conduct an inspection at an interval no less frequently than once every twenty-eight (28) to thirty-one (31) calendar days~~during each calendar month~~ to monitor the condition of the UST System including but not limited to all dispensers, dispenser sumps, access ports, spill containment devices, sumps and Containment Sumps. The routine inspection shall ~~include~~ at a minimum include the following:

1.31.1.1. The removal of all dispenser covers and visual inspection for any evidence of a Release of Regulated Substance and inspection of all fittings, couplings and filters; and

1.31.1.2. The removal of all Containment Sump and sump covers and visual inspection of the sump for any evidence of a Release of Regulated Substance or intrusion of water; and

1.31.1.3. The inspection of all access ports to make sure that the covers, caps and adaptors are tightly sealed; and

1.31.1.4. The removal of all spill containment device covers and inspection to ensure all spill containment devices are empty and free of debris, water or Regulated Substance.

1.31.2. A record of all routine inspections shall be kept on file by Owners and Operators for a minimum of three (3) years and shall be made available to the Department upon request. The records shall at a minimum include the results of all inspections including any Repairs made.

1.31.3. If at any time during a routine inspection evidence of a Release of Regulated Substance is discovered Owners and Operators shall follow the investigation requirements of Part E of these Regulations.

1.32. Internal Lining Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

1.32.1. An internal lining may be added to UST Systems to improve the ability of an UST System to prevent the release of Regulated Substance.

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1.32.2. An internal lining shall not be utilized to meet corrosion protection requirements after ~~the Effective Date of these Regulations~~January 11, 2008.

1.32.3. The internal lining installation, operation and maintenance shall meet the following requirements:

1.32.3.1. The lining shall be installed in accordance with the following industry standards:

1.32.3.1.1. API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*.

1.32.3.1.2. NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks*.

1.32.3.1.3. NLPA Standard 631, Chapter B, *Future Internal Inspection Requirements for Lined Tanks*.

1.32.3.2. The lined Tank shall be tested for tightness in accordance with §2.9.7. of this Part and found to be tight before the Tank is put back into service; and

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1.32.3.3. ~~Within ten (10) years after lining, and every five (5) years thereafter, Owners and Operators shall conduct an internal inspection of the lined Tank in accordance with NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks* and Chapter B, *Future Internal Inspection Requirements for Lined Tanks*, and API RP 1631, Interior Lining and Periodic Inspection of Underground Storage Tanks. At the time of the inspection, the lined Tank shall be structurally sound and comply with the original design specifications. If any damage is found, Repairs shall be made in accordance with standard engineering practice, industry standards and the requirements of these Regulations or the Tank shall be replaced in accordance with the requirements in §1 of this Part.~~

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Section 2. Installation, Operation and Maintenance Requirements for UST Systems Storing Regulated Substance Excluding Heating Fuel or Hazardous Substance Installed Prior To ~~The Effective Date Of These Regulations~~January 11, 2008

2.1. General Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.1.1. Owners and Operators shall ensure that all UST Systems shall be designed, constructed, installed and operated in accordance with manufacturer's specifications, and accepted engineering practices and procedures; and in a manner which will prevent Releases of Regulated Substances to the ground waters, surface waters or soils of the State due to corrosion, structural failure, mechanical defects, spills, and overfills for the Operational Life of the Tank. The material used in the construction and lining of the Tank shall be Compatible with the substances to be stored in the UST System. All UST Systems installed prior to ~~the Effective Date of these Regulations~~January 11, 2008 shall meet the requirements of this Section.

2.1.2. Bare steel UST Systems or steel UST Systems coated with asphalt are prohibited.

2.1.3. Owners and Operators shall replace all double elbow swing joints with flexible connectors installed in accordance with Part B, §1.14. of these Regulations not later than January 1, 2011.

2.1.4. Dispenser hoses shall be a maximum of eighteen (18) feet in length unless otherwise approved by the Department. When not in use, hoses shall be reeled, racked or otherwise protected from damage.

2.2. General Installation Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.2.1. Prior to the installation of any UST System a site survey shall be initiated by the Facility Owner and Operator. The pre-installation site survey shall be conducted to determine the locations of nearby buildings, underground utilities and sewer lines.

2.2.2. Private~~/~~and public drinking water wells, rivers, streams, lakes, canals, and other environmentally sensitive locations shall be recorded and incorporated into the design of the UST System Facility.

2.2.3. Owners and Operators shall submit a written plan of the UST System~~Tank~~ Facility to the Department and to any designated state or local government agency for approval thirty (30) days before the installation. The scale of the plan shall be one inch to ten feet or less (1 inch-10ft. or less) and shall include the following:

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2.2.3.1. Size and location of Tanks; and

2.2.3.2. Piping dimensions and layout; and

2.2.3.3. Dimensions and locations of vents, Observation Tubes, Monitoring Wells, vadose zone vapor detection tubes, U-tubes, gauges and monitoring devices; and

2.2.3.4. Type of Regulated Substance to be stored; and

2.2.3.5. Location of dispensers; and

2.2.3.6. Location of overfill device, spill prevention system and monitoring device; and

2.2.3.7. Materials of Tank(s) and ~~lines~~ Piping construction; and

2.2.3.8. Location of and access to check valves, flexible connectors, swing joints, etc. and

2.2.3.9. Location of Cathodic Protection components and test stations; and

2.2.3.10. Location of utilities (both above and underground); and

2.2.3.11. Location of electrical service components; and

2.2.3.12. Details of hold-down pads or anchoring; and

2.2.3.13. Location of nearby private~~/and public~~ drinking water wells and surface water bodies; and

2.2.3.14. Survey results from §2.2.1. of this Part.

2.3. UST System Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.3.1. Acceptable designs for UST System construction include:

2.3.1.1. Cathodically Protected Steel; or

2.3.1.2. Fiberglass-Reinforced Plastic; or

2.3.1.3. Steel-Fiberglass-Reinforced-Plastic Composite; or

2.3.1.4. Composite Coated; or

2.3.1.5. Cathodically Protected Double-walled Steel; or

2.3.1.6. Double-walled Fiberglass-Reinforced Plastic; or

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2.3.1.7. Other equivalent design approved by the Department.

2.3.2. UST Systems shall be installed in accordance with these Regulations, the manufacturer's specifications, accepted engineering practices and the following industry standards:

2.3.2.1. PEI, RP 100, *Recommended Practices for Installation of Liquid Storage Systems*.

2.3.2.2. NFPA 30, *Flammable and Combustible Liquids Code.*

2.3.2.3. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages.*

2.4. Secondary containment Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.4.1. The Department reserves the right to require Secondary containment or equivalent protection on any portion of the UST System where aquifers underlying the UST Facility are determined to need such protection, or where groundwater below the UST Facility is within a well head protection area, or where groundwater is susceptible to contamination in order to protect the safety, health, welfare ~~and/~~ or environment of the State.

2.4.2. Secondary containment systems shall be designed, constructed and installed to:

2.4.2.1. Contain the Regulated Substances Released from the UST System until they are detected and removed; and

2.4.2.2. Prevent the Release of Regulated Substance to the environment at any time during the Operational Life of the UST System; and

2.4.2.3. Be checked for evidence of a Release at least once every thirty (30) calendar days~~during each calendar month~~.

2.4.3. Secondary containment systems may consist of one of the following:

2.4.3.1. A cathodically protected double-walled steel Tank and double-walled Piping; or

2.4.3.2. A double-walled fiberglass-reinforced plastic Tank and double-walled Piping; or

2.4.3.3. A double-walled fiberglass-reinforced plastic composite Tank and double-walled Piping; or

2.4.3.4. A single wall Tank placed within a cut-off wall, an excavation liner or trough liner made of material impervious to the Regulated Substance stored; or

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2.4.3.5. A vault constructed to meet the following requirements:

2.4.3.5.1. The vault shall be water tight, impervious to leakage of Regulated Substances and able to withstand chemical deterioration and structural stresses from internal and external causes; and

2.4.3.5.2. The vault shall be a continuous structure with a chemically resistant water stop used at any joint; and

2.4.3.5.3. There shall be no drain connections or other entries through the vault other than top entry manholes and other top openings for filling and for emptying the Tank, venting and for monitoring and pumping of Regulated Substance which may leak into the vault; and

2.4.3.5.4. The Tank or Tanks within the vault shall be encased or embedded in a manner consistent with acceptable engineering practices; or

2.4.3.6. A cut-off wall constructed to meet the following:

2.4.3.6.1. A cut-off wall may be used where groundwater levels are above the bottom of the Tank excavation; and

2.4.3.6.2. A cut-off wall shall consist of an impermeable barrier which has a permeability rate with respect to water equal to or less than 1×10^{-7} cm/sec. It shall not deteriorate in an underground environment or in the presence of Regulated Substances; and

2.4.3.6.3. A cut-off wall shall extend around the perimeter of the excavation and to an elevation above the mean high groundwater level; and

2.4.3.6.4. If a synthetic membrane is used for a cut-off wall, any seams, punctures or tears in the membrane shall be Repaired and made leak tight prior to backfilling. No penetrations of the cut-off wall will be permitted; or

2.4.3.6.5. Other equivalent technology approved by the Department.

2.4.4. If the Secondary containment system consists of a double-walled Tank**,** the Tank shall be constructed in accordance with acceptable engineering practice and industry standards and shall have a Release Detection system in accordance with §1.9. of this Part.

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2.5. Double-Walled UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.5.1. Any of the acceptable UST System designs in §2.3 of this Part may be fabricated in double-walled construction in accordance with accepted engineering practice and industry standards.

2.5.2. A double-walled Tank which is designed and manufactured in accordance with the following requirements satisfies the requirements for Secondary containment in §2.4. of this Part and the requirements for Release Detection set forth in §2.9.of this Part:

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2.5.2.1. The interstitial space of the double-walled Tank can be monitored for Releases; and

2.5.2.2. Outer jackets made of steel shall be coated as prescribed in §2.6.2.; and

2.5.2.3. There are no penetrations of any kind through the jacket to the Tank except top entry manholes and fittings; and

2.5.2.4. The outer jacket shall, at a minimum, cover the bottom eighty (80) percent of the UST; and

2.5.2.5. The jacket shall be able to contain a liquid or be able to contain a vacuum from the time of manufacture completion until the time of installation; and

2.5.2.6. All Tanks shall be equipped with a strike plate located beneath all Tank openings.

2.6. Cathodically Protected Steel UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.6.1. Cathodically protected steel UST Systems shall be designed, constructed, installed and tested in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and the applicable industry standards, including but not limited to the following:

2.6.1.1. API RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks*.

2.6.1.2. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection.*

2.6.1.3. UL 58, *Standard for Steel Underground Storage Tanks for Flammable and Combustible Liquids.*

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2.6.1.4. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks.*

2.6.1.5. STI, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks*.

2.6.2. The Tank shall be coated with a suitable Dielectric Material in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

2.6.3. Field-installed Cathodic Protection systems shall be designed and installed in accordance with manufacturer's specifications, accepted engineering practice and the requirements listed in this Section.

2.6.4. Each Cathodic Protection system shall include sufficient monitoring stations which enable Owners and Operators to check on the adequacy of the Cathodic Protection system.

2.6.5. UST Systems that are protected by Sacrificial Anodes (sti-P_3® Tanks) shall be electrically insulated from the Piping system with dielectric fittings, bushings, washers, sleeves or gaskets which are chemically stable when exposed to Regulated Substances, additives, corrosive soils or groundwater.

2.6.6. UST Systems not protected by Sacrificial Anodes shall be factory coated with a material which will provide equivalent protection and corrosion resistance. The minimum finished coating thickness shall be consistent with applicable UL standards. Defects and any inadequacies in the coating shall be Repaired in accordance with the manufacturer's instructions and standard engineering practice.

2.7. Fiberglass Reinforced Plastic UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.7.1. Fiberglass reinforced plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standard:

2.7.1.1. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol Gasoline Mixtures*.

2.7.2. Fiberglass reinforced plastic UST Systems shall be of sufficient structural strength to withstand normal handling and underground use and shall be compatible with the Regulated Substance and additives stored, corrosive soils and groundwater. Tank construction materials shall be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften or separate under normal service conditions.

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2.7.3. Fiberglass reinforced plastic Tanks shall be tested for deflection in accordance with the manufacturer's requirements at the time of installation.

2.8. Steel with Non-Metallic Outer Shell UST Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.8.1. Steel-Fiberglass-Reinforced-Plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

2.8.1.1. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

2.8.1.2. UL 58; *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

2.8.1.3. STI F-922, *Specification for Permatank®*.

2.8.1.4. STI F-894, ACT-100® *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*.

2.8.1.5. STI F-961, ACT -100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks*.

2.8.1.6. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

2.8.2. The coating shall not corrode under adverse underground electrolytic conditions and shall be Compatible with the Regulated Substance and additives stored.

2.8.3. The coating shall be factory inspected for air pockets, cracks, blisters pinholes and electrically tested by a ten thousand (10,000) volts holiday test performed over 100 percent (100%) of the surface for coating short circuits or coating faults or in accordance with the manufacturer’s specifications.

2.8.4. Any defects shall be repaired in accordance with standard engineering practice and manufacturer's requirements to assure compliance with industry standards.

2.9. Release Detection Requirements for Underground Storage Tanks Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.9.1. General Requirements for Tank Release Detection

2.9.1.1. Owners and Operators of UST Systems shall provide a method, or combination of methods of Release Detection on all UST Systems that:

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2.9.1.1.1. Can detect a Release from any portion of the Tank and the connected underground Piping that routinely contain Regulated Substance; and

2.9.1.1.2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, including routine maintenance and service checks for operability or running condition; and

2.9.1.1.3. Meets the performance standards for Release Detection in this section, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. The method shall be capable of detecting the leak rate or quantity specified for ~~p~~Precision ~~Tank t~~Testing, automatic tank gauging, ~~l~~Line leak detectors, and ~~l~~Line tightness testing methods specified in these Regulations with a probability of detection of at least 0.95 and a probability of false alarm no greater than 0.05.

2.9.1.2. Owners and Operators shall implement the Indicated Release investigation procedure in Part E of these Regulations if the Release Detection equipment or method shows indication of a Release.

2.9.1.3. Failure by Owners and Operators to maintain records of required Release Detection monitoring and inspection may be cause for the Department to require Tank tightness test(s) and inspection(s) of the UST Facility and a Release investigation in accordance with Part E of these Regulations at the expense of Owners and Operators.

2.9.2. Methods of Release Detection for Tanks

2.9.2.1. Owners and Operators shall monitor UST Systems for Releases through the use of inventory control procedures and at least one of the following Release Detection methods:

2.9.2.1.1. Interstitial Monitoring; or

2.9.2.1.2. Automatic Tank Gauging; or

2.9.2.1.3. Observation Tubes; or

2.9.2.1.4. Tank Tightness Test; or

2.9.2.1.5. Monitoring Wells; or

2.9.2.1.6. Vadose Zone Vapor Detection Tubes; or

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2.9.2.1.7. U-Tubes; or

2.9.2.1.8. Department Approved Alternative Method.

2.9.3. Inventory Control Requirements

2.9.3.1. Inventory control procedures shall meet the following requirements:

2.9.3.1.1. Every Owner and Operator shall perform inventory control procedures and shall maintain inventory control records for each Tank containing a Regulated Substance. Records shall be kept for each Tank, or cluster of Tanks if they are interconnected, and shall include measurements of bottom water levels, sales, use, deliveries, inventory on hand and losses or gains. Reconciliation of records shall be kept current, shall account for all variables which could affect an apparent loss or gain and shall be in accordance with generally accepted practices. The data shall be accumulated for each day a Tank has Regulated Substance added or withdrawn but not less frequently than once every seven (7) calendar days ~~a week~~, and shall include as a minimum:

2.9.3.1.1.1. Description and amount of Regulated Substance in the Tank measured in gallons to the nearest one-eight (1/8") of an inch. The equipment used shall be capable of measuring the level of Regulated Substance over the full range of the Tank's height to the nearest one eighth (1/8") of an inch. These measurements shall be converted from inches to gallons and these measurements and conversions shall be performed daily; and

2.9.3.1.1.2. Inputs and outputs of Regulated Substance in gallons recorded daily; and

2.9.3.1.1.3. All deliveries and measurements shall be made through a drop tube that extends to within 5.9 inches of the Tank bottom; and

2.9.3.1.1.4. Regulated Substance dispensing equipment is metered and recorded within the local standards for meter calibration or an accuracy of six (6) cubic inches for every five (5) gallons of substance withdrawn; and

2.9.3.1.1.5. Weekly assessment of the amount of water in UST Systems storing non-ethanol blended Regulated Substances excluding Heating Fuel or Hazardous

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Substance or other UST Systems with prior Department approval. The measurement of the water level in the bottom of the Tank shall be made to the nearest one eighth (1/8") of an inch. If the measurement is two inches or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements; and

2.9.3.1.1.6. Daily assessment of the amount of water in UST Systems storing ethanol blended Regulated Substance. The measurement of water level in the bottom of the Tank shall be made to the nearest one eighth (1/8") of an inch.

2.9.3.1.1.7. For UST Systems storing ethanol blended Regulated Substance with a storage capacity of 8000 gallons or less, if the measurement is one (1) inch or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements.

2.9.3.1.1.8. For UST Systems storing ethanol blended Regulated Substance with a storage capacity greater than 8000 gallons, if the measurement is two (2) inches or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with local, state and federal requirements.

2.9.3.1.1.9. Daily reconciliation of the amount of Regulated Substance added to and removed from the Tank. Recommended procedures for Tank inventory and reconciliation procedures are detailed in API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*, and shall include at a minimum:

2.9.3.1.1.9.1 Losses or gains from each day's inventory shall be reconciled at the end of ~~once during~~ each calendar month; and

2.9.3.1.1.9.2 For any day in which there is a loss of five percent or more of the Regulated Substance, or for any month in which there is a significant loss or gain of Regulated Substance that meets or exceeds one percent plus one hundred and thirty (130) gallons of the total monthly throughput, or any month in

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which there is an unexplainable consistent negative trend, the Release investigation procedure in Part E of these Regulations shall be followed; and

2.9.3.1.1.9.3 Tanks equipped with automatic inventory control systems or continuously operating automatic in-tank gauging systems may use these devices to perform inventory reconciliation procedures.

2.9.3.1.1.9.4 All automatic systems utilized for performing inventory procedures shall comply with the preventative maintenance program requirements of §2.9.5.1.5. of this Part.

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2.9.3.2. The Department may, at its discretion, approve other types of inventory control methods or a combination of methods or devices not specified in this section upon a determination that the proposed method or combination of methods is no less protective of human health, safety or the environment than the above requirements.

2.9.3.3. Failure to maintain and reconcile inventory control records may be cause for the Department to require Tank tightness test(s) and inspection(s) of the UST Facility at the expense of Owners and Operators.

2.9.4. Interstitial Monitoring Release Detection Requirements for Tanks

2.9.4.1. Interstitial monitoring between the UST System and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the Tank that routinely contains Regulated Substance and also meets one of the following requirements:

2.9.4.1.1. For double-walled UST Systems, the sampling or testing method can detect a Release through the inner wall in any portion of the Tank that routinely contains Regulated Substance.

2.9.4.1.2. For UST Systems with a secondary barrier within the Excavation Zone, the sampling or testing method can detect a Release between the UST System and the secondary barrier.

2.9.4.1.3. The secondary barrier around or beneath the UST System consists of artificially constructed material that is sufficiently impermeable (at least 1×10^{-7} cm/sec for

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the Regulated Substance stored) to direct a Release to the monitoring point and permit its detection.

2.9.4.1.4. The barrier is compatible with the Regulated Substance stored so that a Release from the UST System will not cause deterioration of the barrier allowing a Release to pass through undetected.

2.9.4.1.5. For Cathodically Protected Tanks, the secondary barrier shall be installed so that it does not interfere with the proper operation of the Cathodic Protection system.

2.9.4.1.6. Ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a Release can go undetected for more than thirty (30) days.

2.9.4.1.7. The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring are designed for use under such conditions.

2.9.4.1.8. For Tanks with an internally fitted liner, an automated device may be used to detect a Release between the inner wall of the Tank and the liner, and the liner shall be Compatible with the substance stored.

2.9.4.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall inspect all interstitial monitoring devices utilized for Release Detection for evidence of a Release from the UST System and shall record the results.

2.9.4.3. Owners and Operators shall maintain records of the monthly interstitial Release monitoring inspections for the life of the UST System.

2.9.4.4. Owners and Operators shall have all interstitial monitoring equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. The inspection shall at a minimum include:

2.9.4.4.1. Inspection of the console for printer operation if so equipped; and

2.9.4.4.2. Verification of the system setup values and battery backup; and

2.9.4.4.3. Verification of the test programming; and

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2.9.4.4.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

2.9.4.4.5. Inspection and testing of all probes and interstitial sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper sensor operation; and

2.9.4.4.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

2.9.4.4.7. Correction of any problems found as a result of the required inspection.

2.9.5. Automatic Tank Gauging Release Detection Requirements for Tanks

2.9.5.1. Monthly Tank tightness testing using Automatic Tank Gauging (ATG) shall meet the following requirements:

2.9.5.1.1. The ATG equipment can detect a 0.2 gallon per hour leak rate from any portion of the Tank that routinely contains Regulated Substance; and

2.9.5.1.2. The ATG equipment shall be capable of producing a record of Release Detection test results; and

2.9.5.1.3. At a minimum of once every thirty (30) calendar days~~during each calendar month~~ the ATG equipment shall perform a Release Detection test for each Tank and shall produce a record of each such test; and

2.9.5.1.4. If used for inventory control, the ATG equipment shall be able to conduct inventory control in accordance with §2.9.3. of this Part.

2.9.5.1.5. Owners and Operators shall have all ATG equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. The inspection shall at a minimum include:

2.9.5.1.5.1. Inspection of the ATG console for printer operation if so equipped; and

2.9.5.1.5.2. Verification of the system setup values and battery backup; and

2.9.5.1.5.3. Verification of the test programming; and

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2.9.5.1.5.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

2.9.5.1.5.5. Inspection and testing of the magnetostrictive probes and sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

2.9.5.1.5.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

2.9.5.1.5.7. Correction of any problems found as a result of the required inspection.

2.9.5.2. Owners and Operators shall maintain a record of all Release Detection tests performed by the ATG equipment for the life of the UST System.

2.9.6. Observation Tube Release Detection Requirements for Tanks

2.9.6.1. Observation Tubes shall be designed, constructed, installed and maintained to detect a Release from any portion of the Tank that routinely contains Regulated Substance.

2.9.6.2. A network of Observation Tubes shall be placed within the excavation of the Tank field without the use of conventional well drilling methods during the installation of an UST and without the need for the installer to obtain a water well contractor's license, pay a monitoring well permit fee, obtain a monitoring well permit, or submit a well completion report to the Department as required in the Delaware *Regulations Governing the Construction and Use of Wells*. The Observation Tube however, shall meet the remaining standards set forth in the Department's *Regulations Governing the Construction and Use of Wells* including the requirement for installation of the tube to a depth of at least five (5) feet below the water table. This exception from the standard monitoring well construction criteria pertains only to Observation Tubes placed within the UST excavation pit.

2.9.6.3. The minimum number of Observation Tubes within an UST System excavation pit shall be:

2.9.6.3.1. Four Observation Tubes shall be installed for one UST.

2.9.6.3.2. Six Observation Tubes shall be installed for two to three USTs.

2.9.6.3.3. Eight Observation Tubes shall be installed for four to five USTs.

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2.9.6.3.4. Ten or more Observation Tubes shall be installed for six or more USTs.

2.9.6.4. Observation Tubes shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.6.5. Observation Tubes may only be used if the following conditions are met:

2.9.6.5.1. The Regulated Substance stored is immiscible in water and has a specific gravity of less than one; and

2.9.6.5.2. Ground water is never more than twenty (20) feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST System and the Observation Tubes is not less than 1×10^{-2} cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials); and

2.9.6.5.3. The continuous monitoring devices or manual methods used can detect the presence of at least one eighth of an inch of Free Product on the top of the ground water on the Observation Tubes; and

2.9.6.5.4. The level of background contamination will not interfere with the method used to detect Releases from the UST System.

2.9.6.6. Owners and Operators shall test all Observation Tubes for evidence of a Release from the UST System by:

2.9.6.6.1. Monitoring with a continuously functioning Release Detection device; or

2.9.6.6.2. Testing at least once every thirty (30) calendar days with a portable device inserted into the tube; or

2.9.6.6.3. Sampling at least once every thirty (30) calendar days with the removal of at least eight (8) ounces of fluid from the tube, using a bailer or a sampler of similar design. The fluid shall be taken from the surface of the water table unless otherwise directed by the Department. The fluid shall:

2.9.6.6.3.1. Be tested on site for the presence of Regulated Substance using portable devices; or

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2.9.6.6.3.2. Be sent to an independent certified laboratory and analyzed for the presence of the Regulated Substance(s) stored at the Facility.

2.9.6.7. Owners and Operators shall record the results of the testing required in §2.9.6.6. of this Part and the records shall be maintained for the life of the UST System.

2.9.6.8. Observation Tubes shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

2.9.7. Tank Tightness Test Release Detection Requirements for Tanks

2.9.7.1. Owners and Operators implementing this Release Detection option shall conduct a separate tightness test for each UST System. The test shall be conducted at least once every twelve (12) months until December 22, 1998 or for (10) years after UST installation, whichever is later. Tank tightness testing shall not be utilized as a primary method of Release Detection after December 31, 2008.

2.9.7.2. All testing of UST Systems shall be conducted in accordance with the Precision Test methods and procedures specified in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*, or other test approved by the Department which is of equivalent or superior accuracy.

2.9.7.3. Testing of UST Systems shall utilize a method capable of detecting a Release of a Regulated Substance at a rate of 0.1 gallons per hour with a probability of detection of 0.95 and a probability of false alarm of 0.05 from any part of the Tank which routinely contains Regulated Substance. These methods are limited to those tests that account for the following, if applicable:

2.9.7.3.1. The presence of vapor pockets;

2.9.7.3.2. The expansion or contraction of the Regulated Substance, which include any density considerations;

2.9.7.3.3. Temperature stratification in the Tank;

2.9.7.3.4. Evaporation;

2.9.7.3.5. Pressure variations in the Tank;

2.9.7.3.6. Deflection of the Tank ends; and

2.9.7.3.7. The location of the water table.

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2.9.7.4. These tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer. The person performing the test shall certify that the test procedure utilized takes into account the variables specified in §2.9.7.3.of this Part.

2.9.7.5. Owners and Operators shall retain a copy of the results of the Tank tightness tests for the life of the UST System.

2.9.7.6. If the UST System fails NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*, criteria Owners and Operators and the UST System test contractor shall report the tank test failure to the Department within twenty-four (24) hours and shall submit a paper copy of the test results to the Department within seven (7) days of the test failure. The test results shall include at a minimum the following information:

2.9.7.6.1. The procedures used including any deviations from those recommended by the developer of the test procedure for the Release Detection method; and

2.9.7.6.2. The name of the company performing the test; and

2.9.7.6.3. The method used; and

2.9.7.6.4. The results of the test.

2.9.8. Monitoring Well Release Detection Requirements for Tanks

2.9.8.1. Monitoring Wells shall be designed, constructed, installed and maintained to detect a Release from any portion of the Tank that routinely contains Regulated Substance.

2.9.8.2. Monitoring Wells shall be designed, constructed and installed in accordance with the Delaware *Regulations Governing the Construction and Use of Wells***.**

2.9.8.3. A network of a minimum of four (4) monitoring wells shall be placed immediately outside of the excavation around the Tank.

2.9.8.4. Monitoring wells shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.8.5. Monitoring wells may be used only if the following conditions are met:

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2.9.8.5.1. The Regulated Substance stored is immiscible in water and has a specific gravity of less than one; and

2.9.8.5.2. Ground water is never more than twenty (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 1 x 10-2 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials); and

2.9.8.5.3. The continuous monitoring devices or manual methods used can detect the presence of at least one eighth of an inch of Free Product on the top of the ground water in the monitoring wells; and

2.9.8.5.4. The level of background contamination will not interfere with the method used to detect Releases from the UST System.

2.9.8.6. Owners and Operators shall test all Monitor Wells- for evidence of a Release from the UST System by:

2.9.8.6.1. Monitoring with a continuously functioning Release Detection device; or

2.9.8.6.2. Tested at a minimum of once every thirty (30) calendar days with a portable device inserted into the Monitor Well; or

2.9.8.6.3. Sampled at least once every thirty (30) calendar days with the removal of at least eight (8) ounces of fluid from the well, using a bailer or a sampler of similar design. The fluid shall be taken from the surface of the water table unless otherwise directed by the Department. The fluid shall:

2.9.8.6.3.1. Be tested on site for the presence of Regulated Substance using portable devices; or

2.9.8.6.3.2. Be sent to an independent certified laboratory and analyzed for the presence of the Regulated Substance(s) stored at the Facility.

2.9.8.7. Owners and Operators shall record the results of the testing required in §2.9.8.6. monthly and the records shall be maintained for the life of the UST System.

2.9.8.8. Monitor Wells shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

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2.9.9. Vadose Zone Vapor Detection Tubes Release Detection Requirements for Tanks

2.9.9.1. Vadose Zone Vapor Detection Tubes shall be designed, constructed, installed and maintained to detect a Release from any portion of the Tank that routinely contains Regulated Substance.

2.9.9.2. A network of vadose zone vapor detection tubes shall be placed within the excavation pit. These tubes shall extend from the surface of the ground to the water table or to a position at least two feet below the Tank bottom whichever is less. If the vapor detection tube is installed within a Tank excavation pit lined for Secondary containment, the tube shall extend to within six (6) inches of the bottom of the Tank excavation.

2.9.9.3. For UST Systems with vadose zone vapor detection tubes installed after July 12, 1985 the minimum number of vadose zone vapor detection tubes within an UST System excavation pit shall be:

2.9.9.3.1. Four vapor detection tubes shall be installed for a single UST;

2.9.9.3.2. Six vapor detection tubes shall be installed for two to three USTs;

2.9.9.3.3. Eight vapor detection tubes shall be installed for four to five USTs;

2.9.9.3.4. Ten vapor detection tubes shall be installed for six or more USTs.

2.9.9.4. UST Systems with vadose zone vapor detection tubes installed prior to July 12, 1985 shall have a minimum of four vapor detection tubes within the UST System excavation pit.

2.9.9.5. Vapor detection tubes shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.9.6. Owners and Operators shall test all vadose zone vapor detection tubes for evidence of a Release from the UST System by:

2.9.9.6.1. Monitoring with a continuously functioning Release Detection device; or

2.9.9.6.2. Testing at least once every thirty (30) calendar days with a portable device inserted into the tubes.

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2.9.9.7. The presence or odor of a Regulated Substance or a signal from a Release Detection device shall be prima facie evidence of a Release unless Owners and Operators affirmatively demonstrate that no Release has occurred.

2.9.9.8. All operating Release Detection devices shall be equipped with an automatic audible or visual alert system. Owners and Operators shall inspect all continuously operating Release Detection devices at least once every thirty (30) calendar days to verify proper sensor operation.

2.9.9.9. Vadose Zone Vapor Detection Tubes may only be used if the following conditions are met:

2.9.9.9.1. The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from the Regulated Substance into the excavation area; and

2.9.9.9.2. The Regulated Substance stored, or tracer compound placed in the ~~Tank~~UST ~~s~~System, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the Excavation Zone in the event of a Release from the Tank and Piping system; and

2.9.9.9.3. The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a Release could go undetected for more than thirty-one (31) days; and

2.9.9.9.4. The level of background contamination in the Excavation Zone will not interfere with the method used to detect Releases from the Tank; and

2.9.9.9.5. The vapor monitors are designed and operated to detect any significant increase in concentration above background levels of the Regulated Substance stored in the ~~Tank s~~UST System, a component of that substance, or a tracer compound placed in the Tank system; and

2.9.9.9.6. In the UST Excavation Zone, the site is assessed to ensure compliance with the above requirements for vapor detection tubes and to establish the number and positioning of these tubes that will detect Releases within the Excavation Zone from any portion of the UST System that routinely contains Regulated Substance.

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2.9.9.10. Owners and Operators shall record the results of the testing required in §2.9.9.6. once every thirty (30) calendar days and the records shall be maintained for the life of the UST System.

2.9.9.11. Vadose Zone Vapor Detection Tubes shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

2.9.10. U-Tube Release Detection Requirements for Tanks

2.9.10.1. U-Tubes shall be designed, constructed, installed and maintained to detect a Release from any portion of the UST System that routinely contains Regulated Substance.

2.9.10.2. U-tubes shall be constructed of four (4) inch diameter Schedule 40 PVC pipe or other material inert with respect to the stored Regulated Substance and installed under each Tank in a dry excavation and covered with a waterproof cap. The U-tube shall be built of a half slotted (slots facing up), gently pitched (1/4 inch per foot) mesh cloth wrapped pipe connected at the higher end of a 90 degree elbow and a vertical section of the pipe finished to grade and capped with a water-proof connection. The lower end of the slotted pipe shall be connected to another unslotted vertical pipe finished to grade and topped with a removable waterproof cap. The lower end of the tee shall be attached to two (2) feet of unslotted pipe which is finished at the bottom with a sealed cap to form a collection sump.

2.9.10.3. U-tubes shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.10.4. Owners and Operators shall test all U-Tubes for evidence of a Release from the UST System by:

2.9.10.4.1. Monitoring with a continuously functioning Release Detection device; or

2.9.10.4.2. Testing at a minimum of once every thirty (30) calendar days with a portable device inserted into the tube; or

2.9.10.4.3. Sampling at least once every thirty (30) calendar days~~during each calendar month~~ with the removal of at least eight (8) ounces of fluid from the well, using a bailer or a sampler of similar design. The fluid shall be taken from the surface of the water table unless otherwise directed by the Department. The fluid shall:

2.9.10.4.3.1. Be tested on site for the presence of Regulated Substance using portable devices; or

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2.9.10.4.3.2. Be sent to an independent certified laboratory and analyzed for the presence of the Regulated Substance(s) stored at the Facility.

2.9.10.5. The presence or odor of a Regulated Substance or a signal from a Release Detection device shall be evidence of a Release unless Owners and Operators affirmatively demonstrate that no Release has occurred.

2.9.10.6. Owners and Operators shall record the results of the testing required in §2.9.10.4. monthly and the records shall be maintained for the life of the UST System.

2.9.10.7. U-Tubes may only be used if the following conditions are met:

2.9.10.7.1. The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from the Regulated Substance into the excavation area; and

2.9.10.7.2. The Regulated Substance stored, or tracer compound placed in the UST System, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the Excavation Zone in the event of a Release from the Tank; and

2.9.10.7.3. The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a Release could go undetected for more than thirty (30) days; and

2.9.10.7.4. The level of background contamination in the Excavation Zone will not interfere with the method used to detect Releases from the Tank; and

2.9.10.7.5. The vapor monitors are designed and operated to detect any significant increase in concentration above background levels of the Regulated Substance stored in the UST System, a component of that substance, or a tracer compound placed in the UST System; and

2.9.10.7.6. In the UST System Excavation Zone, the site is assessed to ensure compliance with the above requirements for U-tubes and to establish the number and positioning of these U-tubes that will detect Releases within the Excavation Zone from any portion of the UST System that routinely contains Regulated Substance.

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2.9.10.7.7. U Tubes shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

2.9.11. Alternative Release Detection Methods for Tanks

2.9.11.1. The Department may approve other types of Release Detection method, or a combination of methods or devices not specified in this Section if:

2.9.11.1.1. It can detect a 0.2 gallon per hour leak rate or a Release of one hundred and fifty (150) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

2.9.11.1.2. The Department may approve another method or a combination of methods or devices if Owners and Operators can demonstrate that the method or a combination of methods or devices can detect a Release as effectively as any of the methods allowed in §2.9. of this Part. In comparing methods of Release Detection allowed the Department shall consider the size of Release that the method or a combination of methods or devices can detect and the frequency and reliability with which it can be detected. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

2.10. Anchoring Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.10.1. Support and anchorage shall be provided for all installations to avoid flotation. Any of the following anchoring methods can be used to meet this requirement and shall be completed in accordance with the PEI, RP 100**,** *Recommended Practices for Installation of Underground Liquid Storage Systems***:**

2.10.1.1. Reinforced concrete deadmen anchors; or

2.10.1.2. Bottom hold down pad which consists of eight (8) inches of reinforced concrete that extends eighteen (18) inches beyond Tank sides and twelve (12) inches beyond each end; or

2.10.1.3. Reinforced concrete slab over Tank.

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2.10.2. All exposed metallic components of hold down systems shall be Electrically Isolated and cathodically protected when the hold down system is required by the Department; adequate bed of backfill shall be provided between the Tank and concrete.

2.11. Backfill Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.11.1. Backfill material shall consist of sand, crushed rock or pea gravel. The material shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length of crushed rock or pea gravel shall be no more than 1/8" to 3/4" in size. Backfill material shall comply with the manufacturer's specifications. Mixing of backfill with native soil or foreign objects is prohibited.

2.12. Installation of New UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance In Existing UST Field

2.12.1. If an UST System shall be installed in or near a previous UST Facility, Owners and Operators shall provide a means of Release Detection that will, at a minimum, detect any future Release from the UST System. An Observation Tube, an U-Tube, a Monitor Well, or a vadose zone vapor detection tube may not be permitted as a Release Detection option if the soil is already contaminated.

2.13. Tank and Piping Installation Inspection and Testing Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.13.1. Once on site all UST Systems materials and equipment shall be inspected for flaws, surface cracks, holes, large scrapes, blisters, indentations and other indications of damage. All defects and Repairs to the UST System shall be recorded and submitted together with a site completion report to the Department.

2.13.2. All Tank(s) shall be air pressure tested according to the manufacturer's specifications prior to installation of the Tank(s) into the excavation. For single-walled Tank(s), the installer shall remove, dope and re-install all factory plugs. The installer shall soap the exterior, particularly its seams and fittings and pressure test the Tank(s) using the manufacturer's specifications to watch for bubbles. For double-walled Tanks testing shall be conducted according to the manufacturer's recommendations and accepted engineering practices.

2.13.3. After installation of the Tank and integral Piping is completed, the entire UST System shall be tested in accordance with current industry standards

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and practices and in the following manner to prove tightness prior to the initial use of the UST System:

2.13.3.1. All testing of UST Systems shall be accomplished by the Precision Test method described in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*, or other test approved by the Department which is of equivalent or superior accuracy.

2.13.3.2. All testing of UST Systems shall be able to account for the effects of thermal expansion or contraction of the Regulated Substances, vapor pockets, Tank deformation, evaporation or condensation, and the location of the water table.

2.13.3.3. These tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer and with current industry standards and practices.

2.14. General Piping Installation Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.14.1. The Piping layout shall be designed to minimize crossed lines and interference with conduit and other UST System components. If crossing of lines is unavoidable, adequate clearance shall be provided to prevent contact.

2.14.2. Double elbow swing joints or flexible connectors shall be installed at all locations where a pipeline changes direction from horizontal to vertical, or from vertical to horizontal. All double elbow swing joints shall be replaced with flexible connectors by January 1, 2011.

2.14.3. All Regulated Substance, vent and vapor return Piping shall slope back to the Tank with a minimum slope of one-eighth (1/8) inch per foot.

2.14.4. The pipe joints shall be cut accurately and deburred to provide liquid tight seals.

2.14.5. All underground metal pipe, fittings, flexible connectors, joints, and pipes shall be coated or wrapped and shall have Cathodic Protection.

2.15. UST Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.15.1. Underground Piping shall be protected from corrosion in accordance with accepted corrosion engineering practices and shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

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2.15.1.1. NFPA 30, *Flammable and Combustible Liquids Code*.

2.15.1.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

2.15.1.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.15.1.4. API RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks*.

2.15.1.5. NACE RP 0169, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*.

2.15.1.6. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

2.15.1.7. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

2.15.1.8. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

2.15.2. All integral Piping systems shall be designed, constructed, and installed in a manner which will permit periodic tightness testing of the entire Piping system without the need for extensive excavation.

2.15.3. Acceptable designs for Underground Piping construction include Cathodically Protected metallic, fiberglass-reinforced plastic and flexible plastic Piping.

2.15.4. Use of metal Piping without either Sacrificial Anodes or impressed current Cathodic Protection is prohibited.

2.16. Metal Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.16.1. All metal Piping shall be coated or wrapped, and cathodically protected in the following manner:

2.16.1.1. The Piping is coated with a suitable Dielectric Material;

2.16.1.2. Field installed Cathodic Protection systems are designed and installed in accordance with accepted engineering practice and standards established under this Section;

2.16.1.3. Cathodically protected Piping systems of the Sacrificial Anode type shall be designed and installed to permit measurement of structure to soil potential six (6) months after installation and at least once every

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twelve (12) months thereafter. If inadequate Cathodic Protection is indicated, the cause shall be determined, and necessary Repairs made in accordance with accepted engineering practices and one of the Standards contained in this Section within ~~thirty (30)~~ sixty (60) days of the test;

2.16.1.4. Impressed current systems shall be designed to allow determination of current operating status. The impressed current source cannot be de-energized at any time including periods when the Facility is closed, except during power failures or during service work on the storage systems or the impressed current Cathodic Protection system, and it shall be equipped with a continuously operating meter to show that the system is working.

2.16.1.5. Where a Sacrificial Anode or impressed current system is used, a monitor station to check on the adequacy of the cathodic protection system shall be installed and kept in proper working condition. If at any time the monitor station shows that the electrical current necessary to prevent corrosion is not being maintained the cause shall be determined and necessary Repairs made in accordance with accepted engineering practices and one of the Standards contained in this Section within sixty (60) days of the failure, ~~cathodic protection system shall be restored,~~ and the Piping shall be tested for tightness in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.16.1.6. Except where Cathodic Protection is provided by impressed current, underground Piping systems shall have dielectric bushings, washers, sleeves or gaskets installed to electrically isolate the Piping system from the Tank and the dispenser. These dielectric connectors shall be chemically compatible with Regulated Substances, additives, corrosive soils and groundwater.

2.16.1.7. Cathodic Protection systems shall be maintained, operated, tested and Repaired in accordance with the requirements of §2.25. of this Part.

2.17. Fiberglass-Reinforced Plastic and Flexible Plastic Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.17.1. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the manufacturer's specifications and the following industry standards, as applicable:

2.17.1.1. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

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2.17.1.2. UL Standard 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe Connection Fittings for Petroleum Products and LP-Gas*.

2.17.1.3. NFPA 30, *Flammable and Combustible Liquids Code*.

2.17.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

2.17.1.5. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.17.1.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

2.17.2. The construction materials, joints and joint adhesives of all fiberglass-reinforced plastic and flexible plastic pipes shall be Compatible with the Regulated Substance and additives stored, soil and groundwater.

2.17.3. Pipes, fittings and adhesives shall be designed, fabricated, and factory tested in accordance with generally accepted structural, material and performance standards for underground Piping systems.

2.18. Suction Piping Design Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.18.1. Suction Piping shall be designed, constructed, and installed to meet the requirements of §2.18.1.1. or §2.18.1.2. of this Part:

2.18.1.1. Safe suction Piping systems shall be designed and constructed in accordance with the following requirements:

2.18.1.1.1. The below grade Piping shall be constructed so that if suction is released the contents of the pipe will drain back into the Tank; and

2.18.1.1.2. Only one (1) check valve shall be included in each suction ~~line~~Pipe; and

2.18.1.1.3. The check valve shall be located directly below and as close as practical to the suction pump; or

2.18.1.2. Suction Piping systems with a foot valve (U.S. Suction) shall be designed and constructed in accordance with the following requirements:

2.18.1.2.1. The below grade Piping shall be constructed so that the Piping slopes back to the Tank; and

2.18.1.2.2. A foot valve is installed at the Tank.

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2.19. General Release Detection Requirements for UST Piping for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.19.1. Owners and Operators shall equip all underground Piping that routinely contains Regulated Substances with a method, or combination of methods of Release Detection that can detect a Release from any portion of the underground Piping that routinely contains Regulated Substance.

2.19.2. UST Piping interstitial or sump monitoring systems shall be designed, constructed installed and maintained to detect a Release from any portion of the Piping that routinely contains Regulated Substance.

2.19.3. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

2.19.3.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

2.19.3.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §2.20. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

2.19.4. Owners and Operators shall implement the Indicated Release investigation procedure in Part E of these Regulations if the Piping Release Detection equipment or method shows indication of a Release.

2.20. Pressurized Piping Release Detection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.20.1. Line Leak Detector Requirements

2.20.1.1. Underground Piping that conveys Regulated Substances under pressure shall be equipped with an automatic ~~l~~Line leak detector.

2.20.1.2. The automatic ~~l~~Line leak detector shall alert Owners and Operators to the presence of a Release by restricting or shutting off the flow of the Regulated Substance through the Piping or triggering an audible or visual alarm**.**

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2.20.1.3. Mechanical and Electronic automatic ~~l~~Line leak detectors shall be capable of reacting to leaks of three (3) gallons per hour at ten (10) pounds per square inch line pressure within one (1) hour.

2.20.1.4. Owners and Operators shall conduct an annual test of the operation of the automatic ~~l~~Line leak detector while installed in the UST System and under normal operating conditions. ~~in accordance with the manufacturer's test protocol.~~ All Mechanical and Electronic automatic ~~l~~Line leak detectors shall pass a function test at least once every twelve (12) months at three (3) gallons per hour (gph) at ten (10) pounds per square inch line pressure within one (1) hour.

2.20.2. Tightness Test Requirements

2.20.2.1. Owners and Operators shall conduct an annual tightness test of the entire pressurized underground Piping system, including primary and secondary Piping, in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.20.2.2. Owners and Operators of UST Systems with underground pressurized Piping systems shall use a Piping tightness test method designed to detect a Release from any portion of the underground Piping system that routinely contains Regulated Substances.

2.20.2.3. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the annual ~~p~~Piping tightness test requirements in §2.20.2.1. of this Part if the following requirements are met:

2.20.2.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

2.20.2.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the ~~automatic tank gauge~~ interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

2.20.2.3.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection ~~automatic tank gauge~~ records for the life of the UST System; and

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~~The interstitial monitoring device shall alert the Owner and Operator to the presence of a Release by shutting off the flow of the Regulated Substance; and~~

2.20.2.3.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §2.28. of this Part; and

2.20.2.3.5. All Containment Sumps shall comply with the testing and monitoring requirements of §2.26. of this Part~~.~~

2.21. Suction Piping Release Detection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.21.1. Release Detection is not required for suction Piping that is designed and constructed to meet the requirements of §2.18.1.1.of this Part.

2.21.2. Owners and Operators of suction Piping that is designed and constructed in accordance with §2.18.1.2. shall conduct a ~~l~~Line tightness test a minimum of once every three (3) years in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*; or~~.~~

2.21.3. Owners and Operators of UST Systems with underground suction Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with Piping Release Detection requirements of §2.19. and the line tightness testing requirements of §2.21.2. of this Part if the following requirements are met:

2.21.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

2.21.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

2.21.3.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection records for the life of the UST System; and

2.21.3.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §2.28. of this Part; and

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2.21.3.5. All Containment Sumps shall comply with the testing and monitoring requirements of §2.26. of this Part

2.22. Spill Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.22.1. No Person shall construct, install, use or maintain any UST System without providing a reliable means of ensuring that Releases due to spilling do not occur.

2.22.2. To prevent spilling associated with Regulated Substance transfer to the UST System, Owners and Operators shall comply with the requirements of one of the following industry standards:

2.22.2.1. NFPA 30, *Flammable and Combustible Liquids Code*; or

2.22.2.2. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*; or

2.22.2.3. API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*.

2.22.3. Owners and Operators shall equip UST Systems with an impervious spill containment device that forms a liquid tight seal around the fill pipe. The spill containment device shall consist of one of the following:

2.22.3.1. Impervious Materials which form a seal around the UST fill pipe with an optional drain leading to an overfill collection device; or

2.22.3.2. An impervious container surrounding the fill pipe which will collect any overfill or spill and will allow the Regulated Substance to drain back into the UST when there is sufficient ullage space.

2.22.4. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in the spill containment device. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

2.22.5. All reasonable precautions shall be taken to prevent UST overfilling, spilling or dripping.

2.22.6. Owners and Operators shall test spill containment devices once every twelve (12) months for tightness, or in accordance with the manufacturer's specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

2.22.7. Spill containment devices of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §2.22.6. of this Part if the following requirements are met:

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2.22.7.1. Owners and Operators shall check the interstitial monitoring at a minimum of once every thirty (30) calendar days for evidence of a Release; and

~~2.22.7.~~2.22.7.2. Owners and Operators shall maintain written records of the required monitoring in §1.21.8.1. of this Part for the life of the UST System.

2.22.8. Owners and Operators shall report, investigate and clean up any spills in accordance with Part E of these Regulations.

2.23. Overfill Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.23.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of detecting and preventing an overfill.

2.23.2. The Person In Charge of the transfer of Regulated Substance to the Tank shall adhere to proper safety precautions and procedures for transfer as found in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids* or API RP 1621, *Bulk Liquid Stock Control at Retail Outlets* and shall comply with the following:

2.23.2.1. The Person In Charge of the transfer operation shall first check the UST to ensure that the volume available in the UST is greater than the volume of Regulated Substance to be transferred to the UST before the transfer is made; and

2.23.2.2. During the transfer, the Person In Charge shall continuously monitor the entire transfer operation to prevent an Overfill Release; and

2.23.2.3. At the conclusion of the transfer, the Person in Charge shall collect any Regulated Substance which remains in the transfer hose and shall ensure it is properly managed and does not reach the environment; and

2.23.2.4. The Person in Charge shall take all precautions to prevent spilling and dripping.

2.23.3. Owners and Operators shall install and maintain overfill protection equipment that shall:

2.23.3.1. Automatically shut off the flow into the UST when the UST is no more than ninety-five percent (95%) full; or

2.23.3.2. Alert the transfer operator when the UST is no more than ninety percent (90%) full by restricting the flow into the UST or triggering a high level alarm; or

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2.23.3.3. Restrict flow 30 minutes prior to overfilling, alert the Operator 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 Tank are exposed to Regulated Substance due to overfilling; or

2.23.3.4. An automatic partial flow shut-off float vent or vapor valve installed inside the UST(s) set to restrict flow when the UST is no more than ninety (90%) full. Vent or vapor restriction devices shall not be installed in UST Systems that are equipped with suction pumps, remote fill ~~lines~~Piping, remote vapor ~~lines~~Piping or receive pressurized deliveries.

2.23.4. UST Systems that receive pressurized deliveries require a high level alarm that is triggered at no more than ninety (90%) percent full for overfill protection or an automatic flow shut-off valve designed for pressurized deliveries.

2.23.5. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

2.24. Fill Line Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.24.1. Owners and Operators shall clearly mark all fill lines for UST Systems to indicate the size of the Tank and the type of Regulated Substance stored. These markings shall be as follows:

2.24.1.1. A label or permanent tag at the fill connection which states the size of the UST and the specific type of Regulated Substance stored; and

2.24.1.2. A color-symbol system shall be implemented according to the following requirements:

2.24.1.2.1. Fill and vapor recovery covers shall be marked consistent with API RP 1637, Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals or API IP 1542, Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuel Equipment; and

2.24.1.2.2. A different color-symbol shall be used for each type of Regulated Substance or grade of substance being stored at the Facility.

2.24.2. Pipes and other openings not used for transfer of Regulated Substance at the storage Facility shall not be painted any color which would be associated

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with the color-symbol designated for marking the Regulated Substance stored at the Facility. It is particularly important that openings with access to soil and ground water, such as Monitor Wells, Release Detection tubes, vadose zone vapor detection tubes and U-tubes, not be confused with Regulated Substance fill lines.

2.25. Sacrificial Anode and Impressed Current Cathodic Corrosion Protection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.25.1. General Requirements

2.25.1.1. Owners and Operators of steel UST systems with corrosion protection systems shall install**,** operate and maintain the system in accordance with the following industry standards:

2.25.1.1.1. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*; and

2.25.1.1.2. NACE TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*; and

2.25.1.1.3. NFPA 30, *Flammable and Combustible Liquids Code*; and

2.25.1.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages.*

2.25.1.2. Owners and Operators of steel UST Systems with corrosion protection systems shall maintain and operate the corrosion protection system to continuously provide corrosion protection to the metal components of the UST System that routinely contain a Regulated Substance and are in contact with the ground to ensure that Releases due to corrosion are prevented for the life of the UST System.

2.25.1.3. Owners and Operators shall ensure the integrity of the UST System utilizing one of the following methods prior to the addition of a Cathodic Protection system to an existing UST System:

2.25.1.3.1. The Tank shall be internally inspected to ensure that the Tank is structurally sound and free of corrosion holes prior to installing the Cathodic Protection system; or

2.25.1.3.2. The Tank has been installed for less than ten (10) years and is monitored monthly for Releases in accordance with the requirements of an approved Release Detection method in §2.9 of this Part; or

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2.25.1.3.3. The Tank has been installed for less than ten (10) years and is assessed for corrosion holes by conducting two (2) ~~p~~Precision ~~Tank t~~Tests that meet the requirements of §2.9.7. of this Part. The first Precision Test shall be conducted prior to installing the Cathodic Protection system. The second Precision Test shall be conducted between three (3) and six (6) months following the first operation of the Cathodic Protection system; or

2.25.1.3.4. A third party approved integrity assessment method approved by the Department.

2.25.2. Sacrificial Anode Cathodic Protection System Operation and Maintenance Requirements

2.25.2.1. Owners and Operators shall test all UST Systems equipped with Sacrificial Anode Cathodic Protection systems for proper operation using standard corrosion engineering practices and in accordance with the following requirements:

2.25.2.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and the manufacturer's specifications, and shall include the following:

2.25.2.1.1.1. A minimum of three (3) voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

2.25.2.1.1.2. A minimum of one (1) voltage reading for every ten (10) feet of Piping.

2.25.2.2. All Sacrificial Anode Cathodic Protection systems that protect UST System components shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) months of installation and at least once every twelve (12) months thereafter.

2.25.2.3. The Sacrificial Anode Cathodic Protection system shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) weeks after underground work is performed at or near a site with a Sacrificial Anode Cathodic Protection system and once every twelve (12) months thereafter.

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2.25.2.4. Owners and Operators shall Repair or replace the Sacrificial Anode Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the requirements of §1.6 of this Part if the Sacrificial Anode Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the corrosion protection system.

2.25.2.5. UST System Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of a Sacrificial Anode Cathodic Protection system.

2.25.2.6. The Department shall approve, either verbally or in writing, all Cathodic Protection repair or replacement plans prior to work commencing.

2.25.2.7. The Department shall review the Release Detection and Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST System if the Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the corrosion protection system.

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2.25.2.8. The following information shall be submitted to the Department prior to Repairs to the Sacrificial Anode Cathodic Protection system:

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2.25.2.8.1. Results of one of the following:

2.25.2.8.1.1. The two (2) most recent Sacrificial Anode Cathodic Protection system tests including the failed test, or

2.25.2.8.1.2. The results of an internal assessment, or

2.25.2.8.1.3. The results of a third party approved integrity assessment; and

2.25.2.8.2. Records of the Tank Release Detection method from the date of the most recent passed Sacrificial Anode Cathodic Protection test.

2.25.2.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

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~~2.25.2.8.~~2.25.2.10. The use of alternate methods of monitoring shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and shall only be used with prior written approval from the Department.

~~2.25.2.9.~~2.25.2.11. Owners and Operators shall maintain a record of the operation of Sacrificial Anode Cathodic Protection systems to demonstrate compliance with the requirements of this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~2.25.2.9.1.~~2.25.2.11.1. The results of all tests and inspections of the Sacrificial Anode Cathodic Protection system.

~~2.25.2.10.~~2.25.2.12. Impressed current Cathodic Protection systems shall not be utilized as a Repair, Upgrade or Replacement after ~~the Effective Date of these Regulations~~January 11, 2008.

2.25.3. Impressed Current Cathodic Protection ~~Requirements~~ Operation and Maintenance Requirements

2.25.3.1. Owners and Operators shall test all UST Systems equipped with impressed current Cathodic Protection systems for proper operation using standard corrosion engineering practices in accordance with the following requirements:

2.25.3.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and the manufacturer's specifications and shall include the following:

2.25.3.1.1.1. A minimum of three (3) instant off voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) instant off voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

2.25.3.1.1.2. A minimum of one (1) instant off voltage reading for every ten (10) feet of Piping.

2.25.3.2. Owners and Operators shall have all impressed current Cathodic Protection systems that protect underground Facility components tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) months of installation and at least once every twelve (12) months thereafter.

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2.25.3.3. Owners and Operators shall have all impressed current Cathodic Protection systems tested by an individual certified by a nationally recognized industry standard setting organization and in accordance with Department standards within six (6) weeks after underground work is performed at or near a site with an impressed current Cathodic Protection system and at least once every twelve (12) months thereafter.

2.25.3.4. Owners and Operators shall Repair or replace the impressed current Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* if the impressed current Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the impressed current corrosion protection system.

2.25.3.5. Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of an impressed current Cathodic Protection system.

2.25.3.6. The Department shall approve, either verbally or in writing, all impressed current Cathodic Protection system Repair or replacement plans prior to work commencing.

2.25.3.7. The Department shall review the Release Detection and impressed current Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST system if the impressed current Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the impressed current corrosion protection system.

2.25.3.8. The following information shall be submitted to the Department prior to Repairs to the impressed current Cathodic Protection system:

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2.25.3.8.1. Results of one of the following:

2.25.3.8.1.1. The two (2) most recent impressed current Cathodic Protection system tests including the failed test, or

2.25.3.8.1.2. The results of an internal assessment, or

2.25.3.8.1.3. The results of a third party approved integrity assessment; and

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2.25.3.8.2. Records of the Tank Release Detection method from the date of the most recent passed impressed current Cathodic Protection test; and

~~2.25.3.7.1.~~2.25.3.8.3. Records of required rectifier readings from the date of the most recent passed impressed current Cathodic Protection test.

2.25.3.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

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~~2.25.3.8.~~2.25.3.10. The impressed current source cannot be de-energized at any time including periods when the Facility is closed except during power failures or during service work on the UST Systems or the impressed current Cathodic Protection system.

~~2.25.3.9.~~2.25.3.11. The use of alternate methods of testing shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and shall only be used with prior written approval from the Department.

~~2.25.3.10.~~2.25.3.12. Owners and Operators shall record all rectifier readings at least once every thirty (30) calendar days. If the monthly rectifier reading demonstrates the impressed current Cathodic Protection is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations the procedures in §2.25.3.4. shall be followed.

~~2.25.3.11.~~2.25.3.13. Owners and Operators shall have all impressed current Cathodic Protection systems inspected once every twelve (12) months by an individual certified by a nationally recognized industry standard setting organization and in accordance with Department standards. Inspection shall at a minimum include a check for electrical shorts, ground connections, meter accuracy, and circuit resistance. The effectiveness of isolating devices, continuity bonds, and insulators shall be evaluated during the annual surveys.

~~2.25.3.12.~~2.25.3.14. Owners and Operators shall maintain a record of the operation of impressed current Cathodic Protection systems to demonstrate compliance with the performance standards in this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~2.25.3.12.1.~~2.25.3.14.1. The results of all tests and inspections of the impressed current Cathodic Protection system; and

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~~2.25.3.12.2.~~2.25.3.14.2. The rectifier readings as required in §2.25.3.10. of this Part.

2.26. Containment Sump Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.26.1. When a sump sensor is used to comply with the Tank or Piping Release Detection requirements of §2.9., §2.18., §2.19., ~~or~~ §2.20.~~-~~ or §2.21. of this Part, the Containment Sump shall be Product Tight and shall be tested to ensure it is Product Tight once every thirty-six (36) months.

2.26.2. All dispenser, Tank top, transition and any other Containment Sump tightness testing methods utilized shall be in accordance with the manufacturer's specifications or shall be approved in advance by the Department.

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2.26.3. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any Containment Sump.

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2.27. Dispenser Sump Requirements for Dispenser Sumps Installed After ~~The Effective Date Of These Regulations~~January 11, 2008 On Existing UST Systems Storing Regulated Substance Excluding Heating Fuel or Hazardous Substance

2.27.1. Dispenser sumps shall be designed and installed such that Regulated Substance accumulating within the sump is contained and can be detected or is conveyed to the Tank top sump via the Piping interstitial space where it is contained and can be detected.

2.28. Testing and Monitoring Procedures for Sump and Interstitial Sensors for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.28.1. Owners and Operators shall inspect and test all sump and interstitial sensors used to comply with the Release Detection requirements of §2.9. or §2.19. or §2.20. or §2.21. of this Part, or the requirements of §2.22.7. of this Part, ~~-~~once every twelve (12) months in accordance with the manufacturer's specifications or as directed by the Department to verify proper sensor operation.

2.28.2. All sensors installed in a sump for the purpose of detecting a Release from the UST System shall be installed no more than one inch (1") from the bottom of the sump such that the sensor is capable of detecting any accumulation of Regulated Substance.

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2.29. Repair, Retrofit and Upgrade Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

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2.29.1. All Repairs, Upgrades, Retrofits and replacements to existing UST Systems shall meet the applicable design, installation, maintenance and operational standards in Part B, §1 of these Regulations or shall be approved by the Department prior to installation.

2.29.2. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch in accordance with the requirements of Part E, §1.2. of these Regulations.

~~2.29.2.Documentation of Repair completion shall be submitted to the Department in accordance with Part E, §2.2.2. of these Regulations.~~

2.29.3. All equipment installed after ~~the Effective Date of these Regulations~~January 11, 2008 shall be installed, operated and maintained such that manufacturer's warranties are not voided.

2.29.4. Owners and Operators shall ensure that Repairs will prevent Releases due to structural failure or corrosion as long as the UST System is used to store Regulated Substance.

2.29.5. Owners and Operators shall test the Cathodic Protection system in accordance with §2.25. of this Part within six (6) weeks and once every twelve (12) months thereafter following the Repair of any Cathodically Protected UST System to ensure it is operating properly.

2.29.6. Owners and Operators shall maintain records for each Repair for the Operational Life of the UST System.

2.29.7. After any Repair, Retrofit or Upgrade ~~-~~to an UST System, Owners and Operators shall have the applicable portions of the UST System tested for tightness in accordance with ~~§2.9.7. of this Part~~ these Regulations before the UST System is placed into service.

2.29.8. Repairs to fiberglass-reinforced plastic Tanks may be made only by the manufacturer or by its authorized representatives.

2.29.9. Owners and Operators may not Repair holes in Piping and fittings, but shall replace any piece of such Piping or fittings from which a Release has occurred. Replacement Piping and fittings shall meet all applicable Piping requirements in §1 of this Part. Loose fittings and joints in Piping that have been tightened to eliminate leakage may be put back into service.

2.29.10. At any time during the course of a Repair, Retrofit or Upgrade there is an indication of a Release the requirements of Part E of these Regulations must be followed.

2.29.11. At any time excavation of soil or removal of concrete, asphalt or other cover is required during the course of a Repair, Retrofit or Upgrade, Owners and

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Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Repair, Retrofit or Upgrade of the UST System.

2.29.12. Within sixty (60) days of completion of a Repair, Retrofit or Upgrade of an UST System Owners and Operators and UST Contractors shall submit documentation to the Tank Management Branch including but not limited to the following:

2.29.12.1. Repair, Retrofit or Upgrade completion documentation; and

2.29.12.2. Results of sampling required in Part E of these Regulations or §2.29.10. of this Part; and

2.29.12.3. Results of any UST System tests required by the Department.

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2.30. Used Oil Underground Storage Tank Systems Requirements

2.30.1. General Requirements

2.30.1.1. Owners and Operators of UST Systems used solely for the storage of Used Oil shall comply with all the requirements of these Regulations except where modifications are specifically listed in this Section.

2.30.2. Release Detection Requirements for Used Oil UST Systems

2.30.2.1. Owners and Operators shall monitor Used Oil UST Systems for Releases through the use of one of the inventory control procedures in §2.30.3. of this Part and at least one of the following Release Detection methods: ~~as prescribed in §2.9. of this Part:~~

2.30.2.1.1. Interstitial ~~M~~monitoring as prescribed in §2.9 of this Part; or

2.30.2.1.2. Automatic ~~T~~tank ~~G~~gauge performing monthly Tank tightness testing as prescribed in §2.9 of this Part; or

2.30.2.1.3. Tank ~~T~~tightness ~~T~~test as prescribed in §2.9 of this Part ; or

2.30.2.1.4. Manual ~~T~~tank ~~G~~gauging as prescribed in §2.30.4.; or

2.30.2.1.5. Department ~~A~~approved ~~A~~alternative ~~M~~method.

~~2.30.2.2.~~2.30.3. Inventory Control Requirements for Used Oil UST Systems

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~~2.30.2.2.1.~~2.30.3.1. Owners and Operators of UST Systems used solely for the storage of Used Oil may utilize inventory control procedures performed in accordance ~~shall comply~~ with the inventory control ~~R~~requirements of §2.9.3. of this Part to comply with inventory control requirements; or~~.~~

2.30.3.2. Owners and Operators of UST Systems with a storage capacity less than or equal to two thousand (2,000) gallons and~~,~~ used solely for the storage of Used Oil, may utilize manual ~~T~~tank gauging performed in accordance with the requirements of §2.30.4. of this Part to comply with inventory control requirements; or

~~2.30.2.2.2.~~2.30.3.3. Owners and Operators of UST Systems used solely for the storage of Used Oil may utilize modified inventory control procedures performed in accordance with the requirements of §2.30.5. to comply with inventory control requirements.

~~2.30.2.3.~~2.30.4. ~~Methods of Release Detection~~Manual Tank Gauging Requirements for Used Oil UST Systems

~~2.30.2.3.1.~~2.30.4.1. Owners and Operators of UST Systems with a storage capacity of one thousand (1,000) gallons or less and~~,~~ used solely for the storage of Used Oil, may utilize manual ~~T~~tank gauging to comply with Release Detection requirements when used in conjunction with inventory control.

~~2.30.3.~~2.30.4.2. Owners and Operators of UST Systems, used solely for the storage of Used Oil, shall not utilize manual ~~T~~tank gauging to simultaneously comply with both Release Detection and inventory control requirements.

~~2.30.4.~~2.30.4.3. Owners and Operators shall utilize manual tank gauging test procedures that meet the following requirements:

~~2.30.4.1.~~2.30.4.3.1. Once every seven (7) days the Used Oil UST shall be tested. No ~~Regulated Substance~~ Used Oil shall be added to or removed from the Used Oil UST during the prescribed test period in Table 2 of this Part; and ~~.~~

~~2.30.4.2.~~2.30.4.3.2. At the beginning and at the end of the test period the liquid level in the Used Oil UST shall be measured to the nearest one-eighth (1/8) inch and the measurements recorded; and~~.~~

~~2.30.4.3.~~2.30.4.3.3. At the end of each test period the change in Tank volume shall be calculated and compared to the weekly test standard in Table 2 of this Part; and

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~~2.30.4.4.~~2.30.4.3.4. At a minimum of once every thirty (30) calendar days the monthly cumulative change in Tank volume shall be compared to the monthly test standard in Table 2 of this Part; and

~~2.30.4.5.~~2.30.4.3.5. If at any time the weekly or monthly change in Tank volume exceeds the test standard in Table 2 of this Part, Owners and Operators shall notify the Department of an indicated Release within twenty-four hours of the end of the test period; and

~~2.30.4.6.~~2.30.4.3.6. Owners and Operators shall keep all manual tank gauging records utilized to comply with inventory control requirements on file for a minimum of three (3) years and shall make the records available to the Department within ten (10) days of the Department's request; and

~~2.30.4.7.~~2.30.4.3.7. Owners and Operators shall keep all manual tank gauging records utilized to comply with Release Detection requirements on file for the life of the UST System and shall make the records available to the Department within ten (10) days of the Department's ~~upon~~ request.

Table 2

Tank Size	**Minimum Duration of Test**	**Weekly Standard (1 test)**	**Monthly Standard (4-test average)**
Up to 550 gallons	36 hours	10 gallons	5 gallons
551-1,000 gallons (when Tank diameter if 64")	44 hours	9 gallons	4 gallons
551-1,000 gallons (when Tank diameter is 48")	58 hours	12 gallons	6 gallons
1,001 -2,000 gallons (also requires 2nd Release Detection method)	36 hours	26 gallons	13 gallons

2.30.5. Modified Inventory Control Requirements for Used Oil UST Systems

2.30.5.1. Owners and Operators shall utilize modified inventory control procedures that meet the following requirements:

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2.30.5.1.1. The Regulated Substance level shall be measured in gallons to the nearest one-eighth (1/8") of an inch and shall be recorded each day that an UST has Used Oil added to or withdrawn from the UST, or at least once every seven (7) days; and

2.30.5.1.2. The water level shall be measured in gallons to the nearest one-eighth (1/8") of an inch and shall be recorded at least once every seven (7) days. If the water measures two (2) inches or more, the water shall be removed from the UST within seven (7) days, and shall be properly disposed in accordance with all local, state and federal requirements; and

2.30.5.1.3. The amount of Used Oil removed from the UST shall be recorded, and receipts for Used Oil removal shall be maintained and made available to the Department upon request; and

2.30.5.1.4. If there is an unexplainable consistent negative trend in any given month, or if the amount of Used Oil removed from the UST is less than the amount indicated by the modified inventory control, the Department shall be notified, and the Release investigation procedures in Part E of these Regulations shall be followed; and

2.30.5.1.5. Failure to maintain modified inventory control records for Used Oil UST Systems may be cause for the Department to require Tank tightness test(s) and inspection(s) of the UST Facility at the expense of Owners and Operators.

2.30.6. Overfill Requirements for Used Oil UST Systems

~~2.30.5.1.~~2.30.6.1. Owners and Operators of Used Oil UST Systems shall comply with the overfill requirements in §~~1.22~~2.23. of this Part or shall have a written standard operating procedure that includes the following minimum requirements:

~~2.30.5.1.1.~~2.30.6.1.1. Determine and record the maximum gallons allowable such that the UST shall not be more than ninety percent (90%) full; and

~~2.30.5.1.2.~~2.30.6.1.2. The ~~Regulated Substance~~ level of Used Oil shall be measured each day an UST has Used Oil added to or withdrawn from the UST to determine the current amount of ullage space available; and

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2.30.6.1.3. The amount of Used Oil added shall be such that the UST is not more than ninety percent (90%) full; and

~~2.30.5.1.3.~~2.30.6.1.4. The amount of Used Oil ~~or~~ removed from the UST shall be recorded; and

~~2.30.5.1.4.~~2.30.6.1.5. Receipts for Used Oil removal shall be maintained and made available to the Department upon request to ensure that the UST is not filled beyond ninety percent (90%) capacity.

~~2.30.6.~~2.30.7. Spill Containment Requirements for Used Oil UST Systems

~~2.30.6.1.~~2.30.7.1. No Person shall construct, install, use or maintain a UST storing Used Oil without providing a reliable means of ensuring that Releases due to spilling do not occur.

~~2.30.6.2.~~2.30.7.2. Owners and Operators shall equip Used Oil UST Systems with an impervious spill containment device that forms a liquid tight seal around any fill pipe or pump out location.

~~2.30.6.3.~~2.30.7.3. All spill containment devices shall have a minimum containment capacity of five (5) gallons or be of a design that provides equivalent environmental protection.

~~2.30.6.4.~~2.30.7.4. Owners and Operators shall immediately remove water, Used Oil or debris that accumulates in the spill containment device. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

~~2.30.6.5.~~2.30.7.5. All precautions shall be taken to prevent Tank overfilling, spilling and dripping.

~~2.30.6.6.~~2.30.7.6. Owners and Operators shall test spill containment devices once every twelve (12) months for tightness, in accordance with the manufacturer's specifications, or ~~when deemed necessary~~ as directed by the Department to determine if a threat to human health, safety or the environment exists.

~~2.30.6.7.~~2.30.7.7. Owners and Operators shall report, investigate and clean up any spills and overfills in accordance with Part E of these Regulations.

2.31. Emergency Generator Underground Storage Tank Systems Requirements

2.31.1. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment shall comply

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with all the requirements of these Regulations except where modifications are specifically listed in this Section.

~~2.31.1.~~2.31.2. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment are exempt from ~~I~~inventory control ~~R~~requirements of §2.9.3.of this Part.

~~2.31.2.~~2.31.3. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment may utilize tank tightness testing as a method of Release Detection for the life of the UST provided the tank tightness testing is performed in accordance with the tank tightness test requirements in §2.9.7.2 -2.9.7.6.4..of this Part, or may utilize any method in §2.9. of this Part.

~~2.31.3.~~2.31.4. Owners and Operators of UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment shall implement the requirements of §2.9., Release Detection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance, with the exceptions listed in §2.31.1. and §2.31.2. of this Part, by January 1, 2009.

~~2.31.4.~~2.31.5. UST Systems used solely for the storage of Regulated Substance to power emergency generation equipment are exempt from the Piping Release requirements of §§2.19., 2.20., and 2.21. of this Part.

2.32. Routine Inspection Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

~~2.32.2.~~2.32.1. Owners and Operators shall conduct an ~~routine~~ inspection at an interval no less frequently than once every twenty-eight (28) to thirty-one (31) ~~once every thirty (30)~~ calendar days to monitor the condition of the UST System including but not limited to all dispensers, dispenser sumps, access ports, spill containment devices, sumps and Containment Sumps. The routine inspection shall at a minimum include the following:

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~~2.32.2.1.~~2.32.1.1. The removal of all dispenser covers and visual inspection for any evidence of a Release of a Regulated Substance and inspection of all fittings, couplings and filters; and

~~2.32.2.2.~~2.32.1.2. The removal of all Containment Sump and sump covers and visual inspection of the sump for any evidence of a Release of a Regulated Substance or intrusion of water; and

~~2.32.2.3.~~2.32.1.3. The inspection of all access ports to make sure that the covers, caps and adaptors are tightly sealed; and

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~~2.32.2.4.~~2.32.1.4. The removal of all spill containment device covers and inspection to ensure all spill containment devices are empty and free of debris, water or Regulated Substance.

~~2.32.3.~~2.32.2. A record of all routine inspections shall be kept on file by Owners and Operators for a minimum of three (3) years and shall be made available to the Department upon request. The records shall at a minimum include the results of all inspections including any Repairs made.

~~2.32.4.~~2.32.3. If at any time during a routine inspection evidence of a Release of Regulated Substance is discovered Owners and Operators shall follow the investigation requirements of Part E of these Regulations.

2.33. Internal Lining Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

2.33.1. An internal lining may be added to UST Systems to improve the ability of an UST System to prevent the release of Regulated Substance.

2.33.2. An internal lining ~~may be~~ shall not be added to UST Systems to meet corrosion protection requirements after ~~the Effective Date of these Regulations~~January 11, 2008.

2.33.3. The internal lining installation, operation and maintenance shall meet the following requirements:

2.33.3.1. The lining shall be installed in accordance with the following industry standards:

2.33.3.1.1. API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*; and

2.33.3.1.2. NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks*; and

2.33.3.1.3. NLPA Standard 631, Chapter B, *Future Internal Inspection Requirements for Lined Tanks*.

2.33.3.2. The lined Tank shall be tested for tightness in accordance with §2.9.7. of this Part and found to be tight before the Tank is put back into service; and

2.33.3.3. Within ten (10) years after lining, and every five (5) years thereafter, Owners and Operators shall conduct an internal inspection of the lined Tank in accordance with NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks* and Chapter B, *Future Internal Inspection*

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Requirements for Lined Tanks, and API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*. At the time of the inspection, the lined Tank shall be structurally sound and comply with the original design specifications. If any damage is found, Repairs shall be made in accordance with standard engineering practice, industry standards and the requirements of these Regulations or the Tank shall be replaced in accordance with the requirements in §1 of this Part.

2.33.3.4. When an internally lined bare steel Tank is not inspected at a minimum in accordance with the intervals required in §2.33.3.3. of this Part and subsequently fails an internal inspection the Tank shall be Removed or Closed In Place in accordance with these Regulations.

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2.34. Additional Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance installed prior to July 12, 1985

2.34.1. Not later than January 1, 1991, no Person shall own or operate an UST System Storing Regulated Substance excluding Heating Fuel or Hazardous Substance installed prior to July 12, 1985 that is not in compliance with one of the following:

2.34.1.1. The permanent Removal or Closure In Place of the UST System in accordance with the requirements of Part B, §4 these Regulations and the applicable hydrogeologic investigation and Remedial Action requirements of Part E of these Regulations; or

2.34.1.2. The requirements of the following:

2.34.1.2.1. The Tank release detection requirements of §2.9 of this Part; and

2.34.1.2.2. The ~~p~~Piping release detection requirements of §2.19, and §2.20 or §2.21 of this Part; and

2.34.1.2.3. The spill protection requirements of §2.22 of this Part; and

2.34.1.2.4. The overfill protection requirements of §2.23 of this Part; and

2.34.1.2.5. The fill ~~l~~Line protection requirements of §2.24 of this Part.

2.34.2. Not later than December 22, 1998, no Person shall own or operate an UST System Storing Regulated Substance excluding Heating Fuel or Hazardous Substance installed prior to July 12, 1985 that is not in compliance with the requirements of one of the following:

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2.34.2.1. UST System design requirements of §2.3. of this Part; or

2.34.2.2. UST System Cathodic Protection requirements of §2.6. and §2.25. of this Part; or

2.34.2.3. UST System Internal Lining Requirements of §2.33. of this Part; or

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~~2.34.2.3.~~2.34.2.4. UST System Cathodic Protection requirements of §2.6. and §2.25. of this Part and UST System Internal Lining requirements of §2.33. of this Part; or

~~2.34.2.4.~~2.34.2.5. The permanent Removal or Closure In Place of the UST System in accordance with the requirements of Part B, §4 of these Regulations and the applicable hydrogeologic investigation and Remedial Action requirements of Part E of these Regulations.

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Section 3. Change In Service Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.1. Change In Service Notification Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.1.1. Owners and Operators shall notify the Department of all Changes In Service in accordance with the requirements of §4.0 of Part A of these Regulations.

3.2. General Requirements for Change in Status from In Service to Out Of Service for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.2.1. Owners and Operators shall continue operation and maintenance of corrosion protection in accordance with the applicable requirements of §1 and §2 of this Part when an UST System is Out of Service.

3.2.2. Owners and Operators shall continue operation and maintenance of Release Detection in accordance with the applicable Release Detection requirements for Tanks and Piping in §1 and §2 of this Part, when the Out of Service ~~Tank~~ UST System is not empty. Release Detection is not required if the UST System has been rendered empty

3.2.3. The UST System is empty when all Regulated Substances have been removed using commonly employed practices so that no more than one inch or 2.5 centimeters of residue, or 0.3 percent by weight of the total capacity of the UST System, remains in the system.

3.2.4. Owners and Operators shall comply with the routine inspection requirements of §1.31. or §2.32. of this Part as applicable, if the Out of Service UST System is not empty and requires Release Detection in accordance with §3.2.2. of this Part.

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~~3.2.3.~~3.2.5. When any UST System is Out of Service for three (3) months or more, Owners and Operators shall: ~~comply with the following requirements:~~

~~3.2.3.1.~~3.2.5.1. Leave vent ~~line~~Pipes open and functioning; and

~~3.2.3.2.~~3.2.5.2. Cap and secure all other ~~line~~Pipes, pumps, manways, and Ancillary Equipment.

~~3.2.4.~~3.2.6. When an UST System is Out Of Service for twelve (12) months Owners and Operators shall:

~~3.2.4.1.~~3.2.6.1. Permanently Remove or Close in Place the UST System in accordance with the applicable requirements of these Regulations; or

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~~3.2.4.2.~~3.2.6.2. Render the UST System empty in accordance with the definition in §3.2.~~2~~3. of this Part and complete a Site Assessment in accordance with §3.4. of this Part including any required hydrogeologic investigation and Remedial Action in accordance with Part E of these Regulations.

3.3. General Requirements for Change in Status from Out of Service to In Service for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.3.1. Prior to a change in status of an UST System from Out of Service to In Service, for an UST System that has been Out of Service for three (3) months or more, Owners and Operators shall ensure that the UST System meets the following requirements prior to being placed In Service:

3.3.1.1. The UST System shall meet the requirements of §1 or §2 of this Part as applicable; and

3.3.1.2. The UST System shall be tested for tightness ~~in accordance with the requirements of §2.9.7.of this Part~~ as applicable; and

3.3.1.3. All Cathodically Protected UST Systems shall be tested and all necessary Repairs made in accordance with the requirements of §2.25. of this Part.

3.4. Change In Service Site Assessment Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.4.1. Within thirty (30) days of rendering the UST System empty as required in §3.2.~~4~~6.2. of this Part, Owners and Operators shall complete a Site Assessment designed to measure for the presence of a Release where contamination is most likely to be present. The Site Assessment is not restricted to the property containing the UST System. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

3.4.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §3.4.1. of this Part, or by any other manner, Owners and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

3.5. Change In Service Recordkeeping Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

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3.5.1. Owners and Operators shall submit the following documents to the Department within thirty (30) days of the completion of the Site Assessment required in §3.4. of this Part:

3.5.1.1. A site plan detailing the UST(s) location and surrounding area; and

3.5.1.2. The approved Site Assessment plan with sampling points clearly marked; and

3.5.1.3. Chain of custody for all samples submitted for laboratory analysis; and

3.5.1.4. Results of any on-site screening performed; and

3.5.1.5. Laboratory test results for all samples submitted for laboratory analysis ; and

3.5.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change In Service of the UST System, including manifests and receipts for soil, water, and Regulated Substances.

3.6. Financial Responsibility Requirements for Out of Service UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

3.6.1. Owners and Operators shall comply with the requirements of Part F of these Regulations for Out of Service UST Systems until the UST System is permanently Removed or Closed In Place in accordance with the requirements of this Part and all requirements of Part E of these Regulations are completed.

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Section 4. Removal or Closure in Place Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.1. Removal or Closure in Place Notification Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.1.1. Owners and Operators shall notify the Department of all Removals or Closures in Place in accordance with the requirements of §4.0 of Part A of these Regulations.

4.2. Removal or Closure in Place General Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.2.1. The Removal and Closure in Place procedures shall comply with the following industry standards:

4.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

4.2.1.2. API RP 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

4.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

4.3. Removal or Closure in Place Site Assessment Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.3.1. At the time of Removal of an UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Removal of the UST System.

4.3.2. At the time of Closure in Place of an UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation. The Site Assessment shall be completed within ten (10) days of the Closure in Place of the UST System.

4.3.3. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §4.3.1 and §4.3.2. of this Part, or by any other manner,

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Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

4.4. Removal or Closure in Place Recordkeeping Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.4.1. Owners and Operators shall submit the following documents to the Department within sixty (60) days of the Removal or Closure in Place of an UST System :

4.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

4.4.1.2. A site map with sampling points clearly marked; and

4.4.1.3. Results of any on-site screening performed; and

4.4.1.4. Chain of custody for all samples submitted for laboratory analysis; and

4.4.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

4.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Removal of the UST System, including manifests and receipts for soil, water, and Regulated Substances and the UST System disposal; and

4.4.1.7. Documentation of Tank cleaning prior to UST System Closure in Place.

4.5. Removal or Closure in Place Financial Responsibility Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.5.1. Owners and Operators shall comply with the requirements of Part F of these Regulations until the UST System is permanently Removed or Closed In Place in accordance with the requirements of this Part and all requirements of Part E of these Regulations are completed.

4.6. Applicability to Previously Removed or Closed In Place UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

4.6.1. When a Release is suspected from a previously Removed, Closed In Place or abandoned UST System, the Owner, Operator and Responsible Party shall comply with the requirements of Part E of these Regulations. If a Release is confirmed the Owner, Operator and Responsible Party shall Remove or Close In Place the UST System in accordance with all applicable requirements of these Regulations.

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Section 5. Change In Substance Stored Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

5.1. Change In Substance Stored Notification Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

5.1.1. Owners and Operators shall notify the Department of all Changes in Substance Stored in accordance with the requirements of §4.0 of Part A of these Regulations.

5.2. Change In Substance Stored General Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

5.2.1. Before the Change In Substance Stored, Owners and Operators shall empty and clean the UST System -by removing all liquids and accumulated sludge in accordance with the following industry standards:

5.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

5.2.1.2. API Standard 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

5.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

5.3. Change In Substance Stored Site Assessment Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

5.3.1. Within thirty (30) days of the completion of the cleaning of the UST System required in §5.2. of this Part, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

5.3.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §5.3.1 of this Part, or by any other manner, Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

5.4. Change In Substance Stored Recordkeeping Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

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5.4.1. Owners and Operators shall submit the following documents to the Department within sixty (60) days of the Change In Substance Stored in an UST System:

5.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

5.4.1.2. The approved Site Assessment plan with sampling points clearly marked; and

5.4.1.3. Chain of custody for all samples submitted for laboratory analysis; and

5.4.1.4. Results of any on-site screening performed; and

5.4.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

5.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change in Substance Stored of the UST System, including manifests and receipts for soil, water, and Regulated Substances.

5.5. Change In Substance Stored Financial Responsibility Requirements for UST Systems Storing Regulated Substance excluding Heating Fuel or Hazardous Substance

5.5.1. Owners and Operators shall comply with the requirements of Part F of these Regulations until the UST System is permanently Removed or Closed In Place in accordance with these Regulations or does not store a Regulated Substance and all requirements of Part E of these Regulations are completed.

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PART C.

REQUIREMENTS FOR INSTALLATION, OPERATION AND MAINTENANCE OF UNDERGROUND STORAGE TANK SYSTEMS STORING HEATING FUEL

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Section 1. Installation, Operation and Maintenance Requirements for Underground Storage Tank Systems Storing Heating Fuel Installed After ~~The Effective Date of these Regulations~~January 11, 2008

1.1. General Requirements for UST Systems Storing Heating Fuel

1.1.1. Owners and Operators shall ensure that all Underground Storage Tank Systems with a capacity of greater than 1,100 gallons installed for the storage of Heating Fuel shall be designed, constructed, installed and operated in accordance with manufacturer's specifications, and accepted engineering practices and procedures; and in a manner which will prevent Releases of Heating Fuel to the ground waters, surface waters or soils of the State due to corrosion, structural failure, manufacturing defects, spills, and overfills for the Operational Life of the UST System.

1.1.2. The material used in the construction and lining of the UST System shall be Compatible with the substances to be stored in the UST System.

1.1.3. Components of the UST system shall be approved by Underwriters Laboratories or equivalent third party certified.

1.1.4. All UST Systems installed after ~~the Effective Date of these Regulations~~January 11, 2008, with a storage capacity of greater than 1,100 gallons, installed for the storage of Heating Fuel shall be designed and installed in accordance with the secondary containment requirements in accordance with §1.4 of this Part, except where specifically exempted.

1.1.5. Bare steel UST Systems or steel UST Systems coated with asphalt are prohibited.

1.1.6. Owners and Operators shall install, operate and maintain all equipment such that manufacturer's warranties are not voided.

1.2. General Installation Requirements for UST Systems Storing Heating Fuel

1.2.1. Prior to the installation of any Heating Fuel UST System with a storage capacity of greater than 1,100 gallons a site survey shall be initiated by the Facility Owner and Operator. The pre-installation site survey shall be conducted to determine the locations of nearby buildings, underground utilities and sewer lines.

1.2.2. Private~~/~~ and public drinking water wells, rivers, streams, lakes, canals, and other environmentally sensitive locations shall be recorded and incorporated into the design of the UST System Facility.

1.2.3. UST System Owners and Operators shall notify the Department at least thirty (30) days prior to installation of all Heating Fuel UST Systems with a storage capacity greater than 1,100 gallons. Notice shall include a site plan, the scale

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of which shall be one inch to ten feet or less (1 inch-10feet~~.~~), and which shall at a minimum include the following:

1.2.3.1. The information determined from the pre-installation site survey in §1.2.1. of this Part; and

1.2.3.2. Size and location of Tanks including Tank dimensions, depth of cover, empty Tank weight, Tank manufacturer and Tank type; and

1.2.3.3. The ~~Tank~~ UST System installation location, streets, roads, other properties bordering the construction site; and

1.2.3.4. Piping dimensions and layout; and

1.2.3.5. Dimensions and locations of vents; and

1.2.3.6. Type of Regulated Substance to be stored; and

1.2.3.7. Location of overfill device, spill prevention system and monitoring devices including dimensions of spill containment devices and sumps when applicable; and

1.2.3.8. Location of burner unit(s), as appropriate; and

1.2.3.9. Materials of construction for Tank(s), ~~lines~~ Piping and associated appurtenances, including manufacturer name, model numbers and any manufacturers catalog information requested by the Department; and

1.2.3.10. Location of and access to check valves, antisiphon valves, automatic ~~l~~Line leak detectors, and flexible connectors; and

1.2.3.11. Location of Cathodic Protection components and test stations; and

1.2.3.12. Location of utilities (both aboveground and underground); and

1.2.3.13. Location of electrical service components; and

1.2.3.14. Details and dimensions of anchoring method including hold down pads, cover pads or deadmen and electrical isolation methods associated with the anchoring system if applicable. Indicate on plan if area is subject to vehicle traffic; and

1.2.3.15. Map with the distance clearly labeled in feet from the UST System to all Domestic and Industrial wells and surface water bodies within one hundred and fifty (150) feet of the UST System.~~Location of nearby private/ and public drinking water wells and surface water bodies.~~

1.2.4. After the Effective Date of these Regulations new Heating Fuel UST Systems shall not be installed within a minimum distance of a one hundred

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and fifty (150) foot radius from Public or Industrial wells, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

1.2.5. After the Effective Date of these Regulations new Heating Fuel UST Systems shall not be installed within a minimum distance of a one hundred (100) foot radius from a Domestic well, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

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1.3. Design Requirements for UST Systems Storing Heating Fuel

1.3.1. Acceptable designs for Heating Fuel UST System construction include:

1.3.1.1. Cathodically Protected Steel; or

1.3.1.2. Fiberglass Reinforced Plastic; or

1.3.1.3. Steel with Non-Metallic or Coated Outer Shell; or

1.3.1.4. Other equivalent design approved by the Department.

1.3.2. Heating Fuel UST Systems shall be installed in accordance with these Regulations, the manufacturer's specifications, accepted engineering practices and the following industry standards:

1.3.2.1. PEI RP 100, *Recommended Practices for Installation of Liquid Storage Systems*.

1.3.2.2. NFPA 30, *Flammable and Combustible Liquids Code*.

1.3.2.3. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.3.2.4. OSHA, 29 CFR, 1926 Subpart P, *Excavations*.

1.3.3. All Tanks shall be equipped with a strike plate located beneath all Tank openings.

1.4. Secondary Containment Design Requirements for UST Systems Storing Heating Fuel

1.4.1. The Department reserves the right to require Secondary containment or equivalent protection on any portion of the UST System where aquifers underlying the UST Facility are determined to need such protection, or where groundwater below the UST Facility is within a well head protection area, or where groundwater is susceptible to contamination in order to protect the safety, health, welfare ~~and/~~ or environment of the State.

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1.4.2. Secondary containment systems shall be designed, constructed and installed to:

1.4.2.1. Contain the Heating Fuels Released from the UST System until it is detected and removed; and

1.4.2.2. Prevent the Release of Heating Fuel to the environment at any time during the Operational Life of the UST System; and

1.4.2.3. Be checked for evidence of a Release at least once every thirty (30) calendar days.

1.4.3. Secondary containment systems shall include the following:

1.4.3.1. Double-walled Tank; and

1.4.3.2. Double-walled Regulated Substance and Heating Fuel return Piping and, where required, vent Piping; and

1.4.3.3. Containment Sumps at the Tank top that meet the requirements of §1.25. of this Part; and

1.4.3.4. Tanks and Piping shall have interstitial monitoring that shall be checked for evidence of a Release at a minimum of once very thirty (30) calendar days and shall comply with the preventative maintenance program requirements of §1.9.4.3. of this Part; or

1.4.3.5. Other equivalent technology approved by the Department.

1.4.4. All Secondary containment systems shall be constructed in accordance with acceptable engineering practice and industry standards and shall have a Release Detection system in accordance with §1.9. of this Part.

1.5. Double-Walled UST Design Requirements for UST Systems Storing Heating Fuel

1.5.1. Acceptable Heating Fuel UST System designs in §1.3. of this Part shall be fabricated in double-walled construction in accordance with accepted engineering practice and industry standards.

1.5.2. A double-walled Tank which is designed and manufactured in accordance with the following requirements satisfies the requirements for Secondary containment in §1.4. of this Part and the requirements for Release Detection set forth in §1.9. of this Part:

1.5.2.1. The interstitial space of the double-walled Tank can be monitored for Releases; and

1.5.2.2. Outer jackets made of steel shall be coated as prescribed in §1.6.2. of this Part; and

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1.5.2.3. There are no penetrations of any kind through the jacket to the tank except top entry manholes and fittings; and

1.5.2.4. The outer jacket shall cover the entire circumference of the Tank; and

1.5.2.5. The jacket shall be able to contain a liquid or be able to contain a vacuum from the time of manufacture completion until the time of installation.

1.6. Cathodically Protected Steel UST Design Requirements for UST Systems Storing Heating Fuel

1.6.1. Cathodically protected steel UST Systems shall be designed, constructed, installed and tested in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and the applicable industry standards, including but not limited to the following:

1.6.1.1. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

1.6.1.2. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.6.1.3. STI-P_3, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks*.

1.6.1.4. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

1.6.1.5. STI R-972, *Recommended Practice for the Addition of Supplemental Anodes to sti-P_3® USTs*.

1.6.2. The Tank shall be coated with a suitable Dielectric Material in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

1.6.3. Field-installed Cathodic Protection systems shall be designed, constructed, installed and tested in accordance with manufacturer's specifications, accepted engineering practice and the requirements listed in this Section.

1.6.4. Each Cathodic Protection system shall include sufficient monitoring stations to enable Owners and Operators to check on the adequacy of the Cathodic Protection system.

1.6.5. UST Systems that are protected by Sacrificial Anodes shall be electrically insulated from the Piping system with dielectric fittings, bushings, washers, sleeves or gaskets which are chemically stable when exposed to petroleum, additives, corrosive soils or groundwater.

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1.7. Fiberglass Reinforced Plastic UST Design Requirements for UST Systems Storing Heating Fuel

1.7.1. Fiberglass reinforced plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards:

1.7.1.1. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol-Gasoline Mixtures.*

1.7.2. Fiberglass reinforced plastic UST Systems shall be of sufficient structural strength to withstand normal handling and underground use and shall be compatible with the Regulated Substance and additives stored, corrosive soils and groundwater. UST System construction materials shall be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften or separate under normal service conditions.

1.7.3. Fiberglass reinforced plastic Tanks shall be tested for deflection in accordance with the manufacturer's requirements at the time of installation.

1.8. Steel with Non-Metallic or Coated Outer Shell UST Design Requirements for UST Systems Storing Heating Fuel

1.8.1. Steel with Non-Metallic or Coated Outer Shell UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.8.1.1. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.8.1.2. UL 58; *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

1.8.1.3. STI F-922, *Specification for Permatank®*.

1.8.1.4. STI F-894, *ACT-100® Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*.

1.8.1.5. STI F-961, ACT-100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks*.

1.8.1.6. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

1.8.2. The coating shall not corrode under adverse underground electrolytic conditions and shall be Compatible with the Regulated Substances and additives stored.

1.8.3. The coating shall be factory inspected for air pockets, cracks, blisters pinholes and electrically tested by a ten thousand (10,000) volts holiday test

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performed over 100 percent of the surface for coating short circuits or coating faults or in accordance with the manufacturer's specifications.

1.8.4. Any defects shall be Repaired in accordance with standard engineering practice and the manufacturer's requirements.

1.9. Release Detection Requirements for Underground Storage Tanks Storing Heating Fuel

1.9.1. General Requirements

1.9.1.1. Owners and Operators shall provide a method, or combination of methods of Release Detection on all Heating Fuel UST Systems with a storage capacity greater than 1,100 gallons that meets the following requirements:

1.9.1.1.1. Can detect a Release from any portion of the Tank and the connected underground Piping that routinely contain Heating Fuel; and

1.9.1.1.2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, including routine Maintenance and service checks for operability or running condition; and

1.9.1.1.3. Meets the performance standards for Release Detection in this Section, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. The method shall be capable of detecting the leak rate or quantity specified for ~~p~~Precision ~~tank t~~Testing, automatic tank gauging, ~~l~~Line leak detectors, and line tightness testing methods specified in these Regulations with a probability of detection of at least 0.95 and a probability of false alarm no greater than 0.05.

1.9.1.2. Owners and Operators shall implement the indicated Release investigation procedures in Part E of these Regulations if the Release Detection equipment or method shows indication of a Release.

1.9.1.3. Failure by Owners and Operators to maintain records of required Release Detection monitoring and inspection may be cause for the Department to require ~~T~~tank tightness test(s) and inspection(s) of the UST Facility and a Release investigation in accordance with Part E of these Regulations at the expense of Owners and Operators.

1.9.2. Methods of Release Detection for Heating Fuel Underground Storage Tanks

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1.9.2.1. Owners and Operators shall monitor Heating Fuel UST Systems greater than 1,100 gallons for Releases through the use of at least one of the following Release Detection methods:

1.9.2.1.1. Continuous ~~I~~interstitial ~~M~~monitoring; or

1.9.2.1.2. Automatic ~~Tank~~tank ~~G~~gauge performing monthly ~~T~~tank tightness testing; or

1.9.2.1.3. Underground Storage Tanks used solely for the storage of Heating Fuel may utilize annual tank tightness testing as a method of ~~r~~Release ~~d~~Detection for the life of the UST System provided the tank tightness testing is performed in accordance with the ~~t~~Tank ~~t~~Tightness ~~T~~test ~~R~~requirements in §2.9.6. of this Part; or

1.9.2.1.4. Department Approved Alternative Method.

1.9.3. Interstitial Monitoring Release Detection Requirements for Tanks

1.9.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a leak from any portion of the Tank that routinely contains Heating Fuel.

1.9.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall inspect all interstitial monitoring devices utilized for Release Detection for evidence of a Release from the UST System and shall record the results.

1.9.3.3. Owners and Operators shall maintain records of the monthly interstitial Release monitoring inspections for the life of the UST System.

1.9.3.4. Owners and Operators shall have all interstitial monitoring equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

1.9.3.4.1. Inspection of the console for printer operation if so equipped; and

1.9.3.4.2. Verification of the system setup values and battery backup; and

1.9.3.4.3. Verification of the test programming; and

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1.9.3.4.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

1.9.3.4.5. Inspection and testing of all probes and interstitial sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

1.9.3.4.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

1.9.3.4.7. Correction of any problems found as a result of the required inspection.

1.9.3.5. Owners and Operators shall maintain records of the annual inspections of the interstitial monitoring equipment and any Repairs performed as a result of the inspection, for the life of the UST System.

1.9.4. Automatic Tank Gauge Release Detection Requirements for Heating Fuel Tanks

1.9.4.1. Monthly ~~T~~tank ~~T~~tightness ~~T~~testing using Automatic tank gauge (ATG) equipment shall meet the following requirements:

1.9.4.1.1. The ATG equipment can detect a 0.1 gallons per hour leak rate from any portion of the Tank that routinely contains Regulated Substance; and

1.9.4.1.2. The ATG equipment shall be capable of producing a record of the Release Detection test results; and

1.9.4.1.3. At a minimum of once ~~during each~~every thirty (30) calendar ~~month~~days the ATG equipment shall perform a Release Detection test for each Tank and shall produce a record of such test.

1.9.4.2. Owners and Operators shall maintain a record of all Release Detection tests performed by the ATG equipment for the life of the UST System.

1.9.4.3. Owners and Operators shall have all ATGs inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

1.9.4.3.1. inspection of the ATG console for printer operation ~~if so equipped~~; and

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1.9.4.3.2. verification of the system setup values and battery backup; and

1.9.4.3.3. verification of the test programming; and

1.9.4.3.4. verification of the operability of all warning and alarm indicator lights and audible alarms; and

1.9.4.3.5. inspection and testing of the probes and sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

1.9.4.3.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; an

1.9.4.3.7. Correction of any problems found as a result of the required inspection.

1.9.4.4. Owners and Operators shall maintain records of the annual inspections of the interstitial monitoring equipment and any Repairs performed as a result of the inspection, for the life of the UST System.

1.9.5. Alternative Release Detection Methods for Heating Fuel Tanks

1.9.5.1. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

1.9.5.1.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.9.5.1.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in Section 1.9.2. of this Part. If the method or a combination of methods or devices is approved Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.10. Anchoring Requirements for UST Systems Storing Heating Fuel

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1.10.1. Support and anchorage shall be provided for all new installations to avoid Tank flotation and shall be installed in accordance with the PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems.*

1.10.2. One or more of the following methods of anchorage shall be utilized:

1.10.2.1. Reinforced concrete deadmen anchors; or

1.10.2.2. Bottom hold-down pad which consists of eight inches of reinforced concrete that extends 18 inches beyond Tank sides and 12 inches beyond each end; or

1.10.2.3. Reinforced concrete slab over Tank.

1.10.3. All exposed metallic components of hold down systems shall be Electrically Isolated and Cathodically Protected when the hold down system is required by the Department.

1.10.4. The backfill depth shall be consistent with the requirements in PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.11. Backfill Material Requirements for UST Systems Storing Heating Fuel

1.11.1. Backfill material shall consist of sand, crushed rock or pea gravel. The material shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length of crushed rock or pea gravel shall be no less than 1/8" and no more than 3/4" in size. Backfill material shall comply with the Tank manufacturer's specifications. Mixing of backfill with native soil or foreign objects is prohibited.

1.11.2. The backfill depth shall be consistent with the requirements in PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.12. Installation of an UST System Storing Heating Fuel In An Existing UST Field Requirements

1.12.1. If an UST system shall be installed in or near a previous UST System Facility, Owners and Operators shall provide a means of Release Detection that will, at a minimum, detect any future Release from any portion of the UST System.

1.13. Tank and Piping Installation, Inspection and Testing Requirements for UST Systems Storing Heating Fuel

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1.13.1. Prior to installation Tank system materials and equipment shall be inspected for flaws, surface cracks, holes, large scrapes, blisters, indentations and other indications of damage. All defects and repairs to the UST System shall be recorded and the record submitted with a site completion report to the Department.

1.13.2. UST(s) shall be pressure tested according to the manufacturer's specifications prior to installation of the UST(s) into the excavation. The installer shall soap the exterior, particularly its seams and fittings, and pressure test the UST(s) using the manufacturer's specifications to locate and correct defects. Tank and interstitial space testing shall be conducted according to the manufacturer's recommendations and accepted engineering practices.

1.13.3. After installation all Piping, including all interstitial spaces, shall be pressure tested according to the manufacturer's specifications prior to backfilling the excavation.

1.13.4. After installation of the T~~t~~ank and integral Piping is complete and prior to the initial use of the UST System, the entire system shall be tested in accordance with current industry standards and practices and in the following manner to ensure the system is tight:

1.13.4.1. All testing of UST Systems shall be accomplished by the Precision Test method described in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases* or other test approved by the Department which is of equivalent or superior accuracy; and

1.13.4.2. All testing of UST Systems shall be able to account for the effects of thermal expansion or contraction of the Heating Fuels, vapor pockets, Tank deformation, evaporation or condensation, temperature stratification in the UST and the location of the water table; and

1.13.4.3. The required Precision Tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer and current industry standards and practices.

1.13.5. The Department reserves the right to request confirmatory system tightness tests to verify any test results submitted by an Owner, Operator, or contractor.

1.13.6. Owners and Operators shall permit periodic inspection of the UST System installation by the Department.

1.13.7. During the installation of all new UST Systems, every stage of the construction shall be documented with photographs to demonstrate that the

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UST System was installed in compliance with the requirements for new UST Systems. Upon completion of the installation, copies of the photographs, as built plan, and required certification(s) as required in Part A §§4.6.11 and 4.6.12 shall be submitted to the Department within thirty (30) days of the completion of the UST System installation. The Facility Owner and Operator shall keep copies of all documents and photographs on file for the life of the UST Facility.

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1.14. General Piping Installation Requirements for UST Systems Storing Heating Fuel

1.14.1. Piping shall be installed in accordance with the manufacturer's specifications.

1.14.2. The Piping layout shall be designed to minimize crossed Pipe~~line~~s and interference with conduit and other UST System components. If crossing of ~~line~~Pipes is unavoidable, clearance shall be provided to prevent contact of the pipes.

1.14.3. All Heating Fuel and vent Piping shall slope back to the Tank with a minimum slope of 1/8" per foot.

1.14.4. The pipe joints shall be cut and deburred according to manufacturer's specifications to provide liquid tight seals.

1.14.5. When rigid Piping is used, flexible connector(s) shall be installed at the Tank end of each Heating Fuel ~~line~~Pipe and vent ~~line~~Pipe as well as at the base of each dispenser and vent riser on all new installations. Double elbow swing joints are prohibited.

1.14.6. All underground metal fittings, flexible connectors, joints, and pipes shall be isolated from contact with the soil.

1.15. UST Piping Design Requirements for UST Systems Storing Heating Fuel

1.15.1. Underground Piping shall be protected from corrosion in accordance with accepted corrosion engineering practices and shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.15.1.1. NFPA 30, *Flammable and Combustible Liquids Code*.

1.15.1.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.15.1.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

1.15.1.4. UL Standard 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

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1.15.1.5. UL Standard 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

1.15.1.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.15.2. All integral Piping systems shall be designed, constructed, and installed in a manner which will permit periodic tightness testing of the entire Piping system without the need for excavation.

1.15.3. Acceptable designs for Underground Piping construction include fiberglass reinforced plastic and flexible plastic Piping.

1.16. Fiberglass Reinforced Plastic and Flexible Plastic Piping Design Requirements for UST Systems Storing Heating Fuel

1.16.1. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the manufacturer's specifications.

1.16.2. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the following industry codes, as applicable:

1.16.2.1. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

1.16.2.2. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

1.16.2.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

1.16.2.4. NFPA 30, *Flammable and Combustible Liquids Code*.

1.16.2.5. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.16.2.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.16.3. The construction materials, joints and joint adhesives of all fiberglass reinforced plastic and flexible plastic Pipes shall be compatible with the Regulated Substance and additives stored, soil and groundwater.

1.16.4. Pipes, fittings and adhesives shall be designed, fabricated, and factory tested in accordance with generally accepted structural, material and performance standards for underground Piping systems.

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1.16.5. All underground Piping systems shall be designed, constructed and installed with access ports to permit ~~l~~Line tightness testing without the need for extensive excavation.

1.17. Suction Piping Design Requirements for UST Systems Storing Heating Fuel

1.17.1. Suction Piping shall be designed, constructed, and installed to meet the requirements of §1.17.1.1. or §1.17.1.2. of this Part:

1.17.1.1. Safe suction Piping systems shall be designed and constructed in accordance with the following requirements:

1.17.1.1.1. The below grade Piping shall be constructed so that if suction is Released the contents of the pipe will drain back into the Tank; and

1.17.1.1.2. Only one (1) check valve shall be included in each suction ~~line~~Pipe; and

1.17.1.1.3. The check valve shall be located directly below and as close as practical to the suction pump.

1.17.1.2. Suction Piping systems with a foot valve (U.S. Suction) shall be designed and constructed in accordance with the following requirements:

1.17.1.2.1. The below grade Piping shall be constructed so that the Piping slopes back to the Tank; and

1.17.1.2.2. A foot valve is installed at the Tank.

1.18. General Piping Release Detection Requirements for UST Piping for UST Systems Storing Heating Fuel

1.18.1. Owners and Operators shall equip all underground Piping that routinely contains Heating Fuel with a method, or combination of methods of Release Detection that can detect a Release from any portion underground Piping that routinely contains Regulated Substance.

1.18.2. UST Piping interstitial and sump monitoring systems shall be designed, constructed, installed, and maintained to detect a leak from any portion of the Piping that routinely contains Heating Fuel.

1.18.3. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

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1.18.3.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.18.3.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §1.19. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.18.4. Owners and Operators shall implement the indicated Release investigation procedure in Part E of these Regulations if the Piping Release Detection equipment or method shows indication of a Release.

1.19. Pressurized Piping Release Detection Requirements for UST Systems Storing Heating Fuel

1.19.1. Line Leak Detector Requirements

1.19.1.1. Underground Piping that conveys Heating Fuel under pressure shall be equipped with an automatic ~~l~~Line leak detector.

1.19.1.2. The automatic ~~l~~Line leak detector shall alert the Owner and Operator to the presence of a leak by restricting or shutting off the flow of the Heating Fuel.

1.19.1.3. Mechanical and Electronic automatic ~~l~~Line leak detectors shall be capable of reacting to leaks of three (3) gallons per hour at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.1.4. Owners and Operators shall conduct an annual test of the operation of the automatic ~~l~~Line leak detector while installed in the UST System and under normal operating conditions. ~~in accordance with the manufacturer's test protocol.~~ All Mechanical and Electronic automatic ~~l~~Line leak detectors shall once every twelve (12) months pass a function test at three (3) gallons per hour (gph) at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.2. Tightness Test Requirements

1.19.2.1. Owners and Operators shall conduct an annual tightness test of the entire pressurized underground Piping system, including the primary and secondary Piping, in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases.*

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1.19.2.2. Owners and Operators of UST Systems that have underground pressurized Piping systems shall use a Piping tightness test method designed to detect a Release from any portion of the underground Piping system that routinely contains Heating Fuels.

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1.19.2.3. Owners and Operators of Heating Fuel UST Systems with underground pressurized Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the annual Piping tightness test requirements in §1.19.2.1. of this Part if the following requirements are met:

1.19.2.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Heating Fuel; and

1.19.2.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.2.3.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection records for the life of the UST System; and

1.19.2.3.4. The interstitial monitoring device shall alert the Owner and Operator to the presence of a Release by shutting off the flow of the Heating Fuel; and

1.19.2.3.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.26. of this Part; and

1.19.2.3.6. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part.

1.19.3. Line Leak Detector and Tightness Test Requirements for Double Wall Piping Systems

1.19.3.1. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the ~~l~~Line leak detector requirements of §1.19.1. of this Part and the ~~p~~Piping tightness test requirements in §1.19.2. of this Part if the following requirements are met:

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1.19.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Heating Fuel; and

1.19.3.1.2. The system shall be designed and maintained to ensure that the delivery system will automatically shut off if a Release is detected; and

1.19.3.1.3. At a minimum of once every thirty (30) calendar days Owners and Operators shall provide proof via the ~~automatic tank gauge record~~ interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.3.1.4. Owners and Operators shall maintain records of the monthly interstitial Release Detection ATG records for the life of the UST System; and

1.19.3.1.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.26. of this Part; and

1.19.3.1.6. All ~~t~~Tank top ~~c~~Containment ~~s~~Sumps containing the interstitial monitoring device shall be tested once every twelve (12) calendar months in accordance with §1.25. of this Part.

1.20. Suction Piping Release Detection Requirements for UST Systems Storing Heating Fuel

1.20.1. Release Detection is not required for suction Piping that is designed and constructed to meet the requirements of §1.17.1.1.of this Part.

1.20.2. Suction Piping designed and constructed to meet the requirements of §1.17.1.2. of this Part shall have Release Detection in accordance with §1.18. of this Part.

1.20.3. Owners and Operators of UST Systems with underground suction Piping systems constructed of double wall design may utilize continuous interstitial monitoring systems to comply with the Release Detection requirements of §1.18. of this Part if the following requirements are met:

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1.20.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

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1.20.3.1.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.20.3.1.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection records for the life of the UST System; and

1.20.3.1.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.26. of this Part; and

1.20.3.1.5. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part.

1.21. Spill Protection Requirements for UST Systems Storing Heating Fuel

1.21.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to spilling do not occur.

1.21.2. To prevent spilling associated with Regulated Substance transfer to the UST System, Owners and Operators shall comply with the requirements of one of the following industry standards:

1.21.2.1. NFPA 30, *Flammable and Combustible Liquids Code;* or

1.21.2.2. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*; or

1.21.2.3. API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*.

1.21.3. Owners and Operators shall equip all Heating Fuel UST Systems with impervious spill containment devices that form a liquid tight seal around the fill pipe connections.

1.21.4. All spill containment devices around the fill pipe shall have a minimum containment capacity of fifteen (15) gallons or be of a design that provides equivalent environmental protection.

1.21.5. Owners and Operators shall immediately remove water, Heating Fuel, or debris that accumulates in the spill containment device. Owners and Operators shall maintain spill containment devices as to be capable of containing a spill of the containment design capacity at all times.

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1.21.6. All precautions shall be taken to prevent Tank overfilling, spilling and dripping.

1.21.7. Owners and Operators shall test spill containment devices once every twelve (12) months for tightness, or in accordance with the manufacturer's specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or environment exists.

1.21.8. Spill containment devices of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.21.7. of this Part if the following requirements are met:~~:~~

1.21.8.1. Owners and Operators shall check the interstitial monitoring at a minimum of once every thirty (30) calendar days for evidence of a Release; and

~~1.21.8.~~1.21.8.2. Owners and Operators shall maintain written records of the ~~continuous interstitial~~ required ~~-~~monitoring in §1.21.8.1. of this Part for the life of the UST System~~of the spill containment device~~.

1.21.9. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.22. Overfill Protection Requirements for UST Systems Storing Heating Fuel

1.22.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to overfilling do not occur.

1.22.2. The Person In Charge of the transfer of Heating Fuel to the UST shall adhere to proper safety precautions and procedures for transfer such as those found in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids* and API RP 1621, *Bulk Liquid Stock Control at Retail Outlets* and shall comply with the following:

1.22.2.1. The Person In Charge of the transfer operation shall first check the UST to ensure that the volume available in the UST is greater than the volume of Heating Fuel to be transferred to the UST before the transfer is made; and

1.22.2.2. During the transfer, the Person In Charge shall continuously monitor the transfer operation to prevent an Overfill Release; and

1.22.2.3. At the conclusion of the transfer, the Person in Charge shall collect any Heating Fuel that remains in the transfer hose in and shall ensure it is properly managed and does not reach the environment; and

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1.22.2.4. The Person in Charge shall take all reasonable precautions to prevent spilling and dripping.

1.22.3. Owners and Operators shall install and maintain overfill protection equipment that shall:

1.22.3.1. Automatically shut off the flow into the UST when the UST is no more than ninety-five (95%) percent full; or

1.22.3.2. Alert the transfer operator when the UST is no more than ninety (90%) percent full by restricting the flow into the UST or triggering a high-level alarm; or

1.22.3.3. Restrict flow 30 minutes prior to overfilling, alert the Operator 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 Tank are exposed to Heating Fuel due to overfilling; or

1.22.3.4. Be an automatic partial flow shut-off float vent or vapor valve installed inside the UST set to restrict flow when the UST is no more than ninety percent (90%) full. Vent or vapor restriction devices shall not be installed in UST systems that are equipped with suction pumps, remote fill ~~l~~Lines, remote vapor ~~l~~Lines or receive pressurized deliveries.

1.22.4. UST Systems that receive pressurized deliveries require a high level alarm that is triggered at no more than ninety percent (90%) full for overfill protection or automatic flow shut-off valve designed for pressurized deliveries.

1.22.5. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.23. Fill Line Protection Requirements for UST Systems Storing Heating Fuel

1.23.1. Owners and Operators shall clearly mark all fill ~~l~~Lines for UST Systems to indicate the size of the Tank and the type of Regulated Substance stored. These markings shall be as follows:

1.23.1.1. A label or permanent tag at the fill connection which states the size of the UST System and the specific type of Regulated Substance stored; and

1.23.1.2. A color-symbol system implemented according to the following requirements:

1.23.1.2.1. All fill covers shall be marked consistent with API RP 1637, *Using the API Color-Symbol System to Mark*

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Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals; and

1.23.1.2.2. A different color-symbol shall be used for each type of Regulated Substance or grade of substance being stored at the Facility.

1.23.2. Pipes and other openings not used for transfer of Heating Fuel at the UST Facility shall not be painted any color which would be associated with the color-symbol designated for marking the Heating Fuel stored at the Facility. It is particularly important that openings with access to soil and ground water, such as Monitor Wells, not be confused with Regulated Substance fill ~~l~~Lines.

1.24. Corrosion Protection Operation and Maintenance Requirements for UST Systems Storing Heating Fuel

1.24.1. General Requirements

1.24.1.1. Owners and Operators of steel UST Systems with corrosion protection systems shall operate and maintain the system in accordance with the following industry standards:

1.24.1.1.1. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

1.24.1.1.2. NACE TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*.

1.24.1.1.3. NFPA 30, *Flammable and Combustible Liquids Code*.

1.24.1.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages.*

1.24.1.2. Owners and Operators of steel UST Systems with corrosion protection systems shall maintain and operate the corrosion protection system to continuously provide corrosion protection to the metal components of the UST System that routinely contain a Heating Fuel and are in contact with the ground to ensure that Releases due to corrosion are prevented for the life of the UST System.

1.24.1.3. Cathodic Protection systems shall be designed and installed to allow determination of the current operating status.

1.24.2. Sacrificial Anode Cathodic Protection System Operation and Maintenance Requirements

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1.24.2.1. Owners and Operators shall test all UST Systems equipped with Sacrificial Anode Cathodic Protection systems for proper operation using standard corrosion engineering practices and in accordance with the following requirements:

1.24.2.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the manufacturer's specifications, and shall include the following:

1.24.2.1.1.1. A minimum of three (3) voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

1.24.2.1.1.2. A minimum of one (1) voltage reading for every ten (10) feet of Piping.

1.24.2.2. All Sacrificial Anode Cathodic Protection systems that protect underground Facility components shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) months of installation and at least once every twelve (12) months thereafter.

1.24.2.3. The Sacrificial Anode Cathodic Protection system shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) weeks after underground work is performed at or near a site with a Sacrificial Anode Cathodic Protection system and once every twelve (12) months thereafter.

1.24.2.4. Owners and Operators shall Repair or replace the Sacrificial Anode Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the requirements of §1.6 of this Part if the Sacrificial Anode Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the corrosion protection system.

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1.24.2.5. Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of a Sacrificial Anode Cathodic Protection system.

1.24.2.6. The Department shall approve, either verbally or in writing, all Cathodic Protection Repair or replacement plans prior to work commencing.

1.24.2.7. The Department shall review the Release Detection and Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST System if the Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the corrosion protection system.

1.24.2.8. The following information shall be submitted to the Department prior to Repairs to the Sacrificial Anode Cathodic Protection system:

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1.24.2.8.1. Results of one of the following:

1.24.2.8.1.1. The two (2) most recent Sacrificial Anode Cathodic Protection system tests including the failed test, or

1.24.2.8.1.2. The results of an internal assessment, or

1.24.2.8.1.3. The results of a third party approved integrity assessment; and

1.24.2.8.2. Records of the Tank Release Detection method from the date of the most recent passed Sacrificial Anode Cathodic Protection test.

1.24.2.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

~~1.24.2.8.~~1.24.2.10. Impressed Current Cathodic Protection systems shall not be utilized as a Repair, Upgrade or Replacement after ~~the Effective Date of these Regulations~~January 11, 2008.

~~1.24.2.9.~~1.24.2.11. The use of alternate methods of monitoring shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and shall only be used with prior written approval from the Department.

~~1.24.2.10.~~1.24.2.12. Owners and Operators shall maintain a record of the operation of Sacrificial Anode Cathodic Protection systems to demonstrate compliance with the requirements of this Section. These

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records shall be retained in a permanent record and shall at a minimum provide the following information:

~~1.24.2.10.1.~~1.24.2.12.1. The results of all tests and inspections of the Sacrificial Anode Cathodic Protection system.

1.25. Containment Sump Requirements for UST Systems Storing Heating Fuel

1.25.1. All dispenser, Tank top, transition and any other Containment Sumps shall be Product Tight and shall be tested for tightness once every thirty-six (36) months, or in accordance with the manufacturers' specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

1.25.2. All dispenser, Tank top, transition and any other Containment Sumps of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.25.1. of this Part.

1.25.3. All dispenser, Tank top, transition and any other Containment Sumps tightness testing methods utilized shall be in accordance with the manufacturer's specifications or approved by the Department.

1.25.4. All access manholes associated with Containment Sumps shall be sized such that the manhole skirt is sufficiently larger than the Containment Sump lid to allow adequate access to the sump and to allow for surface water drainage.

1.25.5. All dispenser Containment ~~s~~Sumps shall be installed and maintained as to be capable of being visually inspected at all times for evidence of a Release and shall not be filled with any material such as pea gravel or native soil, or the dispenser Containment ~~s~~Sump shall be continuously monitored for Releases.

1.25.6. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any Containment Sump.

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1.26. Testing and Monitoring Procedures for Sump and Interstitial Sensors for UST Systems Storing Heating Fuel

1.26.1. All sensors shall be equipped with an automatic audible and visual alert system and shall shut down the UST System in the event of an alarm.

1.26.2. Owners and Operators shall inspect and test all sensors at a minimum of once every twelve (12) months in accordance with the manufacturer's specifications or as directed by the Department to verify proper sensor operation.

1.26.3. All sensors installed in a sump for the purpose of detecting a Release from the UST System shall be installed no more than one inch (1") from the

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bottom of the sump such that the sensor is capable of detecting any accumulation of Regulated Substance.

1.27. Repair, Retrofit and Upgrade Requirements for UST Systems Storing Heating Fuel

1.27.1. All Repairs, Upgrades, Retrofits and replacements to UST Systems shall meet the applicable design, installation, maintenance and operational standards in Part C, §1 of these Regulations.

1.27.2. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch in accordance with the requirements of Part E, §1.2. of these Regulations.

~~1.27.2.Documentation of Repair completion shall be submitted to the Department in accordance with Part E, §2.2.2. of these Regulations.~~

1.27.3. All equipment installed after ~~the Effective Date of these Regulations~~ January 11, 2008 shall be installed, operated and maintained such that manufacturer's warranties are not voided.

1.27.4. Owners and Operators shall ensure that Repairs will prevent Releases due to structural failure or corrosion as long as the UST System is used to store Regulated Substance.

1.27.5. Owners and Operators shall test the Cathodic Protection system in accordance with §1.24.of this Part within six (6) weeks and once very twelve (12) months thereafter following the Repair of any Cathodically Protected UST System, to ensure it is operating properly.

1.27.6. UST System Owners and Operators shall maintain records for each Repair, Retrofit and Upgrade for the Operational Life of the UST System.

1.27.7. After any Repair, Retrofit or Upgrade to an UST System, Owners and Operators shall have the applicable portions of the UST System tested for tightness in accordance with ~~§1.13.4. of this Part~~ these Regulations, or as directed by the Department, before the UST System is placed into service.

1.27.8. Repairs to fiberglass-reinforced plastic Tanks may be made only by the manufacturer or by its authorized representatives.

1.27.9. Owners and Operators may not Repair holes in Piping and fittings, but shall replace any piece of such Piping or fittings from which a Release has occurred. Replacement Piping and fittings shall meet all applicable Piping requirements in §1of this Part. Loose fittings and joints in Piping that have been tightened to eliminate leakage may be put back into service.

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1.27.10. At any time during the course of a Repair, Retrofit or Upgrade there is an indication of a Release the requirements of Part E of these Regulations must be followed.

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1.27.11. At any time excavation of soil or removal of concrete, asphalt or other cover is required during the course of a Repair, Retrofit or Upgrade, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Repair, Retrofit or Upgrade of the UST System.

1.27.12. Within sixty (60) days of completion of a Repair, Retrofit or Upgrade of an UST System Owners and Operators and UST Contractors shall submit documentation to the Tank Management Branch including but not limited to the following:

1.27.12.1. Repair, Retrofit or Upgrade completion documentation; and

1.27.12.2. Results of sampling required in Part E of these Regulations or §1.27.10. of this Part; and

1.27.12.3. Results of any UST System tests required by the Department.

1.28. Routine Inspection Requirements for UST Systems Storing Heating Fuel

1.28.1. Owners and Operators shall conduct an inspection at an interval no less frequently than once every twenty-eight (28) to thirty-one (31) ~~once every thirty (30)~~ calendar days ~~during each calendar month~~ to monitor the condition of the UST System including but not limited to all access ports, spill containment devices, sumps, and Containment Sumps. The routine inspection shall include at a minimum the following:

1.28.1.1. The removal of all Containment Sump and sump covers and visual inspection of the sump for any evidence of a Release of Heating Fuel or intrusion of water; and

1.28.1.2. The inspection of all access ports to make sure that the covers, caps, and adaptors are tightly sealed; and

1.28.1.3. The removal of all spill containment device covers and inspection to ensure all spill containment devices are empty and free of debris, water, or Heating Fuel.

1.28.2. A record of all routine inspections shall be kept on file by Owners and Operators for a minimum of three (3) years and shall be made available to the

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Department upon request. The records shall at a minimum include the results of all inspections including any Repairs made.

1.28.3. If at any time during a routine inspection evidence of a Release of Heating Fuel is discovered Owners and Operators shall follow the investigation requirements of Part E of these Regulations.

1.29. Internal Lining Requirements for UST Systems Storing Heating Fuel

1.29.1. An internal lining may be added to UST Systems to improve the ability of an UST System to prevent the release of Regulated Substance.

1.29.2. An internal lining shall not be utilized to meet corrosion protection requirements after ~~the Effective Date of these Regulations~~January 11, 2008.

1.29.3. The internal lining installation, operation and maintenance shall meet the following requirements:

1.29.3.1. The lining shall be installed in accordance with the following industry standards:

1.29.3.1.1. API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*.

1.29.3.1.2. NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks.*

1.29.3.1.3. NLPA Standard 631, Chapter B, *Future Internal Inspection Requirements for Lined Tanks*.

1.29.3.2. The lined Tank shall be tested for tightness in accordance with §2.9.6. of this Part and found to be tight before the Tank is put back into service; and

1.29.3.3. ~~Within ten (10) years after lining, and every five (5) years thereafter, Owners and Operators shall conduct an internal inspection of the lined Tank in accordance with NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks* and Chapter B, *Future Internal Inspection Requirements for Lined Tanks*, and API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks.* At the time of the inspection, the lined Tank shall be structurally sound and comply with the original design specifications. If any damage is found, Repairs shall be made in accordance with standard engineering practice, industry standards and the requirements of these Regulations or the Tank shall be replaced in accordance with the requirements in §1 of this Part.~~

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Section 2. Installation, Operation and Maintenance Requirements for Underground Storage Tank Systems Storing Heating Fuel Installed After May 14, 1993 and Prior to ~~the Effective Date of these Regulations~~January 11, 2008

2.1. General Requirements for UST Systems Storing Heating Fuel

2.1.1. Owners and Operators shall ensure that all UST Systems installed for the storage of Heating Fuel with a capacity of greater than 1,100 gallons shall be designed, constructed, installed and operated in accordance with manufacturer's specifications, and accepted engineering practices and procedures; and in a manner which will prevent Releases of Heating Fuels to the ground waters, surface waters or soils of the State due to corrosion, structural failure, manufacturing defects, spills, and overfills for the Operational Life of the Tank. The material used in the construction and lining of the Tank shall be Compatible with the substances to be stored in the UST System. All UST Systems installed prior to ~~the Effective Date of these Regulations~~January 11, 2008 shall meet the requirements of this Section.

2.1.2. Bare steel UST Systems or steel UST Systems coated with asphalt are prohibited.

2.1.3. Owners and Operators shall replace all double elbow swing joints with flexible connectors installed in accordance with Part C, §1.14 of these Regulations not later than January 1, 2011.

2.2. General Installation Requirements for UST Systems Storing Heating Fuel

2.2.1. Prior to the installation of any Heating Fuel UST System with a storage capacity greater than 1,100 gallons, a site survey shall be initiated by the Facility Owner and Operator. The pre-installation site survey shall be conducted to determine the locations of nearby buildings, underground utilities and sewer lines.

2.2.2. Private/public drinking water wells, rivers, streams, lakes, canals, and other environmentally sensitive locations shall be recorded and incorporated into the design of the UST System Facility.

2.2.3. Owners and Operators shall submit a written plan of the ~~Tank~~ UST F~~F~~acility to the Department and to any designated state or local government agency for approval thirty (30) days before the installation. The scale of the plan shall be one inch to ten feet or less (1 inch-10ft. or less) and shall include the following:

2.2.3.1. Size and location of Tanks; and

2.2.3.2. Piping dimensions and layout; and

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2.2.3.3. Dimensions and locations of vents, Observation Tubes, monitoring wells, vadose zone vapor detection tubes, U-tubes, gauges and monitoring devices; and

2.2.3.4. Type of Regulated Substance to be stored; and

2.2.3.5. Location of burner unit, as appropriate; and

2.2.3.6. Location of overfill device, spill prevention system and monitoring device; and

2.2.3.7. Materials of Tank(s) and ~~lines~~ Piping construction; and

2.2.3.8. Location of and access to check valves, flexible connectors, swing joints, etc. and

2.2.3.9. Location of Cathodic Protection components and test stations; and

2.2.3.10. Location of utilities (both above and underground); and

2.2.3.11. Location of electrical service components; and

2.2.3.12. Details of hold-down pads or anchoring; and

2.2.3.13. Location of nearby private~~/public~~ drinking water wells and surface water bodies; and

2.2.3.14. Survey results from §2.2.1. of this Part.

2.3. UST System Design Requirements for UST Systems Storing Heating Fuel

2.3.1. Acceptable designs for UST system construction include:

2.3.1.1. Cathodically Protected Steel; or

2.3.1.2. Fiberglass-Reinforced Plastic; or

2.3.1.3. Steel-Fiberglass-Reinforced-Plastic Composite; or

2.3.1.4. Composite Coated; or

2.3.1.5. Cathodically Protected Double-walled Steel; or

2.3.1.6. Double-walled Fiberglass-Reinforced Plastic; or

2.3.1.7. Other equivalent design approved by the Department.

2.3.2. Heating Fuel UST Systems shall be installed in accordance with these Regulations, the manufacturer's specifications, accepted engineering practices and the following industry standards:

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2.3.2.1. PEI RP 100, *Recommended Practices for Installation of Liquid Storage Systems*.

2.3.2.2. NFPA 30, *Flammable and Combustible Liquids Code*.

2.3.2.3. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

2.4. Secondary Containment Design Requirements for UST Systems Storing Heating Fuel

2.4.1. The Department reserves the right to require Secondary containment or equivalent protection on any portion of the UST system where aquifers underlying the UST Facility are determined to need such protection, or where groundwater below the UST Facility is within a well head protection area, or where groundwater is susceptible to contamination in order to protect the safety, health, welfare ~~and/~~ or environment of the State.

2.4.2. Secondary containment systems shall be designed, constructed and installed to:

2.4.2.1. Contain the Heating Fuels Released from the UST system until they are detected and removed; and

2.4.2.2. Prevent the Release of Heating Fuel to the environment at any time during the Operational Life of the UST system; and

2.4.2.3. Be checked for evidence of a Release at least once every thirty (30) calendar days.

2.4.3. Secondary containment systems may consist of one of the following:

2.4.3.1. A cathodically protected double-walled steel Tank and double-walled Piping; or

2.4.3.2. A double-walled fiberglass reinforced plastic Tank and double-walled Piping; or

2.4.3.3. A double-walled fiberglass reinforced plastic composite Tank and double-walled Piping; or

2.4.3.4. A single wall Tank placed within a cut-off wall, an excavation liner or trough liner made of material impervious to the Heating Fuel stored; or

2.4.3.5. A vault constructed to meet the following requirements:

2.4.3.5.1. The vault shall be water tight, impervious to leakage of Heating Fuel and able to withstand chemical deterioration and structural stresses from internal and external causes; and

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2.4.3.5.2. The vault shall be a continuous structure with a chemically resistant water stop used at any joint; and

2.4.3.5.3. There shall be no drain connections or other entries through the vault other than top entry manholes and other top openings for filling and for emptying the ~~t~~Tank, venting and for monitoring and pumping of petroleum which may leak into the vault; and

2.4.3.5.4. The ~~t~~Tank or ~~t~~Tanks within the vault shall be encased or embedded in a manner consistent with acceptable engineering practices; or

2.4.3.6. A cut-off wall constructed to meet the following:

2.4.3.6.1. A cut-off wall may be used where groundwater levels are above the bottom of the Tank excavation; and

2.4.3.6.2. A cut-off wall shall consist of an impermeable barrier which has a permeability rate with respect to water equal to or less than 1×10^{-7} cm/sec. It shall not deteriorate in an underground environment or in the presence of petroleum; and

2.4.3.6.3. A cut-off wall shall extend around the perimeter of the excavation and to an elevation above the mean high groundwater level; and

2.4.3.6.4. If a synthetic membrane is used for a cut-off wall, any seams, punctures or tears in the membrane shall be Repaired and made leak tight prior to backfilling. No penetrations of the cut-off wall will be permitted; or

2.4.3.6.5. Other equivalent technology approved by the Department.

2.4.4. If the Secondary containment system consists of a double-walled Tank**,** the Tank shall be constructed in accordance with acceptable engineering practice and industry standards and shall have a Release Detection system in accordance with §1.9. of this Part.

2.5. Double-Walled UST Design Requirements for UST Systems Storing Heating Fuel

2.5.1. Any of the acceptable UST system designs in §2.3 of this Part may be fabricated in double-walled construction in accordance with accepted engineering practice and industry standards.

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2.5.2. A double-walled Tank which is designed and manufactured in accordance with the following requirements satisfies the requirements for Secondary containment in §1.1.2 of this Part and the requirements for Release Detection set forth in §1.9. of this Part:

2.5.2.1. The interstitial space of the double-walled Tank can be monitored for Releases; and

2.5.2.2. Outer jackets made of steel shall be coated as prescribed in §2.6.2.; and

2.5.2.3. There are no penetrations of any kind through the jacket to the Tank except top entry manholes and fittings; and

2.5.2.4. The outer jacket shall, at a minimum, cover the bottom eighty (80) percent of the UST; and

2.5.2.5. The jacket shall be able to contain a liquid or be able to contain a vacuum from the time of manufacture completion until the time of installation; and

2.5.2.6. All Tanks shall be equipped with a strike plate located beneath all Tank openings.

2.6. Cathodically Protected Steel UST Design Requirements for UST Systems Storing Heating Fuel

2.6.1. Cathodically protected steel UST Systems shall be designed, constructed, installed and tested in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and the applicable industry standards, including but not limited to the following:

2.6.1.1. API RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks.*

2.6.1.2. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

2.6.1.3. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

2.6.1.4. UL 1746, *Standard for Safety: External Corrosion Protection Systems For Steel Underground Storage Tanks*.

2.6.1.5. STI- P_3, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks*.

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2.6.2. The Tank shall be coated with a suitable Dielectric Material in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

2.6.3. Field-installed Cathodic Protection systems shall be designed and installed in accordance with manufacturer's specifications, accepted engineering practice and the requirements listed in this Section.

2.6.4. Each Cathodic Protection system shall include sufficient monitoring stations which enable Owners and Operators to check on the adequacy of the Cathodic Protection system.

2.6.5. UST Systems that are protected by Sacrificial Anodes ~~(sti-P$_3$ Tanks)~~ shall be electrically insulated from the Piping system with dielectric fittings, bushings, washers, sleeves or gaskets which are chemically stable when exposed to Heating Fuel, additives, corrosive soils or groundwater.

2.6.6. UST Systems not protected by Sacrificial Anodes shall be factory coated with a material which will provide equivalent protection and corrosion resistance. The minimum finished coating thickness shall be consistent with applicable UL standards. Defects and any inadequacies in the coating shall be Repaired in accordance with the manufacturer's instructions and standard engineering practice.

2.7. Fiberglass Reinforced Plastic UST Design Requirements for UST Systems Storing Heating Fuel

2.7.1. Fiberglass reinforced plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standard:

2.7.1.1. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol Gasoline Mixtures.*

2.7.2. Fiberglass reinforced plastic UST Systems shall be of sufficient structural strength to withstand normal handling and underground use and shall be compatible with the Regulated Substance and additives stored, corrosive soils and groundwater. Tank construction materials shall be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften or separate under normal service conditions.

2.7.3. Fiberglass reinforced plastic Tanks shall be tested for deflection in accordance with the manufacturer's requirements at the time of installation.

2.8. Steel with Non-Metallic Outer Shell UST Design Requirements for UST Systems Storing Heating Fuel

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2.8.1. Steel-Fiberglass-Reinforced-Plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

2.8.1.1. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

2.8.1.2. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

2.8.1.3. STI F-922, *Specification for Permatank®*.

2.8.1.4. STI F-894, ACT-100® *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*.

2.8.1.5. STI F-961, ACT-100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks*.

2.8.1.6. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

2.8.2. The coating shall not corrode under adverse underground electrolytic conditions and shall be Compatible with the Regulated Substances and additives stored.

2.8.3. The coating shall be factory inspected for air pockets, cracks, blisters pinholes and electrically tested by a ten thousand (10,000) volts holiday test performed over 100 percent (100%) of the surface for coating short circuits or coating faults or in accordance with the manufacturer's specifications.

2.8.4. Any defects shall be repaired in accordance with standard engineering practice and manufacturer's requirements to assure compliance with industry standards.

2.9. Release Detection Requirements for Underground Storage Tanks Storing Heating Fuel

2.9.1. General Requirements for Heating Fuel Tank Release Detection

2.9.1.1. Owners and Operators of UST Systems shall provide a method, or combination of methods of Release Detection on all UST Systems that:

2.9.1.1.1. Can detect a Release from any portion of the Tank and the connected underground Piping that routinely contain Heating Fuel; and

2.9.1.1.2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications,

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including routine maintenance and service checks for operability or running condition; and

2.9.1.1.3. Meets the performance standards for Release Detection in this section, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. The method shall be capable of detecting the leak rate or quantity specified for ~~p~~Precision ~~Tank t~~Testing, automatic tank gauging, ~~l~~Line leak detectors, and ~~l~~Line tightness testing methods specified in these Regulations with a probability of detection of at least 0.95 and a probability of false alarm no greater than 0.05.

2.9.1.2. Owners and Operators shall implement the Release investigation procedure in Part E of these Regulations if the Release Detection equipment or method shows indication of a Release.

2.9.1.3. Failure by Owners and Operators to maintain records of required Release Detection monitoring and inspection may be cause for the Department to require ~~T~~tank tightness test(s) and inspection(s) of the UST Facility and a Release investigation in accordance with Part E of these Regulations at the expense of Owners and Operators.

2.9.2. Methods of Release Detection for Heating Fuel Tanks

2.9.2.1. Owners and Operators shall monitor Heating Fuel UST Systems for Releases through the use of at least one of the following Release Detection methods:

2.9.2.1.1. Interstitial ~~M~~monitoring; or

2.9.2.1.2. Automatic ~~T~~tank Gauging; or

2.9.2.1.3. Observation Tubes; or

2.9.2.1.4. Tank ~~T~~tightness ~~T~~test; or

2.9.2.1.5. Monitoring Wells; or

2.9.2.1.6. Department ~~A~~approved ~~A~~alternative ~~M~~method.

2.9.3. Interstitial Monitoring Release Detection Requirements for Heating Fuel Tanks

2.9.3.1. Interstitial monitoring between the UST System and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any

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portion of the Tank that routinely contains Heating Fuel and also meets one of the following requirements:

2.9.3.1.1. For double-walled UST Systems, the sampling or testing method can detect a Release through the inner wall in any portion of the Tank that routinely contains Heating Fuel.

2.9.3.1.2. For UST Systems with a secondary barrier within the Excavation Zone, the sampling or testing method can detect a Release between the UST System and the secondary barrier.

2.9.3.1.3. The secondary barrier around or beneath the UST System consists of artificially constructed material that is sufficiently impermeable (at least 1×10^{-7} cm/sec for the Heating Fuel stored) to direct a Release to the monitoring point and permit its detection.

2.9.3.1.4. The barrier is compatible with the Heating Fuel stored so that a Release from the UST System will not cause deterioration of the barrier allowing a Release to pass through undetected.

2.9.3.1.5. For Cathodically Protected Tanks, the secondary barrier shall be installed so that it does not interfere with the proper operation of the Cathodic Protection system.

2.9.3.1.6. Ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a Release can go undetected for more than thirty (30) days.

2.9.3.1.7. The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring are designed for use under such conditions.

2.9.3.1.8. For Tanks with an internally fitted liner, an automated device may be used to detect a Release between the inner wall of the Tank and the liner, and the liner shall be Compatible with the substance stored.

2.9.3.2. At a minimum of once every thirty (30) calendar days Owners and Operators shall inspect all interstitial monitoring devices utilized for Release Detection for evidence of a Release from the UST System and shall record the results.

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2.9.3.3. Owners and Operators shall maintain records of the monthly interstitial Release monitoring inspections for the life of the UST System.

2.9.3.4. Owners and Operators shall have all interstitial monitoring equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. The inspection shall at a minimum include:

2.9.3.4.1. Inspection of the console for printer operation if so equipped; and

2.9.3.4.2. Verification of the system setup values and battery backup; and

2.9.3.4.3. Verification of the test programming; and

2.9.3.4.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

2.9.3.4.5. Inspection and testing of all probes and interstitial sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

2.9.3.4.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

2.9.3.4.7. Correction of any problems found as a result of the required inspection.

2.9.4. Automatic Tank Gauging Release Detection Requirements for Heating Fuel Tanks

2.9.4.1. Monthly ~~T~~tank ~~T~~tightness ~~T~~testing using ~~A~~automatic ~~T~~tank ~~G~~gauging (ATG) equipment shall meet the following requirements:

2.9.4.1.1. The ATG equipment can detect a 0.2 gallon per hour leak rate from any portion of the Tank that routinely contains Heating Fuel; and

2.9.4.1.2. The ATG equipment shall be capable of producing a record of Release Detection test results; and

2.9.4.1.3. At a minimum of once every thirty (30) calendar days the ATG equipment shall perform a Release Detection

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test for each Tank and shall produce a record of each such test; and

2.9.4.1.4. Owners and Operators shall have all ATG equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. The inspection shall at a minimum include:

2.9.4.1.4.1. Inspection of the ATG console for printer operation if so equipped; and

2.9.4.1.4.2. Verification of the system setup values and battery backup; and

2.9.4.1.4.3. Verification of the test programming; and

2.9.4.1.4.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

2.9.4.1.4.5. Inspection and testing of the ~~magnetostrictive~~ probes and sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

2.9.4.1.4.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

2.9.4.1.4.7. Correction of any problems found as a result of the required inspection.

2.9.4.2. Owners and Operators shall maintain a record of all Release Detection tests performed by the ATG equipment for the life of the UST system.

2.9.5. Observation Tube Release Detection Requirements for Heating Fuel Tanks

2.9.5.1. Observation Tubes shall be designed, constructed, installed and maintained to detect a Release from any portion of the Tank that routinely contains Heating Fuel.

2.9.5.2. A network of Observation Tubes shall be placed within the excavation of the Tank field without the use of conventional well drilling methods during the installation of an UST and without the need for the installer to obtain a water well contractor's license, pay a monitoring well permit fee, obtain a monitoring well permit, or submit a well completion report to the Department as required in the Delaware *Regulations Governing the Construction and Use of Wells*. The Observation Tube however, shall meet the remaining standards set forth in the Department's *Regulations Governing the Construction and*

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Use of Wells including the requirement for installation of the tube to a depth of at least five (5) feet below the water table. This exception from the standard monitoring well construction criteria pertains only to Observation Tubes placed within the UST excavation pit.

2.9.5.3. The minimum number of Observation Tubes within an UST system excavation pit shall be:

2.9.5.3.1. Four Observation Tubes shall be installed for one UST.

2.9.5.3.2. Six Observation Tubes shall be installed for two to three USTs.

2.9.5.3.3. Eight Observation Tubes shall be installed for four to five USTs.

2.9.5.3.4. Ten or more Observation Tubes shall be installed for six or more USTs

2.9.5.4. Observation Tubes shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.5.5. Observation Tubes may only be used if the following conditions are met:

2.9.5.5.1. The Heating Fuel stored is immiscible in water and has a specific gravity of less than one; and

2.9.5.5.2. Ground water is never more than twenty (20) feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the Observation Tubes is not less than 1×10^{-2} cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials); and

2.9.5.5.3. The continuous monitoring devices or manual methods used can detect the presence of at least one eighth of an inch of Free Product on the top of the ground water on the Observation Tubes; and

2.9.5.5.4. The level of background contamination will not interfere with the method used to detect Releases from the UST System.

2.9.5.6. Owners and Operators shall test all Observation Tubes for evidence of a Release from the UST System by:

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2.9.5.6.1. Monitoring with a continuously functioning Release Detection device; or

2.9.5.6.2. Testing at least once ~~during each calendar month~~ every thirty (30) calendar days with a portable device inserted into the tube; or

2.9.5.6.3. Sampling at least once every thirty (30) calendar days with the removal of at least eight (8) ounces of fluid from the tube, using a bailer or a sampler of similar design. The fluid shall be taken from the surface of the water table unless otherwise directed by the Department. The fluid shall:

2.9.5.6.3.1. Be tested on site for the presence of Heating Fuel using portable devices; or

2.9.5.6.3.2. Be sent to an independent certified laboratory and analyzed for the presence of the Heating Fuel(s) stored at the Facility.

2.9.5.7. Owners and Operators shall record the results of the testing required in §2.9.~~6~~5.6 and the records shall be maintained for the life of the UST System.

2.9.5.8. Observation Tubes shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

2.9.6. Tank Tightness Test Release Detection Requirements for Heating Fuel Tanks

2.9.6.1. Owners and Operators implementing this Release Detection option shall conduct a separate tightness test for each UST System. The test shall be conducted at least once every twelve (12) months.

2.9.6.2. All testing of UST Systems shall be conducted in accordance with the Precision Test methods and procedures specified in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*, or other test approved by the Department which is of equivalent or superior accuracy.

2.9.6.3. Testing of UST Systems shall utilize a method capable of detecting a Release of a Heating Fuel at a rate of 0.1 gallons per hour with a probability of detection of 0.95 and a probability of false alarm of 0.05 from any part of the ~~t~~Tank which routinely contains Heating Fuel. These methods are limited to those tests that account for the following, if applicable:

2.9.6.3.1. The presence of vapor pockets; and

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2.9.6.3.2. The expansion or contraction of the Heating Fuel, which include any density considerations; and

2.9.6.3.3. Temperature stratification in the Tank; and

2.9.6.3.4. Evaporation; and

2.9.6.3.5. Pressure variations in the Tank; and

2.9.6.3.6. Deflection of the Tank ends; and

2.9.6.3.7. The location of the water table.

2.9.6.4. These tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer. The person performing the test shall certify that the test procedure utilized takes into account the variables specified in §2.9.7.3.of this Part.

2.9.6.5. Owners and Operators of the UST System Facility shall retain a copy of the results of the ~~T~~tank tightness tests for the life of the UST System.

2.9.6.6. If the UST System fails NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*, criteria Owners and Operators and the UST System test contractor shall report the tank test failure to the Department within twenty-four (24) hours and shall submit a paper copy of the test results to the Department within seven (7) days of the tank test failure. The test results shall include at a minimum the following information:

2.9.6.6.1. The procedures used including any deviations from those recommended by the developer of the test procedure for the Release Detection method; and

2.9.6.6.2. The name of the company performing the test; and

2.9.6.6.3. The method used; and

2.9.6.6.4. The results of the test.

2.9.7. Monitoring Well Release Detection Requirements for Heating Fuel Tanks

2.9.7.1. Monitoring Wells shall be designed, constructed, installed and maintained to detect a Release from any portion of the ~~t~~Tank that routinely contains Heating Fuel.

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2.9.7.2. Monitoring Wells shall be designed, constructed and installed in accordance with the Delaware *Regulations Governing the Construction and Use of Wells.*

2.9.7.3. A network of a minimum of four (4) monitoring wells shall be placed immediately outside of the excavation around the Tank.

2.9.7.4. Monitoring wells shall be clearly marked and secured to avoid unauthorized access and tampering.

2.9.7.5. Monitoring wells may be used only if the following conditions are met:

2.9.7.5.1. The Heating Fuel stored is immiscible in water and has a specific gravity of less than one; and

2.9.7.5.2. Ground water is never more than twenty (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 1 x 10-2 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials); and

2.9.7.5.3. The continuous monitoring devices or manual methods used can detect the presence of at least one eighth of an inch of Free Product on the top of the ground water in the monitoring wells; and

2.9.7.5.4. The level of background contamination will not interfere with the method used to detect Releases from the tank system.

2.9.7.6. Owner and Operators shall test all Monitor Wells for evidence of a Release from the UST System by:

2.9.7.6.1. Monitoring with a continuously functioning Release Detection device; or

2.9.7.6.2. Tested at a minimum of once every thirty (30) calendar days with a portable device inserted into the Monitor Well; or

2.9.7.6.3. Sampled at least once every thirty (30) calendar days with the removal of at least eight (8) ounces of fluid from the well, using a bailer or a sampler of similar design. The fluid shall be taken from the surface of the water table unless otherwise directed by the Department. The fluid shall:

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2.9.7.6.3.1. be tested on site for the presence of Heating Fuel using portable devices; or

2.9.7.6.3.2. be sent to an independent certified laboratory and analyzed for the presence of the Heating Fuel(s) stored at the Facility.

2.9.7.7. Owners and Operators shall record the results of the testing required in §2.9.7.6. monthly and the records shall be maintained for the life of the UST System.

2.9.7.8. Monitor Wells shall not be used to comply with the Release Detection requirements of §2.9. of this Part after January 1, 2013.

2.9.8. Alternative Release Detection Methods for Heating Fuel Tanks

2.9.8.1. The Department may approve other types of Release Detection method, or a combination of methods or devices not specified in this Section if:

2.9.8.1.1. It can detect a 0.2 gallon per hour leak rate or a Release of one hundred fifty (150) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

2.9.8.1.2. The Department may approve another method or a combination of methods or devices if Owners and Operators can demonstrate that the method or a combination of methods or devices can detect a Release as effectively as any of the methods allowed in §2.9. of this Part. In comparing methods of Release Detection allowed the Department shall consider the size of Release that the method or a combination of methods or devices can detect and the frequency and reliability with which it can be detected. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

2.10. Anchoring of UST Systems Storing Heating Fuel

2.10.1. Support and anchorage shall be provided for all new installations to avoid flotation. Any of the following anchoring methods can be used to meet this requirement and shall be completed in accordance with the PEI RP100**,** *Recommended Practices for Installation of Underground Liquid Storage Systems***:**

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2.10.1.1. Reinforced concrete deadmen anchors; or

2.10.1.2. Bottom hold-down pad which consists of eight inches of reinforced concrete that extends eighteen (18) inches beyond Tank sides and twelve (12) inches beyond each end; or

2.10.1.3. Reinforced concrete slab over Tank.

2.10.2. All exposed metallic components of hold down systems shall be Electrically Isolated and cathodically protected when the hold down system is required by the Department; adequate bed of backfill shall be provided between the Tank and concrete.

2.11. Backfill Requirements for UST Systems Storing Heating Fuel

2.11.1. Backfill material shall consist of sand, crushed rock or pea gravel. The material shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length of crushed rock or pea gravel shall be no more than one-eighth (1/8") to three-fourths (3/4") in size. Backfill material shall comply with the manufacturer's specifications. Mixing of backfill with native soil or foreign objects is prohibited.

2.12. Installation of New UST Systems Storing Heating Fuel In An Existing UST Field Requirements

2.12.1. If an UST System shall be installed in or near a previous UST Facility, Owners and Operators shall provide a means of Release Detection that will, at a minimum, detect any future Release from the UST System. An Observation Tube or Monitor Well may not be permitted as a Release Detection option if the soil is already contaminated.

2.13. Tank and Piping Installation Inspection and Testing Requirements for UST Systems Storing Heating Fuel

2.13.1. Once on site all UST Systems materials and equipment shall be inspected for flaws, surface cracks, holes, large scrapes, blisters, indentations and other indications of damage. All defects and Repairs to the UST System shall be recorded and submitted together with a site completion report to the Department.

2.13.2. All Tank(s) shall be air pressure tested according to the manufacturer's specifications prior to installation of the Tank(s) into the excavation. For single-walled Tank(s), the installer shall remove, dope and re-install all factory plugs. The installer shall soap the exterior, particularly its seams and fittings and pressure test the Tank(s) using the manufacturer's specifications to watch for bubbles. For double-walled Tanks testing shall be conducted

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according to the manufacturer's recommendations and accepted engineering practices.

2.13.3. After installation of the Tank and integral Piping is completed, the entire UST System shall be tested in accordance with current industry standards and practices and in the following manner to prove tightness prior to the initial use of the UST System:

2.13.3.1. All testing of UST Systems shall be accomplished by the Precision Test method described in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases* or other test approved by the Department which is of equivalent or superior accuracy.

2.13.3.2. All testing of UST Systems shall be able to account for the effects of thermal expansion or contraction of the Heating Fuels, vapor pockets, Tank deformation, evaporation or condensation, and the location of the water table.

2.13.3.3. These tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer and with current industry standards and practices.

2.14. General Piping Installation Requirements for UST Systems Storing Heating Fuel

2.14.1. The Piping layout shall be designed to minimize crossed lines and interference with conduit and other UST System components. If crossing of lines is unavoidable, adequate clearance shall be provided to prevent contact.

2.14.2. Double elbow swing joints or flexible connectors shall be installed at all locations where a pipeline changes direction from horizontal to vertical, or from vertical to horizontal. Double elbow swing joints shall be replaced by flexible connectors by January 1, 2011.

2.14.3. All Heating Fuel, vent and return Piping shall slope back to the Tank with a minimum slope of 1/8 inch per foot.

2.14.4. The pipe joints shall be cut accurately and deburred to provide liquid tight seals.

2.14.5. All underground metal pipe, fittings, flexible connectors, joints, and pipes shall be coated or wrapped and shall have Cathodic Protection.

2.15. UST Piping Design Requirements for UST Systems Storing Heating Fuel

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2.15.1. Underground Piping shall be protected from corrosion in accordance with accepted corrosion engineering practices and shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

2.15.1.1. NFPA 30, *Flammable and Combustible Liquids Code*; and

2.15.1.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*; and

2.15.1.3. NFPA 329, *Recommended Practices for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.15.1.4. API RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks*.

2.15.1.5. NACE RP 0169, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*.

2.15.1.6. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

2.15.1.7. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

2.15.1.8. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

2.15.2. All integral Piping systems shall be designed, constructed, and installed in a manner which will permit periodic tightness testing of the entire Piping system without the need for extensive excavation.

2.15.3. Acceptable designs for Underground Piping construction include metallic, fiberglass reinforced plastic and flexible plastic Piping.

2.15.4. Use of metal Piping without either Sacrificial Anodes or impressed current Cathodic Protection is prohibited.

2.16. Metal Piping Design Requirements for UST Systems Storing Heating Fuel

2.16.1. All metal Piping shall be coated or wrapped, and cathodically protected in the following manner:

2.16.1.1. The Piping is coated with a suitable Dielectric Material;

2.16.1.2. Field installed Cathodic Protection systems are designed and installed in accordance with accepted engineering practice and standards established under this Section;

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2.16.1.3. Cathodically protected Piping systems of the Sacrificial Anode type shall be designed and installed to permit measurement of structure to soil potential six (6) months after installation and at least once every twelve (12) months thereafter. If inadequate Cathodic Protection is indicated, the cause shall be determined, and necessary Repairs made in accordance with accepted engineering practices and one of the Standards contained in this Section within ~~thirty (30)~~ sixty (60) days of the test.

2.16.1.4. Impressed current systems shall be designed to allow determination of current operating status. The impressed current source cannot be de-energized at any time including periods when the Facility is closed, except during power failures or during service work on the storage systems or the impressed current Cathodic Protection system, and it shall be equipped with a continuously operating meter to show that the system is working.

2.16.1.5. Where a Sacrificial Anode or impressed current system is used, a monitor station to check on the adequacy of the cathodic protection system shall be installed and kept in proper working condition. If at any time the monitor station shows that the electrical current necessary to prevent corrosion is not being maintained the cause shall be determined, and necessary Repairs shall be made in accordance with accepted engineering practices and one of the Standards contained in this Section within sixty (60) days of the failure, ~~cathodic protection system shall be restored,~~ and the Piping shall be tested for tightness in accordance with NFPA 329, *Recommended Practices for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.16.1.6. Except where Cathodic Protection is provided by impressed current, underground Piping systems shall have dielectric bushings, washers, sleeves or gaskets installed to electrically isolate the Piping system from the Tank and the dispenser. These dielectric connectors shall be chemically compatible with Heating Fuel, additives, corrosive soils and groundwater.

2.16.1.7. Cathodic Protection systems shall be maintained, operated, tested and Repaired in accordance with the requirements of §2.25. of this Part.

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2.17. Fiberglass-Reinforced Plastic and Flexible Plastic Piping Design Requirements for UST Systems Storing Heating Fuel

2.17.1. Fiberglass-reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the manufacturer's specifications and the following industry standards, as applicable:

2.17.1.1. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

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2.17.1.2. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

2.17.1.3. NFPA 30, *Flammable and Combustible Liquids Code*.

2.17.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

2.17.1.5. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.17.1.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

2.17.2. The construction materials, joints, and joint adhesives of all fiberglass-reinforced plastic and flexible plastic pipes shall be Compatible with the Heating Fuel any additives stored, soil, and groundwater.

2.17.3. Pipes, fittings, and adhesives shall be designed, fabricated, and factory tested in accordance with generally accepted structural, material, and performance standards for underground Piping systems.

2.18. Suction Piping Design Requirements for UST Systems Storing Heating Fuel

2.18.1. Suction Piping shall be designed, constructed, and installed to meet the requirements of §2.18.1.1. or §2.18.1.2. of this Part:

2.18.1.1. Safe suction Piping systems shall be designed and constructed in accordance with the following requirements:

2.18.1.1.1. The below grade Piping shall be constructed so that if suction is released the contents of the pipe will drain back into the Tank; and

2.18.1.1.2. Only one (1) check valve shall be included in each suction ~~line~~Pipe; and

2.18.1.1.3. The check valve shall be located directly below and as close as practical to the suction pump; or

2.18.1.2. Suction Piping systems with a foot valve (U.S. Suction) shall be designed and constructed in accordance with the following requirements:

2.18.1.2.1. The below grade Piping shall be constructed so that the Piping slopes back to the Tank; and

2.18.1.2.2. A foot valve is installed at the Tank.

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2.19. General Release Detection Requirements for UST Piping for UST Systems Storing Heating Fuel

2.19.1. Owners and Operators shall equip all underground Piping that routinely contains Heating Fuels with a method, or combination of methods of Release Detection that can detect a Release from any portion of the underground Piping that routinely contains Heating Fuel.

2.19.2. UST Piping interstitial or sump monitoring systems shall be designed, constructed installed and maintained to detect a leak from any portion of the Piping that routinely contains Heating Fuel.

2.19.3. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

2.19.3.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

2.19.3.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §2.20. of this Part. If the method or a combination of methods or devices is approved, the Owner and Operator shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

2.19.4. Owners and Operators shall implement the Indicated Release investigation procedure in Part E of these Regulations if the Piping Release Detection equipment or method shows indication of a Release.

2.20. Pressurized Piping Release Detection Requirements for UST Systems Storing Heating Fuel

2.20.1. Line Leak Detector Requirements

2.20.1.1. Underground Piping that conveys Heating Fuels under pressure shall be equipped with an automatic ~~l~~Line leak detector.

2.20.1.2. The automatic ~~l~~Line leak detector shall alert Owners and Operators to the presence of a Release by restricting or shutting off the flow of the Heating Fuel through the Piping or triggering an audible or visual alarm.

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2.20.1.3. Mechanical and Electronic automatic ~~l~~Line leak detectors shall be capable of reacting to leaks of three (3) gallons per hour at ten (10) pounds per square inch line pressure within one (1) hour.

2.20.1.4. Owners and Operators shall conduct an annual test of the operation of the automatic ~~l~~Line leak detector while installed in the UST System and under normal operating conditions. ~~in accordance with the manufacturer's test protocol.~~ All Mechanical and Electronic automatic ~~l~~Line leak detectors shall once every twelve (12) months pass a function test at three (3) gallons per hour (gph) at ten (10) pounds per square inch line pressure within one (1) hour.

2.20.2. Tightness Test Requirements

2.20.2.1. Owners and Operators of underground pressurized Piping systems shall conduct an annual tightness test of the entire pressurized underground Piping system, including primary and secondary Piping, in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.20.2.2. Owners and Operators of UST Systems that have underground pressurized Piping systems shall use a ~~l~~Line tightness test method designed to detect a Release from any portion of the underground Piping system that routinely contains Heating Fuels.

2.20.2.3. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the ~~p~~Piping tightness test requirements in §2.20.2.1. of this Part if the following requirements are met:

2.20.2.3.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Heating Fuel; and

2.20.2.3.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the automatic tank gauge record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

2.20.2.3.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection ATG records for the life of the UST System; and

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2.20.2.3.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §2.27. of this Part; and

2.20.2.3.5. All Containment Sumps shall comply with the testing and monitoring requirements of §2.26. of this Part.

2.21. Suction Piping Release Detection Requirements for UST Systems Storing Heating Fuel

2.21.1. Release Detection is not required for suction Piping that is designed and constructed to meet the requirements of §2.18.1.1.of this Part.

2.21.2. Owners and Operators of Suction Piping that is designed and constructed in accordance with §2.18.1.2. shall conduct a ~~l~~Line tightness test a minimum of once every three (3) years in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

2.21.3. Owners and Operators of UST Systems with underground suction Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the Release Detection requirements of §2.19. this Part if the following requirements are met:

2.21.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

2.21.3.1.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

2.21.3.1.3. Owners and Operators shall maintain records of the monthly interstitial Release records for the life of the UST System; and

2.21.3.1.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §2.27. of this Part; and

2.21.3.1.5. All Containment Sumps shall comply with the testing and monitoring requirements of §2.26. of this Part.

2.22. Spill Protection Requirements for UST Systems Storing Heating Fuel

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2.22.1. No Person shall construct, install, use or maintain any UST System without providing a reliable means of ensuring that Releases due to spilling do not occur.

2.22.2. To prevent spilling associated with Heating Fuel transfer to the UST System, Owners and Operators shall comply with the requirements of one of the following industry standards:

2.22.2.1. NFPA 30, *Flammable and Combustible Liquids Code*; or

2.22.2.2. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*; or

2.22.2.3. API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*.

2.22.3. Owners and Operators shall equip Heating Fuel UST Systems with an impervious spill containment device that forms a liquid tight seal around the fill pipe. The spill containment device shall consist of one of the following:

2.22.3.1. Impervious Materials which form a seal around the UST fill pipe with an optional drain leading to an overfill collection device; or

2.22.3.2. An impervious container surrounding the fill pipe which will collect any overfill or spill and will allow the Heating Fuel to drain back into the UST when there is sufficient ullage space.

2.22.4. Owners and Operators shall immediately remove water, Heating Fuel or debris that accumulates in the spill containment. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

2.22.5. All reasonable precautions shall be taken to prevent UST overfilling, spilling or dripping.

2.22.6. Owners and Operators shall test spill containment devices once every twelve (12) months for tightness, or in accordance with the manufacturer's specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

2.22.7. Spill containment devices of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §2.22.6. of this Part if the following requirements are met:.

2.22.7.1. Owners and Operators shall check the interstitial monitoring at a minimum of once every thirty (30) calendar days for evidence of a Release; and

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~~2.22.7.~~2.22.7.2. Owners and Operators shall maintain written records of the required monitoring in §1.21.8.1. of this Part ~~continuous interstitial monitoring of the spill containment device~~ for the life of the UST System.

2.22.8. Owners and Operators shall report, investigate and clean up any spills in accordance with Part E of these Regulations.

2.23. Overfill Protection Requirements for UST Systems Storing Heating Fuel

2.23.1. No Person shall construct, install, use, or maintain any UST System without providing a reliable means of detecting and preventing an overfill.

2.23.2. The Person In Charge of the transfer of Heating Fuel to the Tank shall adhere to proper safety precautions and procedures for transfer such as those found in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids* or API RP 1621, *Bulk Liquid Stock Control at Retail Outlets* and shall comply with the following:

2.23.2.1. The Person In Charge of transfer operations shall first check the UST to ensure that the volume available in the UST is greater than the volume of Heating Fuel to be transferred to the UST before the transfer is made; and

2.23.2.2. During the transfer, the Person In Charge shall continuously monitor the entire transfer operation to prevent an Overfill Release; and

2.23.2.3. At the conclusion of the transfer, the Person in Charge shall collect any Heating Fuel which remains in the transfer hose and shall ensure it is properly managed and does not reach the environment; and

2.23.2.4. The Person in Charge shall take all precautions to prevent spilling and dripping.

2.23.3. Owners and Operators shall install and maintain overfill protection equipment that complies with one of the following:

2.23.3.1. For UST Systems with a two inch (2") fill overfill protection may consist of a delivery truck that is equipped with a deep fill nozzle that incorporates a whistle. The whistle shall be set deep enough in the deep fill such that when the whistling stops the level of Heating Fuel in the UST is no more than 90% of the capacity of the UST; or

2.23.3.2. Automatically shuts off the flow into the UST when the UST is no more than ninety-five percent (95%) full; or

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2.23.3.3. Alerts the transfer operator when the UST is no more than ninety percent (90%) full by restricting the flow into the UST or triggering a high level alarm; or

2.23.3.4. Restricts flow thirty (30) minutes prior to overfilling, alerting the Person in Charge of the transfer operation with a high level alarm one minute before overfilling, or automatically shuts off flow into the UST so that none of the fittings on top of the ~~t~~Tank are exposed to Heating Fuel due to overfilling; or

2.23.3.5. An automatic partial flow shut-off float vent or vapor valve is installed inside the UST set to restrict flow when the UST is no more than ninety percent (90%) full. Vent or vapor restriction devices shall not be installed in storage systems that are equipped with suction pumps, remote fill ~~l~~Lines, remote vapor ~~l~~Lines or receive pressurized deliveries; or

2.23.3.6. UST Systems that receive pressurized deliveries require a high level alarm that is triggered at no more than ninety (90%) percent full for overfill protection or an automatic flow shut-off valve designed for pressurized deliveries.

2.23.4. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

2.23.5. Owners and Operators and Persons In Charge of transfer operations shall comply with the following for Heating Fuel UST Systems receiving gravity deliveries:

2.23.5.1. The Person In Charge of the transfer operation shall first check the UST to ensure that the volume available in the UST is greater than the volume of Heating Fuel to be transferred to the UST before the transfer is made. During the transfer, the Person In Charge shall constantly monitor the entire transfer operation to prevent overfilling and shall stand by the shut-off valve during the entire transfer operation. In the case of remote fills the ~~t~~Tank volume shall be checked through a gauging port.

2.23.5.2. At the conclusion of the transfer, The Person in Charge shall collect any Heating Fuel which remains in the transfer hose and shall ensure it is properly managed and does not reach the environment.

2.23.5.3. Overfill protection shall consist of overfill protection equipment that will automatically shut off the flow into the UST when the UST is no more than ninety-five percent (95%) full, or alert the transfer operator when the UST is no more than ninety percent (90%) full by restricting the flow into the UST, or triggering a high level alarm.

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2.23.6. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

2.24. Fill Line Protection Requirements for UST Systems Storing Heating Fuel

2.24.1. Owners and Operators shall clearly mark all fill ~~l~~Lines for UST Systems to indicate the size of the Tank and the type of Heating Fuel stored. These markings shall be as follows:

2.24.1.1. A label or permanent tag at the fill connection which states the size of the UST System and the specific type of Heating Fuel stored; and

2.24.1.2. A color-symbol system shall be implemented according to the following requirements:

2.24.1.2.1. All fill covers shall be marked consistent with API RP 1637, Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals.

2.24.1.2.2. A different color-symbol shall be used for each type of Heating Fuel or grade of Heating Fuel being stored at the Facility.

2.24.2. Pipes and other openings not used for transfer of Heating Fuel at the UST Facility shall not be painted any color which would be associated with the color-symbol designated for marking the Heating Fuel stored at the Facility. It is particularly important that openings with access to soil and ground water, such as Monitor Wells, Release Detection tubes, vadose zone vapor detection tubes and U-tubes, not be confused with Regulated Substance fill ~~l~~Lines.

2.25. Sacrificial Anode and Impressed Current Cathodic Corrosion Protection Requirements for UST Systems Storing Heating Fuel

2.25.1. General Requirements

2.25.1.1. Owners and Operators of steel UST Systems with corrosion protection systems shall install**,** operate and maintain the system in accordance with the following industry standards:

2.25.1.1.1. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

2.25.1.1.2. NACE TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*.

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2.25.1.1.3. NFPA 30, *Flammable and Combustible Liquids Code*.

2.25.1.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

2.25.1.2. Owners and Operators of steel UST Systems with corrosion protection systems shall maintain and operate the corrosion protection system to continuously provide corrosion protection to the metal components of the UST System that routinely contain Heating Fuel and are in contact with the ground to ensure that Releases due to corrosion are prevented for the life of the UST System.

2.25.1.3. Owners and Operators shall ensure the integrity of the UST System utilizing one of the following methods prior to the addition of a Cathodic Protection system to an existing UST System:

2.25.1.3.1. The Tank shall be internally inspected to ensure that the Tank is structurally sound and free of corrosion holes prior to installing the Cathodic Protection system; or

2.25.1.3.2. The Tank has been installed for less than ten (10) years and is monitored monthly for Releases in accordance with §2.9 of this Part; or

2.25.1.3.3. The ~~t~~Tank has been installed for less than ten (10) years and is assessed for corrosion holes by conducting two (2) ~~p~~Precision ~~Tank t~~Tests that meet the requirements of §2.9.6. of this Part. The first Precision Test shall be conducted prior to installing the Cathodic Protection system. The second Precision Test shall be conducted between three (3) and six (6) months following the first operation of the Cathodic Protection system; or

2.25.1.3.4. A third party approved integrity assessment method approved by the Department.

2.25.2. Sacrificial Anode Cathodic Protection System Operation and Maintenance Requirements

2.25.2.1. Owners and Operators shall test all UST Systems equipped with Sacrificial Anode Cathodic Protection systems for proper operation using standard corrosion engineering practices and in accordance with the following requirements:

2.25.2.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the

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manufacturer's specifications, and shall include the following:

2.25.2.1.1.1. A minimum of three (3) voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

2.25.2.1.1.2. A minimum of one (1) voltage reading for every ten (10) feet of Piping.

2.25.2.2. All Sacrificial Anode Cathodic Protection systems that protect UST System components shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) months of installation and at least once every twelve (12) months thereafter.

2.25.2.3. The Sacrificial Anode Cathodic Protection system shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) weeks after underground work is performed at or near a site with a Sacrificial Anode Cathodic Protection system and once every twelve (12) months thereafter.

2.25.2.4. Owners and Operators shall Repair or replace the Sacrificial Anode Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the requirements of §1.6 of this Part if the Sacrificial Anode Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the corrosion protection system.

2.25.2.5. UST System Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of a Sacrificial Anode Cathodic Protection system.

2.25.2.6. The Department shall approve, either verbally or in writing, all Cathodic Protection repair or replacement plans prior to work commencing.

~~2.25.2.8.~~2.25.2.7. The Department shall review the Release Detection and Cathodic Protection records of the UST System and based upon this

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information may require that UST System Owners and Operators determine the current integrity of the UST System if the Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the corrosion protection system. The use of alternate methods of monitoring shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*, and shall only be used with prior written approval from the Department.

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2.25.2.8. The following information shall be submitted to the Department prior to Repairs to the Sacrificial Anode Cathodic Protection system:

2.25.2.8.1. Results of one of the following:

2.25.2.8.1.1. The two (2) most recent Sacrificial Anode Cathodic Protection system tests including the failed test, or

2.25.2.8.1.2. The results of an internal assessment, or

2.25.2.8.1.3. The results of a third party approved integrity assessment; and

2.25.2.8.2. Records of the Tank Release Detection method from the date of the most recent passed Sacrificial Anode Cathodic Protection test; and

2.25.2.8.3. Records of required rectifier readings from the date of the most recent passed impressed current Cathodic Protection test.

2.25.2.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

~~2.25.2.9.~~2.25.2.10. Owners and Operators shall maintain a record of the operation of Sacrificial Anode Cathodic Protection systems to demonstrate compliance with the requirements of this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~2.25.2.9.1.~~2.25.2.10.1. The results of all tests and inspections of the Sacrificial Anode Cathodic Protection system.

~~2.25.2.10.~~2.25.2.11. Impressed current Cathodic Protection systems shall not be utilized as a Repair, Upgrade or Replacement after ~~the Effective Date of these Regulations~~January 11, 2008.

2.25.3. Impressed Current Cathodic Protection ~~Requirements~~ Operation and Maintenance Requirements

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2.25.3.1. Owners and Operators shall test all UST Systems equipped with impressed current Cathodic Protection systems for proper operation using standard corrosion engineering practices in accordance with the following requirements:

2.25.3.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the manufacturer's specifications, and shall include the following:

2.25.3.1.1.1. A minimum of three (3) instant off voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) instant off voltage readings along the center line for UST Systems greater than or equal to twenty thousand 20,000 gallons; and

2.25.3.1.1.2. A minimum of one (1) instant off voltage reading for every ten (10) feet of Piping.

2.25.3.2. Owners and Operators shall have all impressed current Cathodic Protection systems that protect underground components tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) months of installation and at least once every twelve (12) months thereafter.

2.25.3.3. Owners and Operators shall have all impressed current Cathodic Protection systems shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards within six (6) weeks after underground work is performed at or near a site with an impressed current Cathodic Protection system, and at least once every twelve (12) months thereafter.

2.25.3.4. Owners and Operators shall Repair or replace the impressed current Cathodic Protection system in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* if the impressed current Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the impressed current corrosion protection system.

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2.25.3.5. Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of an impressed current Cathodic Protection system.

2.25.3.6. The Department shall approve, either verbally or in writing, all impressed current Cathodic Protection system Repair or replacement plans prior to work commencing.

2.25.3.7. The Department shall review the Release Detection and impressed current Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST system if the impressed current Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the impressed current corrosion protection system.

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2.25.3.8. The following information shall be submitted to the Department prior to Repairs to the impressed current Cathodic Protection system:

2.25.3.8.1. Results of one of the following:

2.25.3.8.1.1. The two (2) most recent impressed current Cathodic Protection system tests including the failed test, or

2.25.3.8.1.2. The results of an internal assessment, or

2.25.3.8.1.3. The results of a third party approved integrity assessment; and

2.25.3.8.2. Records of the Tank Release Detection method from the date of the most recent passed impressed current Cathodic Protection test.

2.25.3.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

~~2.25.3.8.~~2.25.3.10. The impressed current source cannot be de-energized at any time including periods when the Facility is closed except during power failures or during service work on the UST Systems or the impressed current Cathodic Protection system.

~~2.25.3.9.~~2.25.3.11. The use of alternate methods of testing shall be those described in NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and shall only be used with prior written approval from the Department.

~~2.25.3.10.~~2.25.3.12. Owners and Operators shall record all rectifier readings ~~at~~ once every thirty (30) calendar days. ~~once every thirty (30) calendar~~

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~~days~~. If the monthly rectifier reading demonstrates the impressed current Cathodic Protection is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations the procedures in §2.25.3.4. shall be followed.

~~2.25.3.11.~~2.25.3.13. Owners and Operators shall have all impressed current Cathodic Protection systems inspected once every twelve (12) months by an individual certified by a nationally recognized industry standard setting organization and in accordance with Department. Inspection shall at a minimum include a check for electrical shorts, ground connections, meter accuracy, and circuit resistance. The effectiveness of isolating devices, continuity bonds, and insulators shall be evaluated during the annual surveys.

~~2.25.3.12.~~2.25.3.14. Owners and Operators shall maintain a record of the operation of impressed current Cathodic Protection systems to demonstrate compliance with the performance standards in this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~2.25.3.12.1.~~2.25.3.14.1. The results of all tests and inspections of the impressed current Cathodic Protection system; and

~~2.25.3.12.2.~~2.25.3.14.2. The rectifier readings as required in §2.25.3.10. of this Part.

2.26. Containment Sump Requirements for UST Systems Storing Heating Fuel

2.26.1. When a sump sensor is used to comply with the Tank or Piping Release Detection requirements of §2.9.; §2.18., §2.19., or §2.20., of this Part, the Containment Sump shall be Product Tight and shall be tested to ensure it is Product Tight once every thirty-six (36) months.

2.26.2. All dispenser, Tank top, transition and any other Containment Sump tightness testing methods utilized shall be in accordance with the manufacturer's specifications or shall be approved in advance by the Department.

2.26.3. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any Containment Sump.

2.27. Testing and Monitoring Procedures for Sump and Interstitial Sensors for UST Systems Storing Heating Fuel

2.27.1. Owner and Operators shall test and inspect all sump and interstitial sensors used to comply with the Release Detection requirements of §2.9. or §2.19. or §2.20. or §2.21. of this Part, or the requirements of §2.22.7. of this Part, once every twelve (12) months in accordance with the manufacturer's

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specifications or as directed by the Department to verify proper sensor operation.

2.27.2. All sensors installed in a sump for the purpose of detecting a Release from the UST System shall be installed no more than one inch (1") from the bottom of the sump such that the sensor is capable of detecting any accumulation of Regulated Substance.

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2.28. Repair, Retrofit and Upgrade Requirements for UST Systems Storing Heating Fuel

2.28.1. All Repairs, Upgrades, Retrofits and replacements to existing Heating Fuel UST Systems shall meet the applicable design, installation, maintenance and operational standards in Part C, §1 of these Regulations or shall be approved by the Department prior to installation.

2.28.2. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch in accordance with the requirements of Part E, §1.2. of these Regulations.

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~~2.28.2.Documentation of Repair completion shall be submitted to the Department in accordance with Part E, §2.2.2. of these Regulations.~~

2.28.3. All equipment installed after ~~the Effective Date of these Regulations~~January 11, 2008 ~~of these Regulations~~ shall be installed, operated and maintained such that manufacturer's warranties are not voided.

2.28.4. Owners and Operators shall ensure that Repairs will prevent Releases due to structural failure or corrosion as long as the UST System is used to store Heating Fuel.

2.28.5. Owners and Operators shall test the Cathodic Protection system in accordance with §2.25. of this Part within six (6) weeks and once every twelve (12) months thereafter following the Repair of any Cathodically Protected UST system to ensure it is operating properly.

2.28.6. Owners and Operators shall maintain records for each Repair, Retrofit and Upgrade for the Operational Life of the UST System.

2.28.7. After any Repairs, Retrofit or Upgrade to an UST System Owners and Operators shall have the applicable portions of the UST System tested for tightness in accordance with ~~§2.9.6. of this Part~~ these Regulations before the UST System is placed into service.

2.28.8. Repairs to fiberglass reinforced plastic Tanks may be made only by the manufacturer or by its authorized representatives.

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2.28.9. Owners and Operators may not Repair holes in Piping and fittings, but shall replace any piece of such Piping or fittings from which a Release has occurred. Replacement Piping and fittings shall meet all applicable Piping requirements in §1 of this Part. Loose fittings and joints in Piping that have been tightened to eliminate leakage may be put back into service.

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2.28.10. At any time during the course of a Repair, Retrofit or Upgrade there is an indication of a Release the requirements of Part E of these Regulations must be followed.

2.28.11. At any time excavation of soil or removal of concrete, asphalt or other cover is required during the course of a Repair, Retrofit or Upgrade, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Repair, Retrofit or Upgrade of the UST System.

2.28.12. Within sixty (60) days of completion of a Repair, Retrofit or Upgrade of an UST System Owners and Operators and UST Contractors shall submit documentation to the Tank Management Branch including but not limited to the following:

2.28.12.1. Repair, Retrofit or Upgrade completion documentation; and

2.28.12.2. Results of sampling required in Part E of these Regulations or §2.28.10. of this Part; and

2.28.12.3. Results of any UST System tests required by the Department.

2.29. Routine Inspection Requirements for USTs Storing Heating Fuel

2.29.1. Owners and Operators shall conduct an inspection at an interval no less frequently than once every twenty-eight (28) to thirty-one (31) ~~once every thirty (30)~~ calendar days to monitor the condition of the UST System including but not limited to access ports, spill containment devices, sumps, and Containment Sumps. The routine inspection shall ~~include~~ at a minimum include the following:

2.29.1.1. The removal of all Containment Sump and sump covers and visual inspection of the sump for any evidence of a Release of Heating Fuel or intrusion of water; and

2.29.1.2. The inspection of all access ports to make sure that the covers, caps and adaptors are tightly sealed; and

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2.29.1.3. The removal of all spill containment device covers and inspection to ensure all spill containment devices are empty and free of debris, water or Heating Fuel.

2.29.2. A record of all routine inspections shall be kept on file by Owners and Operators for a minimum of three (3) years and shall be made available to the Department upon request. The records shall at a minimum include the results of all inspections including any Repairs made.

2.29.3. If at any time during a routine inspection evidence of a Release of Heating Fuel is discovered Owners and Operators shall follow the investigation requirements of Part E of these Regulations.

2.30. Alternative Compliance Requirements for existing Heating Fuel UST Systems with a storage capacity greater than 2,000 gallons and less than or equal to 8,000 gallons

2.30.1. Owners and Operators of Heating Fuel UST Systems installed prior to May 14, 1993 with a storage capacity of greater than two thousand (2,000) gallons and less than or equal to eight thousand (8,000) gallons may submit a written application to the Department requesting a deferral from compliance with the requirements of §2.32. of this Part. The following documentation shall be submitted with the written request:

2.30.1.1. Name and location of the facility for which the exemption is being requested; and

2.30.1.2. Duration of the exemption being requested; and

2.30.1.3. The former capacity of the UST System for which the exemption is being requested; and

2.30.1.4. Documentation of an agreement with the heating fuel distributor not to exceed a two thousand (2,000) gallon capacity in the UST System for which the exemption is being requested.

2.30.1.5. Results of a Site Assessment conducted to measure for the presence of a Release where contamination is most likely to be present at the UST System site. In selecting the sample locations and measurement methods, Owners and Operators shall consider the nature of the Regulated Substance stored, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

2.30.2. Manual tank gauging (MTG) shall be performed for Heating Fuel UST Systems granted an exemption by the Department from the requirements of §2.32. of this Part in accordance with the following requirements:

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2.30.2.1. The UST System shall be tested at least twice in a twelve (12) month period over a static period of at least one hundred and twenty (120) hours in which no Heating Fuel may be added to or removed from the UST System.

2.30.2.2. At the beginning and at the end of the test period the liquid level in the UST shall be measured to the nearest one-eighth (1/8) inch and the measurements recorded.

2.30.2.3. Owners and Operators shall maintain the MTG records for the lifetime of the UST System.

2.30.2.4. A leak rate of 0.2 gallons per hour (0.2 gph) or more shall be indication of a Release.

2.30.2.5. Owners and Operators shall notify the Department of a suspected Release within twenty-four (24) hours of the end of the test period and the requirements of Part E of these Regulations shall be followed.

2.30.3. The Department shall approve or deny each exemption request in writing to Owners and Operators. Approval documentation shall be posted or displayed at the individual facility for which the exemption was granted.

2.30.4. No Heating Fuel UST System shall be granted an exemption from compliance with the requirements of §2.32. of this Part after December 31, 2010.

2.30.5. Heating Fuel UST Systems located in areas where groundwater depth is above the ~~t~~Tank bottom are prohibited from entering the exemption category.

2.31. Internal Lining Requirements for Heating Fuel USTs

2.31.1. An internal lining may be added to UST Systems to improve the ability of a Heating Fuel UST System to prevent the release of Heating Fuel.

2.31.2. An internal lining ~~may~~shall ~~be~~ not be added to UST Systems to meet corrosion protection requirements after ~~the Effective Date of these Regulations~~January 11, 2008.

2.31.3. The internal lining installation, operation and maintenance shall meet the following requirements:

2.31.3.1. The lining shall be installed in accordance with the following industry standards:

2.31.3.1.1. API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*.

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2.31.3.1.2. NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks*.

2.31.3.1.3. NLPA Standard 631, Chapter B, *Future Internal Inspection Requirements for Lined Tanks*.

2.31.3.2. The lined Tank shall be tested for tightness in accordance with §2.9.6. of this Part and found to be tight before the Tank is put back into service; and

2.31.3.3. Within ten (10) years after lining, and every five (5) years thereafter, Owners and Operators shall conduct an internal inspection of the lined Tank in accordance with NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks* and Chapter B, *Future Internal Inspection Requirements for Lined Tanks* and API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*. At the time of the inspection, the lined Tank shall be structurally sound and comply with the original design specifications. If any damage is found, Repairs shall be made in accordance with standard engineering practice, industry standards and the requirements of these Regulations or the Tank shall be replaced in accordance with the requirements in §1 of this Part.

2.31.3.4. When an internally lined bare steel Tank is not inspected at a minimum in accordance with the intervals required in §2.31.3.3. of this Part and subsequently fails an internal inspection test the Tank shall be Removed or Closed In Place in accordance with these Regulations.

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2.32. Additional Requirements for Heating Fuel UST systems installed prior to May 14, 1993

2.32.1. Not later than January 1, 1999, no Person shall own or operate a Heating Fuel UST System with a capacity of greater than two thousand (2,000) gallons installed prior to May 14, 1993 that is not in compliance with the following:

~~2.32.1.1.The requirements of the following:~~

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~~2.32.1.1.1.~~2.32.1.1. The T~~t~~ank R~~r~~elease D~~d~~etection requirements of §2.9 of this Part; and

~~2.32.1.1.2.~~2.32.1.2. The ~~p~~Piping ~~r~~Release-D~~d~~etection requirements of §2.19, and §2.20 or §2.21 of this Part; and

~~2.32.1.1.3.~~2.32.1.3. The spill protection requirements of §2.22 of this Part; and

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~~2.32.1.1.4.~~2.32.1.4. The overfill protection requirements of §2.23 of this Part; and

2.32.1.5. The fill ~~l~~Line protection requirements of §2.24 of this Part; and

2.32.1.6. One of the following:

~~2.32.1.2.~~2.32.1.6.1. UST System design requirements of §2.3. of this Part; or

2.32.1.6.2. UST System Cathodic Protection requirements of §2.6. and §2.25. of this Part; or

~~2.32.1.6.2.~~2.32.1.6.3. UST System Internal Lining requirements of §2.31. of this Part; or

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~~2.32.1.4.~~2.32.1.6.4. UST System Cathodic Protection requirements of §2.6. and §2.25. of this Part and UST System Internal Lining requirements of §2.31. of this Part; or

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~~2.32.1.5.~~2.32.1.6.5. The permanent Removal or Closure In Place of the UST System in accordance with the requirements of Part C, §4 of these Regulations and the applicable hydrogeologic investigation and Remedial Action requirements of Part E of these Regulations.

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Section 3. Change In Service Requirements for Heating Fuel UST Systems

3.1. Change In Service Notification Requirements for Heating Fuel UST Systems

3.1.1. UST System Owners and Operators shall notify the Department of all Changes In Service in accordance with the requirements of §4.0 of Part A of these Regulations.

3.2. General Requirements for Change in Status from In Service to Out of Service for Heating Fuel UST Systems

3.2.1. Owners and Operators shall continue operation and maintenance of corrosion protection in accordance with the applicable requirements of §1 and §2 of this Part when a Heating Fuel UST System is Out of Service.

3.2.2. Owners and Operators shall continue operation and maintenance of Release Detection in accordance with the applicable Release Detection requirements for Tanks and Piping in §1 and §2 when the Out of Service ~~Tank~~UST System is not empty. Release Detection is not required if the UST System has been rendered empty.

~~3.2.2.~~3.2.3. The UST System is empty when all Heating Fuels have been removed using commonly employed practices so that no more than one inch or 2.5 centimeters of residue, or 0.3 percent by weight of the total capacity of the UST System, remains in the system.

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3.2.4. Owners and Operators shall comply with the routine inspection requirements of §1.28. or §2.29. of this Part as applicable, if the Out of Service UST System is not empty and requires Release Detection in accordance with §3.2.2. of this Part.

~~3.2.3.~~3.2.5. When a Heating Fuel UST System is Out of Service for three (3) months or more, Owners and Operators shall: ~~comply with the following requirements:~~

~~3.2.3.1.~~3.2.5.1. Leave vent ~~l~~Lines open and functioning; and

~~3.2.3.2.~~3.2.5.2. Cap and secure all other ~~lines~~Pipes, pumps, manways, and Ancillary Equipment.

~~3.2.4.~~3.2.6. When a Heating Fuel UST System has been Out Of Service for twelve (12) months, Owners and Operators shall:

~~3.2.4.1.~~3.2.6.1. Permanently Remove or Close in Place the Heating Fuel UST System in accordance with the applicable requirements of these Regulations; or

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~~3.2.4.2.~~3.2.6.2. Render the Heating Fuel UST System empty in accordance with the definition in §3.2.3.~~2~~ of this Part and complete a Site Assessment in accordance with §3.4 of this Part including any required hydrogeologic investigation and Remedial Action in accordance with Part E of these Regulations.

3.3. General Requirements for Change in Status from Out of Service to In Service for Heating Fuel UST Systems

3.3.1. Prior to a change in status of a Heating Fuel UST System from Out of Service,for an UST System that has been Out of Service for three (3) months or more, ~~-~~to In Service, Owners and Operators shall ensure that the Heating Fuel UST System meets the following requirements prior to being placed In Service:

3.3.1.1. The Heating Fuel UST System shall meet the requirements of §1 or §2 of this Part as applicable ; and

3.3.1.2. The Heating Fuel UST System shall be tested for tightness ~~in accordance with the requirements of §2.9.6~~ as applicable; and

3.3.1.3. All Cathodically Protected Heating Fuel UST Systems shall be tested and all necessary Repairs made in accordance with the requirements of §2.25. of this Part.

3.4. Change In Service Site Assessment Requirements for Heating Fuel UST Systems

3.4.1. Within thirty (30) days of rendering the UST System empty as required in §3.2.6~~4~~.2. of this Part, Owners and Operators shall complete a Site Assessment designed to measure for the presence of a Release where contamination is most likely to be present. The Site Assessment is not restricted to the property containing the UST System. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

3.4.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §3.4.1. of this Part, or by any other manner, Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

3.5. Change In Service Recordkeeping Requirements for Heating Fuel UST Systems

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3.5.1. Owners and Operators shall submit the following documents to the Department within thirty (30) days of the completion of the Site Assessment required in §3.4. of this Part:

3.5.1.1. A site plan detailing the UST(s) location and surrounding area; and

3.5.1.2. The approved Site Assessment plan with sampling points clearly marked; and

3.5.1.3. Chain of custody for all samples submitted for laboratory analysis; and

3.5.1.4. Results of any on-site screening performed; and

3.5.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

3.5.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change In Service of the Heating Fuel UST System, including manifests and receipts for soil, water, and Heating Fuel.

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Section 4. Removal or Closure in Place Requirements for Heating Fuel UST Systems

4.1. Removal or Closure in Place Notification Requirements for Heating Fuel UST Systems

4.1.1. Owners and Operators shall notify the Department of all Removals or Closures in Place in accordance with the requirements of §4.0 of Part A of these Regulations.

4.2. Removal or Closure in Place General Requirements for Heating Fuel UST Systems

4.2.1. The Removal and Closure in Place procedures shall comply with the following industry standards:

4.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

4.2.1.2. API 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

4.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

4.3. Removal or Closure in Place Site Assessment Requirements for Heating Fuel UST Systems

4.3.1. At the time of Removal of a Heating Fuel UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Removal of the Heating Fuel UST System.

4.3.2. At the time of Closure in Place of a Heating Fuel UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be approved by the Department prior to implementation. The Site Assessment shall be completed within ten (10) days of the Closure in Place of the Heating Fuel UST System.

4.3.3. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §4.3.1 and §4.3.2. of this Part, or by any other manner,

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Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

4.4. Removal or Closure in Place Recordkeeping Requirements for Heating Fuel USTs

4.4.1. Owners and Operators shall submit the following documents to the Department within sixty (60) days of the Removal or Closure in Place of a Heating Fuel UST System:

4.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

4.4.1.2. A site map with sampling points clearly marked; and

4.4.1.3. Results of any on-site screening performed; and

4.4.1.4. Chain of custody for all samples submitted for laboratory analysis; and

4.4.1.5. Laboratory test results for all samples submitted for laboratory analysis ; and

4.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Removal of the UST System, including manifests and receipts for soil, water, and Regulated Substances and the UST System disposal; and

4.4.1.7. Documentation of Tank cleaning prior to UST System Closure in Place.

4.5. Applicability to Previously Removed or Closed In Place Heating Fuel UST Systems

4.5.1. When a Release is suspected from a previously Removed, Closed In Place or abandoned Heating Fuel UST System, the Owner, Operator and Responsible Party shall comply with the requirements of Part E of these Regulations. If a Release is confirmed the Owner, Operator and Responsible Party shall Remove or Close In Place the Heating Fuel UST System in accordance with all applicable requirements of these Regulations.

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Section 5. Change In Substance Stored Requirements for Heating Fuel UST Systems

5.1. Change In Substance Stored Notification Requirements for Heating Fuel UST Systems

5.1.1. Owners and Operators shall notify the Department of all Changes in Substance stored in accordance with the requirements of §4.0 of Part A of these Regulations.

5.2. Change In Substance Stored General Requirements for Heating Fuel UST Systems

5.2.1. Before the Change In Substance Stored, Owners and Operators shall empty and clean the Heating Fuel UST System by removing all liquids and accumulated sludge in accordance with the following industry standards:

5.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

5.2.1.2. API RP 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

5.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

5.3. Change In Substance Stored Site Assessment Requirements for Heating Fuel UST Systems

5.3.1. Within thirty (30) days of the completion of the cleaning of the Heating Fuel UST System required in §5.2. of this Part, Owners and Operators shall complete a Site Assessment designed to measure for the presence of a Release where contamination is most likely to be present at the Heating Fuel UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

5.3.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §5.3.1 of this Part, or by any other manner, Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

5.4. Change In Substance Stored Recordkeeping Requirements for Heating Fuel UST Systems

5.4.1. Owners and Operators shall submit the following documents to the Department within thirty (30) days of the Change In Substance Stored in an UST System:

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5.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

5.4.1.2. The approved Site Assessment plan with sampling points clearly marked; and

5.4.1.3. Chain of custody for all samples submitted for laboratory analysis; and

5.4.1.4. Results of any on-site screening performed; and

5.4.1.5. Laboratory test results for all samples submitted for laboratory analysis ; and

5.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change in Substance Stored of the UST System, including manifests and receipts for soil, water, and Regulated Substances.

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PART D.

REQUIREMENTS FOR INSTALLATION, OPERATION AND MAINTENANCE OF UNDERGROUND STORAGE TANK SYSTEMS STORING HAZARDOUS SUBSTANCES

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Section 1. Installation, Operation and Maintenance Requirements for UST Systems Storing Hazardous Substance

1.1. General Requirements for UST Systems Storing Hazardous Substance

1.1.1. Owners and Operators shall ensure that all UST Systems installed for the storage of Hazardous Substance shall be designed, constructed, installed and operated in accordance with manufacturer's specifications, and accepted engineering practices and procedures; and in a manner which will prevent Releases of Hazardous Substances to the ground waters, surface waters or soils of the State due to corrosion, structural failure, spills and overfills for the Operational Life of the Underground Storage Tank System.

1.1.2. The material used in the construction and lining of the Underground Storage Tank System shall be Compatible with Regulated Substances to be stored in the UST System.

1.1.3. Components of the UST System shall be approved by Underwriters Laboratories or equivalent third party certified.

1.1.4. All UST Systems Storing Hazardous Substance shall be designed and installed in accordance with the secondary containment requirements in accordance with §1.4 of this Part.

1.1.5. Bare steel UST Systems or steel UST Systems coated with asphalt are prohibited.

1.1.6. Owners and Operators shall install, operate and maintain all equipment such that manufacturer’s warranties are not voided.

1.1.7. Hazardous Substance shall not be deposited into an UST System that is not in compliance with the Financial Responsibility requirements of Part F of these Regulations.

1.1.8. Owners and Operators shall replace all existing double elbow swing joints with flexible connectors installed in accordance with §1.14 of this Part, not later than January 1, 2011.

1.2. General Installation Requirements for UST Systems Storing Hazardous Substance

1.2.1. Prior to the installation of any Hazardous Substance UST System a site survey shall be initiated by the Facility Owner and Operator. The pre-installation site survey shall be conducted to determine the locations of nearby buildings, underground utilities and sewer lines.

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1.2.2. Private~~/~~ and public drinking water wells, rivers, streams, lakes, canals, and other environmentally sensitive locations shall be recorded and incorporated into the design of the UST System Facility.

1.2.3. UST Owners and Operators shall notify the Department at least thirty (30) days prior to installation of all Hazardous Substance UST Systems. Notice shall include a site plan, the scale of which shall be one inch to ten feet or less (1 inch-10feet~~.~~), and which shall at a minimum include the following:

1.2.3.1. The information determined from the pre-installation site survey in §1.2.1. of this Part; and

1.2.3.2. Size and location of Tanks including Tank dimensions, depth of cover, empty Tank weight, Tank manufacturer and Tank type; and

1.2.3.3. The UST System~~Tank~~ installation location, streets, roads, other properties bordering the construction site; and

1.2.3.4. Piping dimensions and layout; and

1.2.3.5. Dimensions and locations of vents; and

1.2.3.6. Type of Hazardous Substance to be stored; and

1.2.3.7. Location of dispensers; and

1.2.3.8. Location of overfill device, spill prevention system and monitoring devices including dimensions of spill containment devices and sumps when applicable; and

1.2.3.9. Materials of construction for Tank(s), ~~line~~Pipes and associated appurtenances, including manufacturer name, model numbers and any manufacturers catalog information requested by the Department; and

1.2.3.10. Location of and access to check valves, anti-siphon valves, automatic ~~l~~Line leak- detectors, and flexible connectors; and

1.2.3.11. Location of Cathodic Protection components and test stations; and

1.2.3.12. Location of utilities (both above and underground); and

1.2.3.13. Location of electrical service components; and

1.2.3.14. Details and dimensions of anchoring method including hold down pads, cover pads, or deadmen and electrical isolation methods associated with the anchoring system if applicable. Indicate on plan if area is subject to vehicle traffic; and

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1.2.3.15. Map with the distance clearly labeled in feet from the UST System to all Domestic and Industrial wells and surface water bodies within one hundred and fifty (150) feet of the UST System.~~Location of nearby private/public drinking water wells and surface water bodies.~~

1.2.4. After the Effective Date of these Regulations new Hazardous Substance UST Systems shall not be installed within a minimum distance of a one hundred and fifty (150) foot radius from Public or Industrial wells, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

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1.2.5. After the Effective Date of these Regulations new Hazardous Substance UST Systems shall not be installed within a minimum distance of a one hundred (100) foot radius from a Domestic well, unless otherwise approved by the Department. A Replacement, Retrofit or Upgrade of an UST System shall not be considered a new installation for the purposes of this Section.

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1.3. UST System Designs for UST Systems Storing Hazardous Substance

1.3.1. Acceptable designs for Hazardous Substance UST System construction include:

1.3.1.1. Secondarily contained Cathodically Protected Steel; or

1.3.1.2. Secondarily contained Fiberglass Reinforced Plastic; or

1.3.1.3. Secondarily contained Steel with Non-Metallic or Coated Outer Shell; or

1.3.1.4. Other equivalent design approved by the Department.

1.3.2. UST Systems Storing Hazardous Substance shall be installed in accordance with these Regulations, the manufacturer's specifications, accepted engineering practices and the following industry standards:

1.3.2.1. PEI RP100, *Recommended Practices For Installation Of Liquid Storage Systems*.

1.3.2.2. NFPA 30, *Flammable and Combustible Liquids Code*.

1.3.2.3. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.3.2.4. OSHA, 29 CFR, 1926 Subpart P, *Excavations*.

1.3.3. All Tanks shall be equipped with a strike plate located beneath all Tank openings.

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1.4. Secondary Containment Design Requirements for UST Systems Storing Hazardous Substance

1.4.1. The Department reserves the right to require Secondary containment or equivalent protection on any portion of the UST System where aquifers underlying the UST Facility are determined to need such protection, or where groundwater below the UST Facility is within a well head protection area, or where groundwater is susceptible to contamination in order to protect the safety, health, welfare or environment of the State.

1.4.2. Secondary containment systems shall be designed, constructed and installed to:

1.4.2.1. Contain the Hazardous Substances Released from the UST System until they are detected and removed; and

1.4.2.2. Prevent the Release of Hazardous Substances to the environment at any time during the Operational Life of the UST System; and

1.4.2.3. Be checked for evidence of a Release at least once every thirty (30) calendar days.

1.4.3. Secondary containment systems shall include the following:

1.4.3.1. Double-walled Tank; and

1.4.3.2. Double-walled Hazardous Substance and vapor return Piping and, where required, vent Piping; and

1.4.3.3. Containment Sumps at the Tank top and under each dispenser that meet the requirements of §1.25. of this Part; and

1.4.3.4. Tanks and Piping shall have interstitial monitoring that shall be checked for evidence of a Release at a minimum of once every thirty (30) calendar days and shall comply with the preventative maintenance program requirements of §1.9.4.4. of this Part; or

1.4.3.5. Other equivalent technology approved by the Department.

1.4.4. All Secondary containment systems shall be constructed in accordance with acceptable engineering practice and industry standards and shall have a Release Detection system in accordance with §1.9. of this Part.

1.5. Double Wall UST Design Requirements for UST Systems Storing Hazardous Substance

1.5.1. Acceptable UST system designs in §1.3. of this Part shall be fabricated in double-walled construction in accordance with accepted engineering practice and industry standards.

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1.5.2. A double-walled Tank which is designed and manufactured in accordance with the following requirements satisfies the requirements for Secondary containment in §1.4. of this Part:

1.5.2.1. The interstitial space of the double-walled Tank can be monitored for Releases; and

1.5.2.2. Outer jackets made of steel shall be coated as prescribed in §1.6.2. of this Part; and

1.5.2.3. There are no penetrations of any kind through the jacket to the Tank except top entry manholes and fittings; and

1.5.2.4. The outer jacket shall cover the entire circumference of the Tank; and

1.5.2.5. The jacket shall be able to contain a liquid or be able to contain a vacuum from the time of manufacture completion until the time of installation.

1.6. Cathodically Protected Steel UST Design Requirements for UST Systems Storing Hazardous Substance

1.6.1. Cathodically Protected steel UST Systems shall be designed, constructed, installed and tested in accordance with NACE Standard RP0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the applicable industry standards, including but not limited to the following:

1.6.1.1. UL 58, *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

1.6.1.2. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.6.1.3. STI-P_3, *Specification for sti-P_3® System for External Corrosion Protection of Underground Steel Storage Tanks*.

1.6.1.4. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks*.

1.6.1.5. STI RP-972, *Recommended Practice for the Addition of Supplemental Anodes to sti-P_3® Underground Storage Tanks*.

1.6.2. The Tank shall be coated with a suitable Dielectric Material in accordance with NACE Standard RP0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

1.6.3. Field-installed Cathodic Protection systems shall be designed, constructed, installed and tested in accordance with manufacturer's specifications, accepted engineering practice and the requirements listed in this Section.

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1.6.4. Each Cathodic Protection system shall include sufficient monitoring stations to enable Owners and Operator s to check on the adequacy of the Cathodic Protection system.

1.6.5. UST Systems that are protected by Sacrificial Anodes shall be electrically insulated from the Piping system with dielectric fittings, bushings, washers, sleeves or gaskets which are chemically stable when exposed to Hazardous Substance, additives, corrosive soils or groundwater.

1.7. Fiberglass-Reinforced Plastic UST Design Requirements for UST Systems Storing Hazardous Substance

1.7.1. Fiberglass reinforced plastic UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standard:

1.7.1.1. UL 1316, *Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols and Alcohol Gasoline Mixtures.*

1.7.2. Fiberglass reinforced plastic UST Systems shall be of sufficient structural strength to withstand normal handling and underground use and shall be Compatible with the Hazardous Substance and additives stored, corrosive soils and groundwater. UST System construction materials shall be of sufficient density and strength to form a hard impermeable shell which will not crack, wick, wear, soften or separate under normal service conditions.

1.7.3. Fiberglass Reinforced Plastic Tanks shall be tested for deflection in accordance with the manufacturer's requirements at the time of installation.

1.8. Steel with Non-Metallic or Coated Outer Shell UST Design Requirements for UST Systems Storing Hazardous Substance

1.8.1. Steel with Non-Metallic or Coated Outer Shell UST Systems shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.8.1.1. UL 1746, *Standard for Safety: External Corrosion Protection Systems for Steel Underground Storage Tanks*.

1.8.1.2. UL 58; *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*.

1.8.1.3. STI F-922, *Specification for Permatank®*.

1.8.1.4. STI F-894, ACT -100® *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*.

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1.8.1.5. STI F-961, ACT -100U® *Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks.*

1.8.1.6. STI F-841, *Standard for Dual Wall Underground Steel Storage Tanks.*

1.8.2. The coating shall not corrode under adverse underground electrolytic conditions and shall be Compatible with the Hazardous Substances and additives stored.

1.8.3. The coating shall be factory inspected for air pockets, cracks, blisters pinholes and electrically tested by a ten thousand (10,000) volts holiday test performed over 100 percent of the surface for coating short circuits or coating faults or in accordance with the manufacturer's specifications.

1.8.4. Any defects shall be repaired in accordance with standard engineering practice and the manufacturer's requirements.

1.9. Release Detection Requirements for UST Systems Storing Hazardous Substance

1.9.1. General Requirements

1.9.1.1. Owners and Operators of UST Systems shall provide a method, or combination of methods of Release Detection on all UST Systems that meet the following requirements:

1.9.1.1.1. Can detect a Release from any portion of the Tank and the connected underground Piping that routinely contain Hazardous Substance; and

1.9.1.1.2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, including routine Maintenance and service checks for operability or running condition; and

1.9.1.1.3. Meets the performance standards for Release Detection in this Section, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. The method shall be capable of detecting the leak rate or quantity specified for ~~p~~Precision ~~tank t~~Testing, automatic tank gauging, ~~l~~Line leak detectors, and ~~l~~Line tightness testing methods specified in these Regulations with a probability of detection of at least 0.95 and a probability of false alarm no greater than 0.05.

1.9.1.2. Owners and Operators shall implement the Release investigation procedure in Part E of these Regulations if the Release Detection equipment or method shows indication of a Release.

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1.9.1.3. Failure by Owners and Operators to maintain records of required Release Detection monitoring and inspection may be cause for the Department to require ~~T~~tank tightness test(s) and inspection(s) of the UST Facility and a Release investigation in accordance with Part E of these Regulations at expense of Owners and Operators.

1.9.2. Methods of Release Detection for Underground Storage Tanks Storing Hazardous Substance

1.9.2.1. Owners and Operators shall monitor UST Systems for Releases through the use of inventory control procedures and at least one of the following Release Detection methods:

1.9.2.1.1. Continuous Interstitial Monitoring; or

~~1.9.2.1.2.Automatic Ttank Ggauge performing Ttank tightness testing; or~~

~~1.9.2.1.3.~~1.9.2.1.2. Department Approved Alternative Method.

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1.9.3. Inventory Control Requirements for Underground Storage Tanks Storing Hazardous Substance

1.9.3.1. Inventory control procedures shall meet the following requirements:

1.9.3.1.1. Every Owner and Operator shall perform inventory control procedures and shall maintain inventory control records for each Tank containing a Hazardous Substance. Records shall be kept for each Tank, or cluster of Tanks if they are interconnected, and shall include measurements of bottom water levels, sales, use, deliveries, inventory on hand and losses or gains. Reconciliation of records shall be kept current, shall account for all variables which could affect an apparent loss or gain and shall be in accordance with generally accepted practices. The data shall be accumulated for each day a Tank has Hazardous Substance added or withdrawn but not less frequently than once every seven (7) calendar days ~~a week~~, and shall include as a minimum:

1.9.3.1.1.1. Description and amount of Hazardous Substance in the Tank measured in gallons to the nearest one-eight (1/8") of an inch. The equipment used shall be capable of measuring the level of Hazardous Substance over the full range of the Tank's height to the nearest one eighth (1/8") of an inch. These measurements shall be converted from inches to

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gallons and these measurements and conversions shall be performed daily; and

1.9.3.1.1.2. Inputs and outputs of Hazardous Substance in gallons recorded daily; and

1.9.3.1.1.3. All deliveries and measurements shall be made through a drop tube that extends to within 5.9 ~~6~~ inches of the Tank bottom; and

1.9.3.1.1.4. Hazardous Substance dispensing equipment is metered and recorded within the local standards for meter calibration or an accuracy of six (6) cubic inches for every five (5) gallons of substance withdrawn; and

1.9.3.1.1.5. Weekly assessment of the amount of water in the UST System. The measurement of water level in the bottom of the ~~t~~Tank shall be made to the nearest one eighth (1/8") of an inch. If the measurement shows two (2) inches or more of water, the water shall be removed from the Tank within seven (7) days. Water shall be properly disposed in accordance with all local, state and federal requirements ; and

1.9.3.1.1.6. Daily reconciliation of the amount of Hazardous Substance added to and removed from the Tank. Recommended procedures for Tank inventory and reconciliation procedures are detailed in API Publication 1621, *Bulk Liquid Stock Control at Retail Outlets*, and shall include at a minimum:

1.9.3.1.1.6.1 Losses or gains from each day's inventory shall be reconciled at the end of ~~once~~ ~~during~~ each calendar month; and

1.9.3.1.1.6.2 For any day in which there is a loss of five percent (5%) or more of the Hazardous Substance or for any month in which there is a significant loss or gain of Hazardous Substance that meets or exceeds one percent (1%) of the total monthly throughput plus one hundred and thirty (130) gallons, or any month in which there is an unexplainable consistent negative trend, the Release investigation procedure in Part E of these Regulations shall be followed; and

1.9.3.1.1.6.3 Tanks equipped with automatic inventory control systems or continuously operating automatic ~~in~~ tank gauging systems may use

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these devices to perform inventory reconciliation procedures; and.

1.9.3.1.1.6.4 All automatic systems utilized for performing inventory procedures shall comply with the preventative maintenance program requirements of §1.9.5.3. of this Part.

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1.9.3.2. The Department may, at its discretion, approve other types of inventory control methods or a combination of methods or devices not specified in this section upon a determination that the proposed method or combination of methods is no less protective of human health, safety or the environment than the above requirements.

1.9.3.3. In instances where the hazardous nature of the Hazardous Substance will not permit implementation of standard inventory procedures, alternative procedures such as continuously functioning automatic in tank gauging subject to the requirements of §1.9.5 of this Part shall be implemented.

1.9.3.4. Failure to maintain and reconcile inventory control records may be cause for the Department to require Ttank tightness test(s) and inspection(s) of the UST Facility at the expense of Owners and Operators.

1.9.4. Interstitial Monitoring Release Detection Requirements for Underground Storage Tanks Storing Hazardous Substance

1.9.4.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a leak from any portion of the Tank that routinely contains Hazardous Substance.

1.9.4.2. At a minimum of once every thirty (30) calendar days Owners and Operators shall inspect all interstitial monitoring devices utilized for Release Detection for evidence of a Release from the UST System and shall record the results.

1.9.4.3. Owners and Operators shall maintain records of the monthly interstitial Release monitoring inspections for the life of the UST System.

1.9.4.4. Owners and Operators shall have all interstitial monitoring equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

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1.9.4.4.1. Inspection of the console for printer operation if so equipped; and

1.9.4.4.2. Verification of the system setup values and battery backup; and

1.9.4.4.3. Verification of the test programming; and

1.9.4.4.4. Verification of the operability of all warning and alarm indicator lights and audible alarms; and

1.9.4.4.5. Inspection and testing of all probes and interstitial sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

1.9.4.4.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

1.9.4.4.7. Correction of any problems found as a result of the required inspection.

1.9.4.5. Owners and Operators shall maintain records of the annual inspections of the interstitial monitoring equipment and any Repairs performed as a result of the inspection for the life of the UST System.

1.9.5. Automatic Tank Gauge Requirements for Underground Storage Tanks Storing Hazardous Substance

1.9.5.1. ~~Monthly Ttank tightness testing~~ Interstitial monitoring systems with automatic tank gauging (ATG) equipment shall meet the following requirements:

~~1.9.5.1.1.The ATG equipment can detect a 0.1 gallons per hour leak rate from any portion of the Tank that routinely contains Hazardous Substance; and~~

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~~1.9.5.1.2.~~1.9.5.1.1. The ATG equipment shall be capable of producing a record of interstitial monitoring Release Detection test results; and

~~1.9.5.1.3.~~1.9.5.1.2. At a minimum of once ~~during each calendar month~~ every thirty (30) calendar days the ATG equipment shall perform a Release Detection test for each Tank and shall produce a record of such test; and

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~~1.9.5.1.4.~~1.9.5.1.3. If used for inventory control, the ATG equipment shall be capable of conducting inventory control in accordance with §1.9.3. of this Part.

1.9.5.2. Owners and Operators shall maintain a record of all interstitial monitoring Release Detection ~~tests~~ performed by the ATG equipment for the life of the UST System.

1.9.5.3. Owners and Operators shall have all ATG equipment inspected by a certified technician once every twelve (12) months as part of a preventive Maintenance program to minimize in-service failures. Any equipment malfunctions identified as a result of the inspection shall be rectified immediately. The inspection shall at a minimum include:

1.9.5.3.1. inspection of the ATG console for printer operation if so equipped; and

1.9.5.3.2. verification of the system setup values and battery backup; and

1.9.5.3.3. verification of the test programming; and

1.9.5.3.4. verification of the operability of all warning and alarm indicator lights and audible alarms; and

1.9.5.3.5. inspection and testing of the probes and sensors in accordance with the manufacturer's specifications or as directed by the Department to verify proper probe and sensor operation; and

1.9.5.3.6. Inspection of all cables that are visible during normal operating conditions for any cracking or swelling; and

1.9.5.3.7. Correction of any problems found as a result of the required inspection.

1.9.5.4. Owners and Operators shall maintain records of the annual inspections of the ATG and any Repairs performed as a result of the inspection for the life of the UST System.

1.9.6. Alternative Release Detection Methods

1.9.6.1. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

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1.9.6.1.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.9.6.1.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §1.9.2. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.10. Anchoring Requirements for UST Systems Storing Hazardous Substance

1.10.1. Support and anchorage shall be provided for all new installations to avoid Tank flotation and shall be installed in accordance with the PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems.*

1.10.2. One or more of the following methods of anchorage shall be utilized:

1.10.2.1. Reinforced concrete deadmen anchors; or

1.10.2.2. Bottom hold-down pad which consists of eight inches of reinforced concrete that extends 18 inches beyond Tank sides and 12 inches beyond each end; or

1.10.2.3. Reinforced concrete slab over Tank.

1.10.3. All exposed metallic components of hold down systems shall be Electrically Isolated and Cathodically Protected when the hold down system is required by the Department.

1.10.4. The backfill depth shall be consistent with the requirements in PEI RP100 *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.11. Backfill Material Requirements for UST Systems Storing Hazardous Substance

1.11.1. Backfill material shall consist of sand, crushed rock or pea gravel. The material shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length or crushed rock or pea gravel shall be no less than one-eighth inch(1/8") and no more than three-fourths inch (3/4") in size. Backfill material shall comply with the Tank manufacturer's specifications. Mixing of backfill with native soil or foreign objects is prohibited.

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1.11.2. The backfill depth shall be consistent with the requirements in PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.12. Installation of a Hazardous Substance UST System In An Existing UST Field Requirements

1.12.1. If an UST system shall be installed in or near a previous UST System Facility, Owners and Operators shall provide a means of Release Detection that will, at a minimum, detect any future Release from any portion of the UST System.

1.13. Tank and Piping Installation, Inspection and Testing Requirements for UST Systems Storing Hazardous Substance

1.13.1. Prior to installation Tank system materials and equipment shall be inspected for flaws, surface cracks, holes, large scrapes, blisters, indentations and other indications of damage. All defects and repairs to the UST System shall be recorded and the record submitted with a site completion report to the Department.

1.13.2. UST(s) shall be pressure tested according to the manufacturer's specifications prior to installation of the UST(s) into the excavation. The installer shall soap the exterior, particularly its seams and fittings, and pressure test the UST(s) using the manufacturer's specifications to locate and correct defects. Tank and interstitial space testing shall be conducted according to the manufacturer's recommendations and accepted engineering practices.

1.13.3. After installation all Piping, including all interstitial spaces, shall be pressure tested according to the manufacturer's specifications prior to backfilling the excavation.

1.13.4. After installation of the Tank and integral Piping is complete and prior to the initial use of the UST System, the entire system shall be tested in accordance with current industry standards and practices and in the following manner to ensure the system is tight:

1.13.4.1. All testing of UST Systems shall be accomplished by the Precision Test method described in NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases* or other test approved by the Department which is of equivalent or superior accuracy; and

1.13.4.2. All testing of UST Systems shall be able to account for the effects of thermal expansion or contraction of the Hazardous Substances, vapor pockets, Tank deformation, evaporation or condensation, temperature stratification in the UST and the location of the water table; and

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1.13.4.3. The required Precision Tests shall be conducted by a person trained and certified in the correct use of the necessary equipment, and shall be performed in accordance with the testing procedures and requirements established by the test system manufacturer and current industry standards and practices.

1.13.5. The Department reserves the right to request confirmatory system tightness tests to verify any test results submitted by an Owner, Operator, or contractor.

1.13.6. Owners and Operators shall permit periodic inspection of the UST System installation by the Department.

1.13.7. During the installation of all new UST Systems, every stage of the construction shall be documented with photographs to demonstrate that the UST System was installed in compliance with the requirements for new UST Systems. Upon completion of the installation, copies of the photographs, as built plan, and required certification(s) as required in Part A §4.6.11. and §4.6.12. shall be submitted to the Department within thirty (30) days of the completion of the UST System installation. The Facility Owner and Operator shall keep copies of all documents and photographs on file for the life of the UST Facility.

1.14. General Piping Installation Requirements for UST Systems Storing Hazardous Substance

1.14.1. Piping shall be installed in accordance with the manufacturer's specifications.

1.14.2. The Piping layout shall be designed to minimize crossed lines and interference with conduit and other UST System components. If crossing of lines is unavoidable, clearance shall be provided to prevent contact of the pipes.

1.14.3. All Hazardous Substance, vent and vapor return Piping shall slope back to the Tank with a minimum slope of one-eighth (1/8) inch per foot.

1.14.4. The pipe joints shall be cut and deburred according to manufacturer's specifications to provide liquid tight seals.

1.14.5. When rigid Piping is used, flexible connector(s) shall be installed at the Tank end of each Hazardous Substance ~~line~~Piping, vent ~~l~~Line and vapor recovery ~~l~~Line as well as at the base of each dispenser and vent riser on all new installations. Double elbow swing joints on existing UST Systems shall be replaced with flexible connectors by January 1, 2011.

1.14.6. All underground metal fittings, flexible connectors, joints, and pipes shall be isolated from contact with the soil.

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1.15. UST Piping Design Requirements for UST Systems Storing Hazardous Substance

1.15.1. Underground Piping shall be protected from corrosion in accordance with accepted corrosion engineering practices and shall be designed, constructed, installed and tested in accordance with the following industry standards, as applicable:

1.15.1.1. NFPA 30, *Flammable and Combustible Liquids Code*.

1.15.1.2. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.15.1.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

1.15.1.4. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

1.15.1.5. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

1.15.1.6. PEI RP100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.15.2. All integral Piping systems shall be designed, constructed, and installed in a manner which will permit periodic tightness testing of the entire Piping system without the need for excavation.

1.15.3. Acceptable designs for Underground Piping construction include fiberglass reinforced plastic and flexible plastic Piping.

1.16. Fiberglass Reinforced Plastic and Flexible Plastic Piping Design Requirements for UST Systems Storing Hazardous Substance

1.16.1. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the manufacturer's specifications.

1.16.2. Fiberglass reinforced plastic and flexible plastic Piping shall be designed, constructed, installed and tested in accordance with the following industry codes, as applicable:

1.16.2.1. UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.

1.16.2.2. UL 567, *Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas*.

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1.16.2.3. NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.

1.16.2.4. NFPA 30, *Flammable and Combustible Liquids Code*.

1.16.2.5. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.16.2.6. PEI RP 100, *Recommended Practices for Installation of Underground Liquid Storage Systems*.

1.16.3. The construction materials, joints and joint adhesives of all Fiberglass reinforced plastic and flexible plastic pipes shall be compatible with the Hazardous Substance and additives stored, soil and groundwater.

1.16.4. Pipes, fittings and adhesives shall be designed, fabricated, and factory tested in accordance with generally accepted structural, material and performance standards for underground Piping systems.

1.16.5. All underground Piping systems shall be designed, constructed and installed with access ports to permit ~~l~~Line tightness testing without the need for extensive excavation.

1.17. Suction Piping Design Requirements for UST Systems Storing Hazardous Substance

1.17.1. Suction Piping shall be designed, constructed, and installed to meet the requirements of §1.17.1.1. or §1.17.1.2. of this Part:

1.17.1.1. Safe suction Piping systems shall be designed and constructed in accordance with the following requirements:

1.17.1.1.1. The below grade Piping shall be constructed so that if suction is Released the contents of the pipe will drain back into the Tank; and

1.17.1.1.2. Only one (1) check valve shall be included in each suction Pipe~~line~~; and

1.17.1.1.3. The check valve shall be located directly below and as close as practical to the suction pump.

1.17.1.2. Suction Piping systems with a foot valve (U.S. Suction) shall be designed and constructed in accordance with the following requirements:

1.17.1.2.1. The below grade Piping shall be constructed so that the Piping slopes back to the Tank; and

1.17.1.2.2. A foot valve is installed at the Tank.

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1.18. General Release Detection Requirements for UST Piping for UST Systems Storing Hazardous Substance

1.18.1. Owners and Operators shall equip all underground Piping that routinely contains Hazardous Substances with a method, or combination of methods of Release Detection that can detect a Release from any portion underground Piping that routinely contains Hazardous Substance.

1.18.2. UST Piping interstitial and sump monitoring systems shall be designed, constructed installed and maintained to detect a leak from any portion of the Piping that routinely contains Hazardous Substance.

1.18.3. Release Detection methods not specified in this Section will be considered an alternative by the Department. A written request detailing the method or combination of methods proposed shall be submitted to the Department prior to installation for approval. Alternative methods shall meet the following requirements:

1.18.3.1. The method can detect a 0.1 gallon per hour leak rate or a Release of seventy-five (75) gallons within a month with a probability of detection of 0.95 or greater and a probability of false alarm of 0.05 or less; or

1.18.3.2. The method or a combination of methods or devices can detect a Release as effectively as any of the Release Detection methods allowed in §1.19. of this Part. If the method or a combination of methods or devices is approved, Owners and Operators shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

1.18.4. Owners and Operators shall implement the Release investigation procedure in Part E of these Regulations if the Piping Release Detection equipment or method shows indication of a Release.

1.19. Pressurized Piping Release Detection Requirements for UST Systems Storing Hazardous Substance

1.19.1. Line Leak Detector Requirements

1.19.1.1. Underground Piping that conveys Hazardous Substances under pressure shall be equipped with an automatic ~~l~~Line leak detector.

1.19.1.2. The automatic ~~l~~Line leak detector shall alert the Owner and Operator to the presence of a leak by restricting or shutting off the flow of the Hazardous Substance.

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1.19.1.3. Mechanical and Electronic automatic ~~l~~Line leak detectors shall be capable of reacting to leaks of three (3) gallons per hour at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.1.4. Owners and Operators shall conduct an annual test of the operation of the automatic ~~l~~Line leak detector while installed in the UST System and under normal operating conditions. ~~in accordance with the manufacturer's test protocols.~~ All Mechanical and Electronic automatic ~~l~~Line leak detectors shall pass a function test at least once every twelve (12) months at three (3) gallons per hour (gph) at ten (10) pounds per square inch line pressure within one (1) hour.

1.19.2. Piping Interstitial Monitoring ~~Tightness Test~~ Requirements

~~1.19.2.1.Owners and Operators shall conduct an annual tightness test of the entire pressurized underground Piping system, including the primary and secondary Piping, in accordance with NFPA 329, *Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases*.~~

~~1.19.2.2.Owners and Operators of UST Systems that have underground pressurized Piping systems shall use a lLine tightness test method designed to detect a Release from any portion of the underground Piping system that routinely contains Hazardous Substances.~~

1.19.2.1. Owners and Operators of Hazardous Substance UST Systems with underground pressurized Piping systems constructed of double wall design shall utilize continuous interstitial monitoring systems that meet the following requirements:

1.19.2.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Hazardous Substance; and

1.19.2.1.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the interstitial monitoring equipment record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.2.1.3. Owners and Operators shall maintain records of the monthly Piping interstitial Release Detection records for the life of the UST System; and

1.19.2.1.4. The interstitial monitoring system shall be designed and maintained to alert the Owner and Operator to the

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presence of a Release by shutting off the flow of the Hazardous Substance; and

1.19.2.1.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part; and

1.19.2.1.6. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part

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1.19.3. Line Leak Detector and ~~Tightness Test~~ Piping Interstitial Monitoring Requirements for Double Wall Piping Systems

1.19.3.1. Owners and Operators of UST Systems with underground pressurized Piping systems constructed of double wall design may utilize interstitial monitoring systems to comply with the Line leak detector requirements of §1.19.1. of this Part and the Piping interstitial monitoring requirements of §1.19.2. of this Part if the following requirements are met:

1.19.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Hazardous Substance; and

1.19.3.1.2. The interstitial monitoring system shall be designed and maintained to ensure that the delivery system will automatically shut off if a release is detected; and

1.19.3.1.3. At a minimum of once every thirty (30) calendar days ~~during each calendar month~~, Owners and Operators shall provide proof via the automatic tank gauge record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.19.3.1.4. Owners and Operators shall maintain records of the monthly interstitial Piping Release Detection records for the life of the UST System; and

1.19.3.1.5. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part.

1.19.3.1.6. All Tank top Containment Sumps containing the interstitial monitoring device shall be tested for tightness once every twelve (12) calendar months in accordance with §1.25. of this Part~~.~~

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1.20. Suction Piping Release Detection Requirements for UST Systems Storing Hazardous Substance

1.20.1. Release Detection is not required for suction Piping that is designed and constructed to meet the requirements of §1.17.1.1.of this Part.

1.20.2. Suction Piping designed and constructed to meet the requirements of §1.17.1.2. of this Part shall have Release Detection in accordance with §1.18 of this Part.

1.20.3. Owners and Operators of UST Systems with underground suction Piping systems constructed of double wall design may utilize continuous interstitial monitoring systems to comply with the Release Detection requirements of §1.18. this Part if the following requirements are met:

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1.20.3.1.1. All interstitial monitoring devices shall be designed, constructed, installed and maintained to continuously detect a Release from any portion of the Piping that routinely contains Regulated Substance; and

1.20.3.1.2. At a minimum of once every thirty (30) calendar days, Owners and Operators shall provide proof via the automatic tank gauge record that the interstitial monitoring device is functioning in accordance with the manufacturer's specifications; and

1.20.3.1.3. Owners and Operators shall maintain records of the monthly interstitial Release Detection automatic tank gauge records for the life of the UST System; and

1.20.3.1.4. All sump and interstitial sensors shall comply with the testing and monitoring requirements of §1.27. of this Part; and

1.20.3.1.5. All Containment Sumps shall comply with the testing and monitoring requirements of §1.25. of this Part.

1.21. Spill Protection Requirements for UST Systems Storing Hazardous Substance

1.21.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to spilling do not occur.

1.21.2. To prevent spilling associated with Hazardous Substance transfer to the UST System, Owners and Operators shall comply with the requirements of one of the following industry standards:

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1.21.2.1. NFPA 30, *Flammable and Combustible Liquids Code*; or

1.21.2.2. NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*; or

1.21.2.3. API RP1621, *Bulk Liquid Stock Control at Retail Outlets*.

1.21.3. Owners and Operators shall equip all UST Systems with impervious spill containment devices that form a liquid tight seal around the fill pipe connection.

1.21.4. After ~~the Effective Date of these Regulations~~January 11, 2008 all spill containment devices installed around the fill pipe shall have a minimum containment capacity of fifteen (15) gallons or be of a design that provides equivalent environmental protection. All spill containment devices installed prior to ~~the Effective Date of these Regulations~~January 11, 2008 shall have a minimum capacity of five (5) gallons.

1.21.5. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in the spill containment device. Owners and Operators shall maintain spill containment devices to be capable of containing a spill of the containment design capacity at all times.

1.21.6. All precautions shall be taken to prevent ~~t~~Tank overfilling, spilling and dripping.

1.21.7. Owners and Operators shall test spill containment devices once every twelve (12) months for tightness, or in accordance with the manufacturer's specifications or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

1.21.8. Spill containment devices of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.21.7. of this Part if the following requirements are met:

1.21.8.1. ~~.~~ Owners and Operators shall check the interstitial monitoring at a minimum of once every thirty (30) calendar days for evidence of a Release; and

~~1.21.8.~~1.21.8.2. Owners and Operators shall maintain written records of the required monitoring in §1.21.8.1. of this Part for the life of the UST System. ~~continuous interstitial monitoring of the spill containment device.~~

1.21.9. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.22. Overfill Protection Requirements for UST Systems Storing Hazardous Substance

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1.22.1. No Person shall construct, install, use, or maintain any UST Facility without providing a reliable means of ensuring that Releases due to overfilling do not occur.

1.22.2. The Person In Charge of the transfer of Hazardous Substance to the UST shall adhere to proper safety precautions and procedures for transfer as found in NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids,* and API RP1621, *Bulk Liquid Stock Control at Retail Outlets,* and shall comply with the following:

1.22.2.1. The Person In Charge of the transfer operation shall first check the UST to ensure that the volume available in the UST is greater than the volume of Hazardous Substance to be transferred to the UST before the transfer is made.; and

1.22.2.2. During the transfer, the Person In Charge shall constantly monitor the entire transfer operation to prevent an Overfill Release; and

1.22.2.3. At the conclusion of the transfer the Person in Charge shall collect, any Hazardous Substance that remains in the transfer hose and shall ensure it is properly managed and does not reach the environment; and

1.22.2.4. The Person in Charge shall take all reasonable precautions to prevent spilling and dripping.

1.22.3. Owners and Operators shall install and maintain overfill protection that consists of equipment that shall:

1.22.3.1. Automatically shut off the flow into the UST when the UST is no more than ninety five (95%) percent full; or

1.22.3.2. Alert the transfer operator when the UST is no more than ninety (90%) percent full by restricting the flow into the UST or triggering a high-level alarm; or

1.22.3.3. Restrict flow thirty (30) minutes prior to overfilling, alert the Operator 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 Tank are exposed to Hazardous Substance due to overfilling; or

1.22.3.4. Be an automatic partial flow shut-off float vent or vapor valve installed inside the UST(s) set to restrict flow when the UST is no more than ninety percent (90%) full . Vent or vapor restriction devices shall not be installed in storage systems that are equipped with suction pumps, remote fill ~~l~~Lines, remote vapor ~~l~~Lines or receive pressurized deliveries.

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1.22.4. UST Systems that receive pressurized deliveries require a high level alarm that is triggered at no more than ninety (90%) percent full for overfill protection or an automatic flow shut-off valve designed for pressurized deliveries.

1.22.5. Owners and Operators shall report, investigate, and clean up any spills and overfills in accordance with Part E of these Regulations.

1.23. Fill Line Protection Requirements for UST Systems Storing Hazardous Substance

1.23.1. Owners and Operators shall clearly mark all fill ~~l~~Lines for UST Systems to indicate the size of the Tank and the type of Hazardous Substance stored. These markings shall be as follows:

1.23.1.1. A label or permanent tag at the fill connection which states the size of the UST System and the specific type of Hazardous Substance stored; and

1.23.1.2. Fill covers shall be marked with a color-symbol system in a manner that will readily identify the Hazardous Substance stored in the ~~t~~Tank and a legend for the color-symbol shall be prominently posted at a distance that can be readily seen from the location of the fill pipe; and

1.23.1.3. A different color-symbol shall be used for each type of Hazardous Substance or grade of Hazardous Substance being stored at the Facility; and.

1.23.1.4. Hazardous Substance USTs shall not be marked with any color or symbol identified in API RP 1637, *Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals* or API IP 1542, *Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuel Equipment.*

1.23.2. Pipes and other openings not used for transfer of Hazardous Substance at the UST Facility shall not be painted any color which would be associated with the color-symbol designated for marking the Hazardous Substance or any other Regulated Substance stored at the Facility. It is particularly important that openings with access to soil and ground water, such as Monitor Wells, not be confused with Hazardous Substance fill ~~l~~Lines.

1.24. Corrosion Protection Operation and Maintenance Requirements for UST Systems Storing Hazardous Substance

1.24.1. General Requirements

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1.24.1.1. Owners and Operators of steel UST Systems with corrosion protection systems shall operate and maintain the system in accordance with the following industry standards:

1.24.1.1.1. NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*.

1.24.1.1.2. NACE TM0101, *Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems*.

1.24.1.1.3. NFPA 30, *Flammable and Combustible Liquids Code*.

1.24.1.1.4. NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*.

1.24.1.2. Owners and Operators of steel UST Systems with corrosion protection systems shall maintain and operate the corrosion protection system to continuously provide corrosion protection to the metal components of the UST System that routinely contain a Hazardous Substance and are in contact with the ground to ensure that Releases due to corrosion are prevented for the life of the UST System.

1.24.1.3. Cathodic Protection systems shall be designed and installed to allow determination of the current operating status.

1.24.2. Sacrificial Anode Cathodic Protection System Operation and Maintenance Requirements

1.24.2.1. Owners and Operators shall test all UST Systems equipped with Sacrificial Anode Cathodic Protection systems for proper operation using standard corrosion engineering practices and in accordance with the following requirements:

1.24.2.1.1. Testing procedures shall be done in accordance with NACE RP 0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the manufacturer's specifications, and shall include the following:

1.24.2.1.1.1. a minimum of three (3) voltage readings along the center line for UST Systems less than twenty thousand (20,000) gallons and a minimum of five (5) voltage readings along the center line for UST Systems greater than or equal to twenty thousand (20,000) gallons; and

1.24.2.1.1.2. a minimum of one (1) voltage reading for every ten (10) feet of Piping.

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1.24.2.2. All Sacrificial Anode Cathodic Protection systems that protect underground Facility components shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) months of installation and at least once every twelve (12) months thereafter.

1.24.2.3. The Sacrificial Anode Cathodic Protection system shall be tested by an individual certified by a nationally recognized industry standard setting organization, and in accordance with Department standards, within six (6) weeks after underground work is performed at or near a site with a Sacrificial Anode Cathodic Protection system and once every twelve (12) months thereafter.

1.24.2.4. Owners and Operators shall Repair or replace the Sacrificial Anode Cathodic Protection system in accordance with NACE RP0285, *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and the requirements of §1.6. of this Part, if the Sacrificial Anode Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations. This includes but is not limited to failure to register a negative voltage of at least 0.85 volts for each UST. An individual certified by a nationally recognized industry standard setting organization shall determine the cause of the failure and make the necessary Repairs within sixty (60) days of the discovery of the failure of the corrosion protection system.

1.24.2.5. UST System Owners and Operators shall notify the Department within forty-eight (48) hours of the discovery of the failure of a Sacrificial Anode Cathodic Protection system.

1.24.2.6. The Department shall approve, either verbally or in writing, all Cathodic Protection Repair or replacement plans prior to work commencing.

1.24.2.7. The Department shall review the Release Detection and Cathodic Protection records of the UST System and based upon this information may require that Owners and Operators determine the current integrity of the UST System if the Cathodic Protection system is not operating in accordance with the manufacturer's specifications and the requirements of these Regulations prior to making Repairs to the corrosion protection system.

1.24.2.8. The following information shall be submitted to the Department prior to Repairs to the Sacrificial Anode Cathodic Protection system:

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1.24.2.8.1. Results of one of the following:

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1.24.2.8.1.1. The two (2) most recent Sacrificial Anode Cathodic Protection system tests including the failed test, or

1.24.2.8.1.2. The results of an internal assessment, or

1.24.2.8.1.3. The results of a third party approved integrity assessment; and

1.24.2.8.2. Records of the Tank Release Detection method from the date of the most recent passed Sacrificial Anode Cathodic Protection test.

1.24.2.9. If the tank has an internal lining, no internal assessment results will be accepted for the purpose of determining the current integrity of the UST System.

~~1.24.2.8.~~1.24.2.10. Impressed current Cathodic Protection systems shall not be utilized as a Repair, Upgrade or Replacement.

~~1.24.2.9.~~1.24.2.11. The use of alternate methods of monitoring shall be those described in NACE RP 0285 *Corrosion Control of Underground Storage Tank Systems by Cathodic Protection* and shall only be used with prior written approval from the Department.

~~1.24.2.10.~~1.24.2.12. Owners and Operators shall maintain a record of the operation of Sacrificial Anode Cathodic Protection systems to demonstrate compliance with the requirements of this Section. These records shall be retained in a permanent record and shall at a minimum provide the following information:

~~1.24.2.10.1.~~1.24.2.12.1. The results of all tests and inspections of the Sacrificial Anode Cathodic Protection system.

1.25. Containment Sump Requirements for UST Systems Storing Hazardous Substance

1.25.1. All dispenser, Tank top, transition and any other Containment Sumps installed after ~~the Effective Date of these Regulations~~January 11, 2008 shall be Product Tight and shall be tested for tightness once every thirty-six (36) months, or in accordance with the manufacturers' specifications, or when deemed necessary by the Department to determine if a threat to human health, safety or the environment exists.

1.25.2. All dispenser, Tank top, transition and any other Containment Sumps of double wall design with continuous monitoring of the interstitial space are exempt from the testing requirements of §1.25.1. of this Part.

1.25.3. All dispensers, Tank top, transition and any other Containment Sumps tightness testing methods utilized shall be in accordance with the manufacturer's specifications or approved by the Department.

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1.25.4. All access manholes associated with Containment Sumps shall be sized such that the manhole skirt is sufficiently larger than the Containment Sump lid to allow adequate access to the sump and allow for surface water drainage.

1.25.5. A Containment Sump installed prior to ~~the Effective Date of these Regulations~~ January 11, 2008 that contains a sump sensor utilized to comply with the Tank or Piping Release Detection requirements of §1.9,§1.18, §1.19 or §1.20 of this Part, shall be Product Tight and shall be tested to ensure it is Product Tight once every thirty-six (36) months.

1.25.6. All dispenser Containment ~~s~~Sumps installed after ~~the effective date of these Regulations~~January 11, 2008 shall be installed and maintained as to be capable of being visually inspected at all times for evidence of a Release and shall not be filled with any material such as pea gravel or native soil, or the dispenser Containment ~~s~~Sump shall be continuously monitored for Releases.

1.25.7. Owners and Operators shall immediately remove water, Regulated Substance or debris that accumulates in any Containment Sump.

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1.26. Dispenser Sump Requirements for UST Systems Storing Hazardous Substance

1.26.1. Dispenser sumps shall be designed and installed such that any Hazardous Substance accumulating within the sump is contained and conveyed to the Tank top sump via the Piping interstitial space where it can be monitored and detected.

1.26.2. If equipped with a dispenser sump sensor, the sensor shall be equipped with an automatic audible or visual Release Detection alarm system.

1.27. Testing and Monitoring Procedures for Sump and Interstitial Sensors for UST Systems Storing Hazardous Substance

1.27.1. All sensors shall be equipped with an automatic audible and visual alert system and shall shut down the UST System in the event of an alarm.

1.27.2. Owners and Operators shall inspect and test all sensors installed after ~~the Effective Date of these Regulations~~January 11, 2008 at a minimum of once every twelve (12) months in accordance with the manufacturer's specifications, or as directed by the Department to verify proper sensor operation.

1.27.3. Owners and Operators shall inspect and test all sensors, installed prior to ~~the Effective Date of these Regulations~~January 11, 2008, used to comply with the Release Detection requirements of §§1.9. §1.18., §1.19., ~~or~~ §1.20., or §1.21.8. of this Part, a minimum of once every twelve (12) months in accordance with the manufacturer's specifications, or as directed by the Department to verify proper sensor operation.

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1.27.4. All sensors installed in a sump for the purpose of detecting a Release from the UST System shall be installed no more than 1" from the bottom of the sump such that the sensor is capable of detecting any accumulation of Regulated Substance.

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1.28. Repair, Retrofit and Upgrade Requirements for UST Systems Storing Hazardous Substance

1.28.1. All Repairs, Upgrades, Retrofits and replacements to UST Systems shall meet the applicable design, installation, maintenance and operational standards in Part D, §1 of these Regulations or shall be approved by the Department prior to installation.

1.28.2. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch in accordance with the requirements of Part E, §1.2. of these Regulations.

~~1.28.2.Documentation of Repair completion shall be submitted to the Department in accorda~~3~~ence with Part E, §2.2.2. of these Regulations.~~

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~~1.28.4.~~1.28.3. All equipment installed after ~~the Effective Date of these Regulations~~ January 11, 2008 shall be installed, operated and maintained such that manufacturer's warranties are not voided.

~~1.28.5.~~1.28.4. Owners and Operators shall ensure that Repairs will prevent Releases due to structural failure or corrosion as long as the UST System is used to store Hazardous Substance.

~~1.28.6.~~1.28.5. Owners and Operators shall test the Cathodic Protection system in accordance with §1.24. of this Part within six (6) weeks and once every twelve (12) months thereafter following the Repair of any Cathodically Protected UST System, to ensure it is operating properly.

~~1.28.7.~~1.28.6. Owners and Operators shall maintain records for each Repair, Retrofit and Upgrade for the Operational Life of the UST system.

~~1.28.8.~~1.28.7. After any Repair, Retrofit or Upgrade to an UST System, Owners and Operators shall have the applicable portions of the UST System tested for tightness in accordance with ~~§§1.13. of this Part~~ these Regulations, or as directed by the Department, before the UST System is placed into service.

~~1.28.9.~~1.28.8. Repairs to fiberglass reinforced plastic Tanks may be made only by the manufacturer or by its authorized representatives.

~~1.28.10.~~1.28.9. Owners and Operators may not Repair holes in Piping and fittings, but shall replace any piece of such Piping or fittings from which a Release has occurred. Replacement Piping and fittings shall meet all applicable

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Piping requirements in §1of this Part. Loose fittings and joints in Piping that have been tightened to eliminate leakage may be put back into service.

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1.28.10. At any time during the course of a Repair, Retrofit or Upgrade there is an indication of a Release the requirements of Part E of these Regulations must be followed.

1.28.11. At any time excavation of soil or removal of concrete, asphalt or other cover is required during the course of a Repair, Retrofit or Upgrade, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Repair, Retrofit or Upgrade of the UST System.

1.28.12. Within sixty (60) days of completion of a Repair, Retrofit or Upgrade of an UST System Owners and Operators and UST Contractors shall submit documentation to the Tank Management Branch including but not limited to the following:

1.28.12.1. Repair, Retrofit or Upgrade completion documentation; and

1.28.12.2. Results of sampling required in Part E of these Regulations or §1.28.10. of this Part; and

1.28.12.3. Results of any UST System tests required by the Department.

1.29. Routine Inspection Requirements for UST Systems Storing Hazardous Substance

1.29.1. Owners and Operators shall conduct an inspection at an interval no less frequently than once every twenty-eight (28) to thirty-one (31) ~~once every thirty (30)~~ calendar days ~~during each calendar month~~ to monitor the condition of the UST System including but not limited to all dispensers, dispenser sumps, access ports, spill containment devices, sumps and Containment Sumps. The routine inspection shall ~~include~~ at a minimum include the following:

1.29.1.1. The removal of all dispenser covers and visual inspection for any evidence of a Release of Hazardous Substance and inspection of all fittings, couplings and filters; and

1.29.1.2. The removal of all Containment Sump and sump covers and visual inspection of the sump for any evidence of a Release of Hazardous Substance or intrusion of water; and

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1.29.1.3. The inspection of all access ports to make sure that the covers, caps and adaptors are tightly sealed; and

1.29.1.4. The removal of all spill containment device covers and inspection to ensure all spill containment devices are empty and free of debris, water or Hazardous Substance.

1.29.2. A record of all routine inspections shall be kept on file by Owners and Operators for a minimum of three (3) years and shall be made available to the Department upon request. The records shall at a minimum include the results of all inspections including any Repairs made.

1.29.3. If at any time during a routine inspection evidence of a Release of Hazardous Substance is discovered Owners and Operators shall follow the investigation requirements of Part E of these Regulations.

1.30. Internal Lining Requirements for UST Systems Storing Hazardous Substance

1.30.1. An internal lining may be added to UST Systems Storing Hazardous Substance to improve the ability of an UST System to prevent the release of Hazardous Substance.

1.30.2. An internal lining shall not be ~~utilized~~ added to UST Systems to meet corrosion protection requirements after January 11, 2008 ~~the most recent date of promulgation of these Regulations~~.

1.30.3. The internal lining installation, operation and maintenance shall meet the following requirements:

1.30.3.1. The lining shall be installed in accordance with the following industry standards:

1.30.3.1.1. API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks*.

1.30.3.1.2. NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks*.

1.30.3.1.3. NLPA Standard 631, Chapter B, *Future Internal Inspection Requirements for Lined Tanks*.

1.30.3.2. The lined Tank shall be tested for tightness in accordance with Part B,§2.9.7. and found to be tight before the Tank is put back into service; and

1.30.3.3. Within ten (10) years after lining, and every five (5) years thereafter, Owners and Operators shall conduct an internal inspection of any Tank

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that was lined prior to January 11, 2008 ~~the lined Tank~~ in accordance with NLPA Standard 631, Chapter A, *Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks* and Chapter B, *Future Internal Inspection Requirements for Lined Tanks*, and API RP 1631, *Interior Lining and Periodic Inspection of Underground Storage Tanks.* At the time of the inspection, the lined Tank shall be structurally sound and comply with the original design specifications. If any damage is found, Repairs shall be made in accordance with standard engineering practice, industry standards and the requirements of these Regulations or the Tank shall be replaced in accordance with the requirements in §1 of this Part.

1.30.3.4. When an internally lined bare steel Tank is not inspected at a minimum in accordance with the intervals required in §1.30.3.3. of this Part and subsequently fails an internal inspection test the Tank shall be Removed or Closed In Place.

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Section 2. Change In Service Requirements for UST Systems Storing Hazardous Substance

2.1. Change In Service Notification Requirements for UST Systems Storing Hazardous Substance

2.1.1. Owners and Operators shall notify the Department of all Changes In Service in accordance with the requirements of §4.0 of Part A of these Regulations.

2.2. General Requirements for Change in Status from In Service to Out Of Service for UST Systems Storing Hazardous Substance

2.2.1. Owners and Operators shall continue operation and maintenance of corrosion protection in accordance with the applicable requirements of §1 of this Part when an UST System is Out of Service.

2.2.2. Owners and Operators shall continue operation and maintenance of Release Detection in accordance with the applicable Release Detection requirements for Tanks and Piping in §1 of this Part, when the Out of Service ~~tTank~~ UST System is not empty. Release Detection is not required if the UST System has been rendered empty.

~~2.2.2.~~2.2.3. The UST System is empty when all Hazardous Substances have been removed using commonly employed practices so that no more than one inch or 2.5 centimeters of residue, or 0.3 percent by weight of the total capacity of the UST System, remains in the system.

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2.2.4. Owners and Operators shall comply with the routine inspection requirements of §1.29. of this Part, if the Out of Service UST System is not empty and requires Release Detection in accordance with §2.2.2. of this Part.

~~2.2.3.~~2.2.5. When any UST System is Out of Service for three (3) months or more, Owners and Operators shall: ~~comply with the following requirements:~~

~~2.2.3.1.~~2.2.5.1. Leave vent ~~l~~Lines open and functioning; and

~~2.2.3.2.~~2.2.5.2. Cap and secure all other ~~lines~~Pipes, pumps, manways, and Ancillary Equipment.

~~2.2.4.~~2.2.6. When an UST System is Out Of Service for twelve (12) months, Owners and Operators shall:

~~2.2.4.1.~~2.2.6.1. Permanently Remove or Close in Place the UST System in accordance with the applicable requirements of these Regulations; or

~~2.2.4.2.~~2.2.6.2. Render the UST System empty in accordance with the definition in §2.2.~~2~~3. of this Part and complete a Site Assessment in accordance with §2.4. of this Part including any required

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hydrogeologic investigation and Remedial Action in accordance with Part E of these Regulations.

2.3. General Requirements for Change in Status from Out of Service to In Service for UST Systems Storing Hazardous Substance

2.3.1. Prior to a change in status of an UST System from Out of Service,for an UST System that has been Out of Service for three (3) months or more, -to In Service, Owners and Operators shall ensure that the UST System meets the following requirements prior to being placed In Service:

2.3.1.1. The UST system shall meet the requirements of §1 of this Part; and

2.3.1.2. The UST System shall be tested for tightness ~~in accordance with the requirements of Part B, §2.9.7.~~ as applicable; and

2.3.1.3. All Cathodically Protected UST Systems shall be tested and all necessary Repairs made in accordance with the requirements of §1.24. of this Part.

2.4. Change In Service Site Assessment Requirements for UST Systems Storing Hazardous Substance

2.4.1. Within thirty (30) days of rendering the UST System empty as required in §2.2.~~4~~6.2. of this Part, Owners and Operators shall complete a Site Assessment designed to measure for the presence of a Release where contamination is most likely to be present. The Site Assessment is not restricted to the property containing the UST System. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

2.4.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §2.4.1. of this Part, or by any other manner, Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

2.5. Change In Service Recordkeeping Requirements for UST Systems Storing Hazardous Substance

2.5.1. Owners and Operators shall submit the following documents to the Department within thirty (30) days of the completion of the Site Assessment required in §2.4. of this Part:

2.5.1.1. A site plan detailing the UST(s) location and surrounding area; and

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2.5.1.2. The approved Site Assessment plan with sampling points clearly marked; and

2.5.1.3. Chain of custody for all samples submitted for laboratory analysis; and

2.5.1.4. Results of any on-site screening performed; and

2.5.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

2.5.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change In Service of the UST System, including manifests and receipts for soil, water, and Hazardous Substances.

2.6. Financial Responsibility Requirements for Out of Service Hazardous Substance USTs

2.6.1. Owners and Operators shall comply with the requirements of Part F of these Regulations for Out of Service UST Systems until the UST System is permanently Removed or Closed In Place in accordance with the requirements of this Part and all requirements of Part E of these Regulations are completed.

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Section 3. Removal or Closure in Place for UST Systems Storing Hazardous Substance Requirements

3.1. Removal or Closure in Place Notification Requirements for UST Systems Storing Hazardous Substance

3.1.1. Owners and Operators shall notify the Department of all Removals or Closures in Place in accordance with the requirements of §4.0 of Part A of these Regulations.

3.2. Removal or Closure in Place General Requirements for UST Systems Storing Hazardous Substance

3.2.1. The Removal and Closure in Place procedures shall comply with the following industry standards:

3.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

3.2.1.2. API 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

3.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

3.3. Removal or Closure in Place Site Assessment Requirements for UST Systems Storing Hazardous Substance

3.3.1. At the time of Removal of an UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. The Site Assessment shall be completed within ten (10) days of the Removal of the UST System.

3.3.2. At the time of Closure in Place of an UST System, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation. The Site Assessment shall be completed within ten (10) days of the Closure in Place of the UST System.

3.3.3. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §3.3.1 and §3.3.2. of this Part, or by any other manner,

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Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

3.4. Removal or Closure in Place Recordkeeping Requirements for UST Systems Storing Hazardous Substance

3.4.1. Owners and Operators shall submit the following documents to the Department within sixty (60) days of the Removal or Closure in Place of an UST System:

3.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

3.4.1.2. A site map with sampling points clearly marked; and

3.4.1.3. Results of any on-site screening performed; and

3.4.1.4. Chain of custody for all samples submitted for laboratory analysis; and

3.4.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

3.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Removal of the UST System, including manifests and receipts for soil, water, and Regulated Substances and the UST System disposal; and

3.4.1.7. Documentation of Tank cleaning prior to UST System Closure in Place.

3.5. Removal or Closure in Place Financial Responsibility Requirements for UST Systems Storing Hazardous Substance

3.5.1. Owners and Operators shall comply with the requirements of Part F of these Regulations until the UST System is permanently Removed or Closed In Place in accordance with the requirements of this Part and all requirements of Part E of these Regulations are completed.

3.6. Applicability to Previously Removed or Closed In Place UST Systems Storing Hazardous Substance

3.6.1. When a Release is suspected from a previously Removed, Closed In Place or abandoned UST System, the Owner, Operator and Responsible Party shall comply with the requirements of Part E of these Regulations. If a Release is confirmed the Owner, Operator and Responsible Party shall Remove or Close In Place the UST System in accordance with all applicable requirements of these Regulations.

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Section 4. Change In Substance Stored Requirements for UST Systems Storing Hazardous Substance

4.1. Change In Substance Stored Notification Requirements for UST Systems Storing Hazardous Substance

4.1.1. Owners and Operators shall notify the Department of all Changes in Substance Stored in accordance with the requirements of §4.0 of Part A of these Regulations.

4.2. Change In Substance Stored General Requirements for UST Systems Storing Hazardous Substance

4.2.1. Before the Change In Substance Stored, Owners and Operators shall empty and clean the UST System by removing all liquids and accumulated sludge in accordance with the following industry standards:

4.2.1.1. API RP 1604, *Closure of Underground Petroleum Storage Tanks*.

4.2.1.2. API 2015, *Safe Entry and Cleaning of Petroleum Storage Tanks*.

4.2.1.3. OSHA, 29 CFR, 1910.146, *Permit Required Confined Spaces*.

4.3. Change In Substance Stored Site Assessment Requirements for UST Systems Storing Hazardous Substance

4.3.1. Within thirty (30) days of the completion of the cleaning of the UST System required in§4.2. of this Part, Owners and Operators shall perform a Site Assessment to measure for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, Owners and Operators shall consider the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a Release. A Site Assessment plan shall be approved by the Department prior to implementation.

4.3.2. If contaminated soils, contaminated groundwater, or Free Product as a liquid or a vapor is discovered as a result of the Site Assessment performed in accordance with §4.3.1. of this Part, or by any other manner, Owner and Operators shall begin a hydrogeologic investigation and Remedial Action in accordance with the requirements of Part E of these Regulations.

4.4. Change In Substance Stored Recordkeeping Requirements for UST Systems Storing Hazardous Substance

4.4.1. The Owner and Operator shall submit the following documents to the Department within thirty (30) days of the Change In Substance Stored in an UST System:

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4.4.1.1. A site plan detailing the UST(s) location and surrounding area; and

4.4.1.2. The approved Site Assessment plan with sampling points clearly marked; and

4.4.1.3. Chain of custody for all samples submitted for laboratory analysis; and

4.4.1.4. Results of any on-site screening performed; and

4.4.1.5. Laboratory test results for all samples submitted for laboratory analysis; and

4.4.1.6. Documentation of proper disposal or recycling of solid or hazardous waste generated as a result of the Change in Substance Stored of the UST System, including manifests and receipts for soil, water, and Regulated Substances.

4.5. Change In Substance Stored Financial Responsibility Requirements for UST Systems Storing Hazardous Substance

4.5.1. Owners and Operators shall comply with the requirements of Part F of these Regulations until the UST System is permanently Removed or Closed In Place in accordance with these Regulations or does not store a Regulated Substance and all requirements of Part E of these Regulations are completed.

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PART E.

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Section 1. Reporting Requirements

1.1. Reporting Requirements for Indicated Releases

1.1.1. Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, environmental contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:

1.1.1.1. The DNREC Tank Management Branch by calling 302-395-2500, during normal business hours.~~The Department's 24-hour Release Hot Line by calling 800-662-8802 (in-state) or 302-739-9401 (out-of-state)~~ ; and

1.1.1.2. The Department's 24-hour Release Hot Line by calling 800-662-8802, when required in accordance with 7 Del.C. Chapter 60 and the Regulations promulgated thereunder as amended . ~~The DNREC Tank Management Branch by calling 302-395-2500~~.

1.1.1.3. If the phone numbers listed in these Regulations are not valid it is the responsibility of the ~~Responsible Party~~ Person discovering the Release to take all reasonable steps to ascertain a valid phone number.

1.1.2. The Department may require that the UST System be taken out of service and emptied until the cause of the indication of the Release is determined, if the Department deems such action necessary to protect human health, safety or the environment.

1.1.3. Indicated Releases include, but are not limited to, the following:

1.1.3.1. Stained soils or soils that emit characteristic odors of Regulated Substance compounds which are exposed during digging, boring or excavation activities, ~~r~~Retrofit, Repair or Upgrade of UST Systems, Removal of an UST System or collection of soil samples around an UST System that is Closed In Place, or results from a Phase I or Phase II environmental site assessment; or

1.1.3.2. Water from supply wells, public or private, that exhibit a decrease in water quality, which is shown by subsequent analysis to result from the presence of a Regulated Substance; or

1.1.3.3. The appearance of characteristic odors of a Regulated Substance in basements or other enclosed spaces; or

1.1.3.4. The appearance of a sheen on a surface water body; or

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1.1.3.5. The appearance of a sheen or measurable LNAPL in a supply well, monitoring well, or observation tube; or

1.1.3.6. Failure of a Tank, ~~line~~Piping or vapor recovery test; or

1.1.3.7. Abnormal operating condition; or

1.1.3.8. A laboratory report that indicates a sample collected from an UST excavation, soil boring, monitor well or observation tube contains a Regulated Substance; or

1.1.3.9. Notification from the State Emergency Prevention and Response Branch or another State or Federal agency of the discovery of uncontained Regulated Substance compounds.

1.2. Reporting Requirements for Indicated Releases due to Abnormal Operating Conditions

1.2.1. Owners and Operators shall report any abnormal operating conditions to the Tank Management Branch, by calling 302-395-2500, within twenty-four (24) hours of discovery or by the next business day. Abnormal operating conditions include, but are not limited to, the following:

1.2.1.1. The sudden loss of product from any portion of the UST System;

1.2.1.2. Inventory control discrepancies;

1.2.1.3. A signal from any Release Detection device or method that indicates a Release may have occurred;

1.2.1.4. Inconclusive statistical inventory reconciliation (SIR) results;

1.2.1.5. Irregular behavior of product dispensing equipment;

1.2.1.6. Equipment failure or malfunction;

1.2.1.7. The unexplained presence of water in the UST System;

1.2.1.8. Evidence of a Release of a Regulated Substance noted during a routine inspection.

1.3. Reporting Requirements for Releases

1.3.1. Owners and Operators shall not knowingly allow any Release from an UST System to continue.

1.3.2. Any Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants or contractors, utility

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companies, financial institutions or real estate transfer companies, shall be reported within 24 hours to:

1.3.2.1. The Department's 24-hour Release Hot Line by calling 800-662-8802, ~~(in-state) or 302-739-9401 (out-of-state)~~; and

1.3.2.2. The DNREC Tank Management Branch by calling 302-395-2500, during normal business hours.

1.3.3. The National Response Center (800-424-8802) shall be notified *immediately* of a Release of any quantity of a petroleum substance that produces a visible sheen on surface waters.

1.3.4. Responsible Parties shall immediately contain the Release and shall complete the Release response, investigation and Remedial Action requirements of this Part as required.

1.3.5. Owners and Operators shall comply with the release notification requirements of any other state, federal, or municipal agency.

1.4. Reporting Requirements for Regulated Substance excluding Hazardous Substance Spills and Overfills

1.4.1. Owners and Operators shall report any spill or overfill that results in a Release to the environment that exceeds twenty-five (25) gallons to the Department within 24 hours by calling 800-662-8802 ~~(in-state) or 302-739-9401 (out-of-state)~~, and shall contact the Tank Management Branch, 302-395-2500, for further instructions. Owners and Operators shall immediately contain and clean up the spill or overfill and shall comply with the Release investigation, hydrogeologic investigation and Remedial Action requirements of this Part as directed by the Tank Management Branch.

1.4.2. Owners and Operators shall immediately contain and clean up any spill or overfill that results in a release to the environment that is less than twenty-five (25) gallons. If cleanup cannot be accomplished within 24 hours, Owners and Operators shall immediately notify the Tank Management Branch (302-395-2500). Owners and Operators shall comply with the Release investigation, hydrogeologic investigation and Remedial Action requirements of this Part as directed by the Tank Management Branch.

1.5. Reporting Requirements for Hazardous Substance Spills and Overfills

1.5.1. Owners and Operators shall report any spill or overfill of a Hazardous Substance that results in a Release that equals or exceeds the reportable quantity under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (40 CFR Part 302) or 7 **Del.C.** §6028 to the Department within 24 hours by calling 800-662-8802 ~~(in-state) or 302-739-5072 (out-of-state)~~ and shall contact the Tank Management Branch (302-395-

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2500) for further instructions. Owners and Operators shall immediately contain and clean up the spill or overfill and shall comply with the Release investigation, hydrogeologic investigation and Remedial Action requirements of this Part as directed by the Tank Management Branch.

1.5.2. A Release of a Hazardous Substance equal to or in excess of its reportable quantity shall also be reported *immediately* to the National Response Center under 42 U.S.C., Chapter 103, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986.

1.5.3. Owners and Operators of UST systems shall immediately contain and clean up any spill or overfill of a Hazardous Substance in a quantity less than a reportable quantity under CERCLA (40 CFR Part 302) or 7 **Del.C.** §6028. If cleanup cannot be accomplished within 24 hours, Owners and Operators shall immediately notify the Tank Management Branch (302-395-2500). Owners and Operators shall comply with the Release investigation, hydrogeologic investigation and Remedial Action requirements of this Part as directed by the Tank Management Branch.

1.6. Public Notice Requirements for Confirmed Releases

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1.6.1. For each confirmed Release that requires a Remedial Action plan, DNREC shall provide notice to the public by means designed to reach those members of the public directly affected by the Release and the planned Remedial Action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, personal contacts by field staff or ~~p~~posting relevant information on the internet.

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Section 2. Indicated Release Investigation Requirements

2.1. General Requirements for Indicated Release Investigation

2.1.1. Unless Remedial Action is immediately initiated in accordance with the requirements of this Part, ~~Owners and Operators~~ Responsible Parties shall investigate and confirm, within seven (7) days, any indication of a Release of a Regulated Substance including but not limited to those listed in §1.1. of this Part.

2.2. Indicated Release Investigation Procedures

2.2.1. Upon discovery of an indication of a Release ~~Owners and Operators~~ Responsible Parties shall:

2.2.1.1. Within twenty-four (24) hours begin an investigation to determine the cause of any abnormal operating condition; and

2.2.1.2. Within twenty-four (24) hours initiate an investigation, for completion within seven (7) days, to determine the presence or absence of a Release by:

2.2.1.2.1. Conducting an UST System tightness test in accordance Part B, §1.13, Part C, §1.13 or Part D, §1.13 as applicable.; or

2.2.1.2.2. Measuring for the presence of a Release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations and measurement methods, the type of initial indication of contamination, type of backfill and soil, the depth of groundwater, and other factors appropriate for identifying the presence and source of the Release shall be considered; or

2.2.1.2.3. Other procedures as directed by the Department.

2.2.1.3. If the abnormal operating condition is the result of an equipment failure or malfunction, Owners and Operators shall Repair or replace all faulty equipment in accordance with these Regulations.

2.2.1.4. If the Release investigation determines that a Release has occurred, Responsible Parties shall comply with the hydrogeologic investigation and Remedial Action requirements of this Part.

~~2.2.2.Within thirty (30) days of completion of any Repairs and indicated Release investigation Responsible Parties and UST contractors shall submit~~

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~~documentation to the Tank Management Branch including, but not limited to, the following:~~

~~2.2.2.1.Repair completion documentation; and~~

~~2.2.2.2.Sampling results; and~~

~~2.2.2.3.Test results as required by the Department.~~

2.3. Indicated Release Investigation Procedures for Inventory Control Discrepancies

2.3.1. Owners and Operators shall initiate an investigation procedure within twenty-four (24) hours of identification of an inventory discrepancy as described in Part B, Part C or Part D of these Regulations. The investigation shall proceed until the cause of the discrepancy has been found. The investigation shall include:

2.3.1.1. Inventory records shall be checked for mathematical errors; and

2.3.1.2. Inventory records shall be checked for error in measurement, substance temperature change, or other variables; and

2.3.1.3. If the significant loss or gain is not reconcilable after the steps in §2.3.1.1. or §2.3.1.2. of this Part are completed, or cannot be affirmatively demonstrated to be the result of pilferage, the UST System shall be checked for damage or leaks; and

2.3.1.4. Release Detection systems shall be checked for signs of a Release; and

2.3.1.5. Correct calibration of the inventory measuring system and any dispensers shall be verified.

2.3.2. If the source of the inventory discrepancy has not been determined from the above procedures, the Department shall be notified within 24 hours of completion of the investigation procedures in §2.3.1.1., §2.3.1.2., §2.3.1.3., §2.3.1.4., and §2.3.1.5. of this Part, and Owners and Operators shall begin the Release investigation and confirmation steps established in this Part.

2.3.3. If a Release is confirmed the Release notification, response, hydrogeologic investigation and Remedial Action requirements of this Part shall be completed as required.

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Section 3. Release Response Requirements

3.1. Department Authority to Assume Control of Releases

3.1.1. The Department reserves the right to assume control of any Release or indicated Release situation when it is determined that the Responsible Parties are not responding promptly or effectively. In such cases all liability, including payment to the Department of response costs, will remain with the Responsible Parties.

3.1.2. To protect human health, safety and the environment the Department reserves the right for the Department or its contractors to enter and take appropriate actions on affected properties to investigate, abate and remediate contamination.

3.2. Initial Release Response Requirements

3.2.1. In response to a Release from an UST System, the Responsible Parties shall promptly take the following steps:

3.2.1.1. The cause of the Release shall be promptly identified through UST System tightness testing or other means approved by the Department; and.

3.2.1.2. If a faulty UST System component is determined to be the cause of a Release, the component or, if necessary, the entire UST System, shall be taken out of service and shall not be returned to service until the UST System is functioning in compliance with all applicable portions of these Regulations.; and

3.2.1.3. The Regulated Substance contained within the UST System shall be removed unless otherwise directed by the Department; and

3.2.1.4. No Responsible Parties shall put back into service any UST System that has caused a Release without prior approval from the Department; and

3.2.1.5. An investigation shall be conducted to determine an estimate of the amount and type of Regulated Substance Released; and

3.2.1.6. Owners and Operators and Responsible Parties shall implement the following to contain the Release:

3.2.1.6.1. If LNAPL is present, LNAPL Corrective Action shall be immediately initiated in accordance with §3.3. of this Part; and,

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3.2.1.6.2. Nearby receptors shall be protected from impacts of Regulated Substances through recovery and containment measures ~~by~~to prevent~~ing~~ migration of Free and Mobile LNAPL. ~~migration through recovery and containment~~. The Department shall be notified of all activities; and

3.2.1.6.3. All flammable material shall be properly handled and vapors shall be mitigated to prevent fires, explosions and impacts to receptors.

3.3. LNAPL Corrective Action Requirements

3.3.1. At sites where there is a Release of LNAPL, the Responsible Parties shall remove and remediate the LNAPL to the maximum extent practicable following the requirements established in Part E of these Regulations while continuing, as necessary, the Release confirmation steps and the investigation required in Part E of these Regulations.

3.3.2. The Responsible Parties shall formulate a LNAPL Conceptual Site Model (LCSM) to determine the most efficient and environmentally protective remedial approach for addressing the Release.

3.3.3. The Responsible Parties shall verbally communicate a preliminary LCSM to the Department within forty-eight (48) hours of the discovery of a Release of LNAPL. The preliminary LCSM shall address as many of the criteria listed in §3.3.4. of this Part as possible.

3.3.4. The LCSM shall at a minimum address the following factors with regard to the LNAPL Release:

3.3.4.1. The feasibility and necessity of an immediate response; and

3.3.4.2. Direct and potential impacts to human health, safety and the environment; and

3.3.4.3. The type and estimated volume of the LNAPL released; and

3.3.4.4. The evidence, or occurrence, of the LNAPL Release (Mobile LNAPL, Free LNAPL in a well, Residual LNAPL discovered during an investigation); and

3.3.4.5. The potential recoverability of all LNAPL phases; and

3.3.4.6. The geometry of the LNAPL Body; and

3.3.4.7. The estimated age and duration of the LNAPL Release; and

3.3.4.8. The characteristics of the subsurface soils; and

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3.3.4.9. The chemical and physical properties of the LNAPL; and

3.3.4.10. Groundwater classification for the area such as wellhead protection areas, excellent recharge areas, or source water protection areas.

3.3.5. Responsible Parties shall base all short and long term Remedial Action decisions upon the information in the LCSM, which shall be updated, in writing and submitted to the Department, at a minimum of once every three (3) calendar months, or on a schedule approved by the Department.

3.3.6. LNAPL removal shall be conducted in a manner that minimizes the spread of contamination, including dissolved and vapor phases, into previously uncontaminated areas by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery by-products in accordance with all applicable local, state and federal requirements.

3.3.7. If LNAPL recovery is not practicable, and does not support site Remedial Action objectives as determined by the Department, the Responsible Parties may submit a written request for Department approval to discontinue LNAPL recovery. The request shall at a minimum include the following:

3.3.7.1. Technical feasibility of other proven groundwater and soil treatment techniques to further reduce LNAPL at the site; and

3.3.7.2. Costs, time frames, and resources involved to further reduce LNAPL levels employing the current and alternative method(s) proposed; and

3.3.7.3. A demonstration that the remaining LNAPL Body is not contributing to any unstable daughter plumes such as a dissolved plume and vapor migration; and

3.3.7.4. A demonstration that remaining LNAPL does not pose any risk to human health, safety, and the environment; and

3.3.7.5. An assessment of the persistence and fate of the LNAPL in the subsurface; and

3.3.7.6. A description of the individual site characteristics, including natural rehabilitative processes; and

3.3.7.7. Statements regarding current versus future land use of the site.

3.3.8. The Department may require the Responsible Parties to follow any applicable guidance or industry referenced standards in order to create a sound LCSM, from which optimal Remedial Action decisions can be made.

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Section 4. Hydrogeologic Investigation Requirements

4.1. General Requirement for Hydrogeologic Investigation

4.1.1. After a Release is confirmed and controlled, and LNAPL Corrective Action has commenced, Responsible Parties shall conduct a hydrogeologic investigation to determine the nature and extent of the Release and to make an initial estimate of any potential risks to human health, safety and to the environment, which are associated with the Release.

4.1.2. Responsible Parties shall conduct a hydrogeologic investigation to determine if an UST System is the source of environmental impacts to properties near an UST Facility. These impacts include, but are not limited to, the discovery of Regulated Substances such as the presence of LNAPL, dissolved phase contamination or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters that ha~~s~~ve been observed by the Department or brought to its attention by another party.

4.2. Hydrogeologic Investigation Requirements

4.2.1. After a Release is confirmed, Responsible Parties shall conduct a hydrogeologic investigation as the first step in the Corrective Action process unless directed to do otherwise by the Department. The investigation shall at a minimum include the following:

4.2.1.1. Determine the nature of the Release, including the chemical compounds present, their concentrations, quantity released, and their physical and chemical characteristics related to potential human health and environmental impacts and cleanup procedures; and

4.2.1.2. Determine the extent of the Release, both horizontal and vertical, including whether the contaminant is distributed homogeneously or heterogeneously; and

4.2.1.3. Determine the physical characteristics of the site, including characteristics affecting the occurrence, distribution, and movement of the released contaminant and characteristics affecting access to the site, both horizontal and vertical, which may influence the feasibility of various investigatory and remediation procedures; and

4.2.1.4. Evaluate, in accordance with the Delaware Risk-Based Corrective Action Program (DERBCAP) or other Department approved procedures, the potential risks posed by the Release including identification of environmentally sensitive receptors, and an estimate of the impacts to human health and the environment that may occur as a result of the Release.

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4.2.2. Responsible Parties shall submit the results of the hydrogeologic investigation to the Department no later than one hundred twenty (120) days after a Release is confirmed or other Department approved schedule. The hydrogeologic investigation report shall include recommendations for further action or a request for a no further action determination in accordance with §6.1 of this Part.

4.2.3. The results of the hydrogeologic investigation shall be organized in report form in accordance with Department guidance and signed by a professional geologist or professional engineer registered in the State of Delaware as required in 24 **Del.C.** Chapter 36 and the Delaware Board of Registration of Geologists Regulations and 24 **Del.C.** Chapter 28.

4.2.4. The Department shall review the report and either accept the conclusions and recommendations of the report or require that within ninety (90) days or other Department approved schedule, the Responsible Parties shall submit additional information or a Remedial Action work plan (RAWP) to the Department.

4.2.5. The Responsible Parties may submit hydrogeologic investigation reports for a site separately or as part of a proposed long term Remedial Action work plan in accordance with the requirements of §5 of this Part.

4.3. Quality Assurance and Quality Control Requirements

4.3.1. Responsible Parties shall develop and implement a site-specific Quality Assurance/Quality Control (QA/QC) plan for the activities to be carried out during the hydrogeologic investigation and the QA/QC plan shall be included in the hydrogeologic investigation ~~work plan~~ report submitted to the Department.

4.4. Site Safety Requirements

4.4.1. Responsible Parties shall develop a site-specific health and safety plan which shall be ~~included in the hydrogeologic investigation work plan~~ furnished to the Department upon request and shall cover all hydrogeologic investigation tasks. The health and safety plan shall address the site worker protection levels, protection of persons living near the site, and site access control during the investigation.

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Section 5. Remedial Action Requirements

5.1. Administrative Option For Remedial Action

5.1.1. The Department may waive the requirement of a hydrogeologic investigation when the Responsible Parties have taken the appropriate initial response steps to eliminate imminent dangers and to prevent any further Release and have chosen to submit a Remedial Action work plan (RAWP) for remediating contaminated soil, groundwater and~~/ or~~ surface water.

5.1.2. If the Department determines that the implementation of Remedial Actions are not achieving adequate protection of human health, safety or the environment, the Department shall require Responsible Parties to take appropriate action~~-~~.

5.1.3. Responsible Parties may, in the interest of minimizing environmental contamination and promoting more effective remediation, begin remediation of soil and groundwater before the Remedial Action work plan is approved provided that the Responsible Parties:

5.1.3.1. Notify the Department of their intention to begin remediation; and

5.1.3.2. Comply with any conditions imposed by the Department, including halting remediation or mitigating adverse consequences from ~~cleanup~~ remedial activities; and

5.1.3.3. Incorporate these self-initiated remediation measures in the RAWP that shall be submitted to the Department for approval; and

5.1.3.4. Recognize that any actions taken by the Responsible Parties without prior Department approval is at the risk of the Responsible Parties and does not absolve the Responsible Parties of the obligation to comply with the Remedial Action requirements of this Part.

5.2. Remedial Action Work Plan (RAWP) Requirements

5.2.1. At any point after reviewing the information contained in the hydrogeologic investigation report, the Department may require the Responsible Parties to submit additional information or to develop and submit a RAWP for responding to contaminated soils, surface water and groundwater.

5.2.2. The RAWP shall address the contamination of soils, groundwater and surface water, including all occurrences of LNAPL resulting from a Release, and shall be submitted to the Department in a timeframe specified by the Department. The RAWP shall provide for adequate protection of human health, safety and the environment, and shall establish cleanup goals for the site.

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5.2.3. Responsible Parties shall modify any RAWP that does not provide for adequate protection of human health, welfare, safety and the environment, as necessary to meet the requirements of Part E of these Regulations

5.2.4. The RAWP shall include sufficient design information that demonstrates that the remedial technology shall meet the cleanup goals approved by the Department and shall include an estimated time to cleanup completion for the remediation method proposed in the RAWP.

5.2.5. A RAWP shall propose a Remedial Action method for the site that shall:

5.2.5.1. Reduce the contaminant levels at the site to meet the cleanup goals proposed in the Remedial Action work plan and approved by the Department; or

5.2.5.2. Reduce the contaminant levels to achieve the cleanup goals established by the Department; or

5.2.5.3. Monitor the site over time to provide technically based assurance that the site contamination is controlled under natural conditions and that those conditions will not now, or at some future time, adversely impact human health, safety or the environment.

5.2.6. The Department shall approve the RAWP when satisfied that implementation of the RAWP provides for measures considered adequate to protect human health, safety, and the environment.

5.2.7. The RAWP shall be organized in report form and signed by a professional geologist or professional engineer registered in the State of Delaware as required in 24 **Del.C.** Chapter 36 and the *Delaware Board of Registration of Geologists Regulations* and 24 **Del.C.** Chapter 28.

5.2.8. The RAWP shall be of site specific design and shall be based on the results of the hydrogeologic investigation, or contain appropriate investigatory steps if submitted without a prior hydrogeologic investigation having been completed.

5.2.9. The RAWP may propose a phased approach to site remediation. If data can justify ~~site closure~~a no further action determination, Responsible Parties may request a no further action determination~~site closure~~ in accordance with the requirements of §6 of this Part. Remedial Action will be considered complete only upon the Department's evaluation and approval of a satisfactory no further action~~closure~~ request.

5.2.10. The RAWP shall include a summary of past efforts and a description of any new or continued efforts to effectively remove LNAPL as described in Part E §3.

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5.3. Quality Assurance and Quality Control Requirements

5.3.1. Responsible Parties shall develop and implement a site specific Quality Assurance/Quality Control (QA/QC) plan for the activities to be carried out during implementation of the RAWP and the QA/QC plan shall be included in the RAWP ~~plan~~ submitted to the Department.

5.4. Site Safety Requirements

5.4.1. Responsible Parties shall develop a site-specific health and safety plan which shall be furnished to the Department upon request and ~~included in the RAWP and~~ shall cover all Remedial Action tasks. The health and safety plan shall, at a minimum, address site worker protection levels, protection of persons living near the site, and site access control during the remediation.

5.5. Implementation and Reporting Schedule

5.5.1. Upon approval of the RAWP by the Department, the Responsible Parties shall implement the RAWP, including any modifications to the RAWP made by the Department, within the timeframe approved by the Department.

5.5.2. The Responsible Parties shall monitor, evaluate and report to the Department the results of implementing the Remedial Action at a minimum of once every three (3) calendar months, or within the time schedule approved in the RAWP. Copies of all records documenting the transport and disposal of any free product, contaminated water and soil, or other waste that is generated at the site while investigation and remedial action work is being performed shall be included in each report.

5.5.3. The Responsible Parties shall submit a Remedial Action progress report to the Department once every twelve (12) calendar months that includes an evaluation of the effectiveness of the Remedial Action to determine whether additional measures must be implemented to meet the cleanup goals established in the RAWP. The evaluation shall include an estimate of time to Remedial Action completion.

5.5.4. Responsible Parties shall submit recommendations for optimization and improvement as needed to achieve the cleanup goals established in the RAWP, as part of each Remedial Action progress report.

5.6. Post Remedial Monitoring

5.6.1. Upon completion of Remedial Action activities the Responsible Parties shall perform four (4) consecutive quarters of groundwater sampling or other sampling schedule as approved by the Department to ensure the contaminant plume is stable and shrinking and that rebounding does not occur.

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Section 6. ~~Site Closure~~ No Further Action Requirements

6.1. ~~Closure Documentation~~ Request for No Further Action ~~Requirements~~Determination

6.1.1. After all Corrective Actions are complete and cleanup ~~RAWP~~ goals have been achieved, the Responsible Parties shall submit a written request to the Department for ~~site closure~~ no further action (NFA). ~~Closure documentation~~ The request for no further action shall include but is not limited to the following documentation:

6.1.1.1. A demonstration that the site does not threaten human health, safety and the environment based on current land use of the site and surrounding area; and

6.1.1.2. LNAPL does not exist or has been addressed in accordance with §3.3. of this Part; and

6.1.1.3. Contaminant levels have been reduced to levels at or below the cleanup goals approved by the Department.

6.1.2. The Responsible Parties shall submit all documents, permits, certificates, approvals, etc. relating to the transportation of impacted environmental media and materials from the site including USTs, soils, Regulated Substances, and water that has not been previously submitted to the Department. Documentation shall include tipping fees, waste receipts, bills of lading or any other documentation verifying that all waste has been properly disposed.

6.1.3. The request for no further action shall be signed by a professional geologist or professional engineer registered in the State of Delaware as required in 24 **Del.C.** Chapter 36 and the *Delaware Board of Registration of Geologists Regulations* and 24 **Del.C.** Chapter 28, when requested by the Department.

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6.2. Department Response to a Request for No Further Action ~~Department Closure~~

6.2.1. The DNREC Tank Management Branch shall issue a letter requiring no further action (NFA) and documenting that site cleanup objectives have been met. The ~~closure~~ no further action approval does not absolve the Responsible Parties from previously incurred or potential future liability.

6.2.2. The ~~NFA~~no further action letter applies to site conditions at the time that the ~~closure~~ request for no further action was made. If the risk posed by the site changes in the future, including but not limited to ~~due to~~ land use changes at the site or surrounding area ~~or due to other reasons~~, the Responsible Parties shall perform additional Remedial Action as necessary to eliminate the risk to human health, safety and the environment.

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6.2.3. Any Person disturbing any residual contamination at the site by digging, boring, excavating, dewatering, or other means, shall submit a contaminated material management plan to the Department for approval prior to work commencing.

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PART F.

FINANCIAL RESPONSIBILITY REQUIREMENTS FOR UNDERGROUND STORAGE TANK SYSTEMS

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Section 1. Financial Responsibility Requirements for Underground Storage Tank Systems

1.1. Applicability

1.1.1. The Requirements of Part F of these Regulations apply only to Owners and Operators of UST Systems subject to the requirements of Part B and Part D of these Regulations.

1.1.2. UST System Owners and Operators are subject to the requirements of this Part if the UST Systems are in operation on or after the date for compliance established in §1.2. of this Part.

1.1.3. The State and Federal government entities whose debts and liabilities are the debts and liabilities of the State or the United States are exempt from the Financial Responsibility Requirements of this Part for UST Systems owned by a State or Federal government entity.

1.1.4. The requirements of this Part do not apply to Owners and Operators of any UST System described in Part A, §1.2.

1.1.5. If the Owner and Operator of an UST System are separate Persons, only one Person is required to demonstrate financial responsibility; however, both parties are liable in event of noncompliance. Regardless of which party complies, the date set for compliance is established in §1.2. of this Part.

1.1.6. Owners and Operators shall maintain a copy of all documentation as referenced in §§2.2. through 2.12. and ~~Appendices~~§3, Forms A-R of this Part.

1.1.7. Owners and Operators shall maintain evidence of all current and historical financial assurance mechanisms as required in §§2.2. through 2.12. and §3,,~~Appendices~~Forms A-R of this Part, used to demonstrate financial responsibility under this Part, until released from the requirements under §2.16. of this Part.

1.1.8. Records documenting compliance with the Financial Responsibility Requirements of this Part shall be made available upon the request of the Department.

1.1.9. The required per Occurrence and Annual Aggregate coverage amounts do not in any way limit the liability of Owners and Operators.

1.1.10. Owners and Operators shall review the amount of financial responsibility required whenever additional UST Systems are installed to ensure compliance with the requirements of this Part.

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1.1.11. Owners and Operators shall submit to the Department documentation of the current financial responsibility mechanism within thirty (30) days of confirmation of a Release from the UST System.

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1.1.12. No UST Systems shall contain a Regulated Substance without a current and valid financial responsibility mechanism in accordance with the applicable requirements of these Regulations.

1.2. Compliance Dates

1.2.1. Owners and Operators of UST Systems storing Regulated Substance shall comply with the financial responsibility requirements of this Part by the following dates:

1.2.1.1. All Petroleum Marketing Firms owning 1,000 or more UST Systems storing Regulated Substance, and other UST Systems Owners that report a tangible net worth of $20 million or more to the U.S. Securities and Exchange Commission (SEC), Dun and Bradstreet, the Energy Information Administration, or the Rural Electrification Administration, shall comply by January 24, 1989.

1.2.1.2. All Petroleum Marketing Firms owning 100-999 UST Systems storing Regulated Substance shall comply by October 26, 1989.

1.2.1.3. All Petroleum Marketing Firms owning 13-99 UST Systems storing Regulated Substance shall comply by April 26, 1991.

1.2.1.4. All Hazardous Substance UST System Owners and Operators shall comply by December 31, 2008.

1.2.1.5. All UST System Owners not described in §1.2.1.1., §1.2.1.2., §1.2.1.3. or §1.2.1.4. Of this Part, including all Local Government entities shall comply by December 31, 1993.

1.3. Amount and Scope of Financial Responsibility

1.3.1. Per-Occurrence Financial Responsibility Amounts

1.3.1.1. Owners and Operators of UST Systems shall demonstrate financial responsibility for taking corrective action and for compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases from the operation of UST Systems in at least the following per-occurrence amounts:

1.3.1.1.1. For Owners or Operators of UST Systems that are located at Petroleum Marketing Facilities, or that handle an average of more than 10,000 gallons of Regulated Substance per month based on annual

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throughput for the previous calendar year, the demonstration of financial responsibility for corrective action and third-party liability shall be a minimum of one million dollars ($1,000,000) per Occurrence.

1.3.1.1.2. For Owners and Operators of Hazardous Substance UST Systems the demonstration of financial responsibility for corrective action and third-party liability shall be a minimum of one million dollars ($1,000,000) per Occurrence.

1.3.1.1.3. For Owners and Operators of UST Systems not described in §1.3.1.1.1. or §1.3.1.1.2. of this Part the demonstration of financial responsibility for corrective action and third-party liability shall be a minimum of five hundred thousand dollars ($500,000) per Occurrence.

1.3.2. Annual Aggregate Financial Responsibility Amounts

1.3.2.1. Owners and Operators of UST Systems shall demonstrate financial responsibility for taking corrective action and for compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases from the operation of UST Systems in at least the following annual aggregate amounts:

1.3.2.1.1. For Owners and Operators of 1 to 100 UST Systems the demonstration of financial responsibility for corrective action and third-party liability shall be a minimum of one million dollars ($1,000,000) annual aggregate.

1.3.2.1.2. For Owners and Operators of 101 or more UST Systems the demonstration of financial responsibility for corrective action and third-party liability shall be a minimum of two million dollars ($2,000,000) annual aggregate.

1.3.3. For the purposes of §1.3.2. of this Part only, “an UST System” means a single containment unit and does not mean a combination of single containment units.

1.3.4. The amount of financial responsibility required excludes legal defense and administrative costs.

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Section 2. Financial Responsibility Mechanisms

2.1. Allowable Mechanisms and Combinations of Mechanisms

2.1.1. Except as provided by §§2.1.2. and 2.1.3. of this Section:

2.1.1.1. An Owner or Operator, including a Local Government Owner or Operator, may use any one or combination of the mechanisms listed in §§2.2. through 2.7. of this Part, inclusive, to demonstrate financial responsibility under this Part for one or more UST Systems, and

2.1.1.2. A Local Government Owner or Operator may use any one or combination of the mechanisms listed in §§2.8. through 2.11. of this Part, inclusive, to demonstrate financial responsibility under this Part for one or more UST Systems.

2.1.2. An Owner and Operator may use a guarantee or surety bond to establish financial responsibility only if the State's Attorney General has submitted a written statement to the Department that a guarantee or surety bond executed as described in this Part is a legally valid and enforceable obligation in the State of Delaware.

2.1.3. An Owner and Operator may use self-insurance in combination with a guarantee only if, for the purpose of meeting the requirements of the financial test under this rule, the financial statements of the Owner and Operator are not consolidated with the financial statements of the Guarantor.

2.1.4. Except as provided in §2.1.5.of this Part, if the Owner or Operator uses separate mechanisms or separate combinations of mechanisms to demonstrate financial responsibility for taking corrective action and compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases the amount of financial responsibility provided by the combination of mechanisms shall be in the full amount specified in §1.3. of this Part.

2.1.5. If an Owner or Operator uses separate mechanisms or separate combinations of mechanisms to demonstrate financial responsibility for different UST Systems, the annual aggregate required shall be based on the number of ~~tanks~~ Underground Storage Tanks covered by each such separate mechanism or combination of mechanisms.

2.1.6. Where an Owner or Operator uses a combination of separate mechanisms to cumulatively demonstrate financial responsibility, the mechanisms shall clearly and expressly state the order and priority of the mechanisms in paying for corrective action and/or compensation of third parties, and such order and priority shall be consistent with all regulatory requirements for demonstrating financial responsibility.

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2.2. Self Insurance

2.2.1. To satisfy the requirements of §1.3. of this Part by utilizing self insurance, the Owner, Operator, or Guarantor shall:

2.2.1.1. Submit documentation that the requirements of either the financial test in Part F §2.2.2., Alternative I Net Worth Test, or Part F §2.2.3. Alternative II Net Working Capital Test, are met based on year-end financial statements for the latest completed Financial Reporting Year, utilizing a form provided by the Department, as found in ~~Appendix~~§3.1, Form A of ~~these Regulations~~this Part, to provide the required documentation; and

2.2.1.2. Submit a letter from the Chief Financial Officer, utilizing a form provided by the Department, as found in ~~Appendix~~§3.1, Form A of ~~these Regulations~~ this Part, worded exactly as shown, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted; and

2.2.1.3. Submit the documentation required in §§2.2.1.1. and 2.2.1.2. of this Part to the Department, signed by the Chief Financial Officer of the Owner, Operator, or Guarantor, within one hundred twenty (120) days of the close of each fiscal year.

2.2.2. Alternative I Financial Test– Net Worth Test Requirements

2.2.2.1. The Owner, Operator, or Guarantor, shall have a Tangible Net Worth of at least $10 million; and

2.2.2.2. The Owner, Operator, or Guarantor, shall have a Tangible Net Worth of at least ten times the sum of the following:

2.2.2.2.1. The total of the applicable Annual Aggregate amount required by §1.3. of this Part less the amount obtained through another mechanism or combination of mechanisms in accordance with §2.1.of this Part based on the number of UST Systems for which a financial test is used to demonstrate financial responsibility to the Department under this Part; and

2.2.2.2.2. The sum of the corrective action cost estimates, the current closure and post-closure care cost estimates, current plugging and abandonment cost estimates and any other liability coverage for the which the Owner or

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Operator is using a financial test to demonstrate financial responsibility to the State or EPA, (this includes but is not limited to Subtitle C Hazardous Waste facilities, SDWA hazardous waste injection wells and Aboveground Storage Tanks), and

2.2.2.3. The Owner, Operator, or Guarantor, shall either:

2.2.2.3.1. File financial statements annually with the U.S. Securities and Exchange Commission (SEC), the Energy Information Administration (EIA), or the Rural Utilities Service (RUS), the Board of Governors of the Federal Reserve System, the Comptroller of the Currency or the Federal Deposit Insurance Corporation; or

2.2.2.3.2. Annually report the firm's Tangible Net Worth to Dun & Bradstreet, and Dun & Bradstreet shall have assigned the firm a financial strength rating of 4A or 5A; and

2.2.2.4. The firm's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion, a disclaimer of opinion, or a going concern qualification.

2.2.3. Alternative II Financial Test - Net Working Capital Test Requirements

2.2.3.1. The Owner, Operator, or Guarantor shall have a Tangible Net Worth of at least $10 million; and

2.2.3.2. The Owner, Operator, or Guarantor shall have a Tangible Net Worth of six (6) times the sum of the following:

2.2.3.2.1. The applicable Annual Aggregate amount required by §1.3. of this Part less the amount obtained through another mechanism or combination of mechanisms in accordance with §2.1. of this Part, for which a financial test is used to demonstrate financial responsibility to the Department under this Section; and

2.2.3.2.2. The sum of the corrective action cost estimates, the current closure and post-closure care cost estimates, current plugging and abandonment cost estimates and any other liability coverage for the which the Owner or Operator is using a financial test to demonstrate financial responsibility to the State or EPA, (this includes but is not limited to Subtitle C Hazardous Waste facilities, SDWA hazardous waste injection wells and Aboveground Storage Tanks), and

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2.2.3.3. The Owner, Operator, or Guarantor shall have either:

2.2.3.3.1. At least ninety percent (90%) of assets in the United States; or

2.2.3.3.2. U.S. assets at least six (6) times the sum of the following:

2.2.3.3.2.1. The applicable Annual Aggregate amount required by §1.3. of this Part less the amount obtained through another mechanism or combination of mechanisms in accordance with §2.1. of this Part, for which a financial test is used to demonstrate financial responsibility to the Department under this Section; and

2.2.3.3.2.2. The sum of the corrective action cost estimates, the current closure and post-closure care cost estimates, current plugging and abandonment cost estimates and any other liability coverage for the which the Owner or Operator is using a financial test to demonstrate financial responsibility to the State or EPA, (this includes but is not limited to Subtitle C Hazardous Waste facilities, SDWA hazardous waste injection wells and Aboveground Storage Tanks), and

2.2.3.4. The Owner, Operator, or Guarantor shall have either

2.2.3.4.1. Net working capital of at least six (6) times the sum of the following:

2.2.3.4.1.1. The applicable Annual Aggregate amount required by §1.3. of this Part less the amount obtained through another mechanism or combination of mechanisms in accordance with §2.1. of this Part, for which a financial test is used to demonstrate financial responsibility to the Department under this Section; and

2.2.3.4.1.2. Any other liability coverage for which the Owner or Operator is using the test to demonstrate financial responsibility to the State or EPA, (this includes but is not limited to Subtitle C Hazardous Waste Facilities, SDWA Hazardous Waste Injection Wells, Subtitle I Underground Storage Tank Facilities); or

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2.2.3.4.2. A current Standard & Poor's bond rating of AAA, AA, A or BBB, or a current Moody's bond rating of Aaa, Aa, A or Baa for the most recent bond issuance.

2.2.3.5. The fiscal year-end financial statements of the Owner, Operator, or Guarantor, shall be independently audited, and cannot include an adverse auditor's opinion, a disclaimer of opinion, or a going concern qualification.

2.2.3.6. If the financial statements of the Owner, Operator, or Guarantor are not submitted annually to the U.S. Securities and Exchange Commission (SEC), the Energy Information Administration (EIA) or the Rural Utilities Service (RUS) the Owner, Operator, or Guarantor using the Alternative II test, shall obtain a special report by an independent certified public accountant which contains the accountant's certification that there are no material differences between the financial data in the submission required under §2.2.1.3. of this Part and the independently audited year-end financial statements and footnotes for the latest completed Financial Reporting Year.

2.2.3.7. If an Owner or Operator finds that he or she no longer meets the Requirements of §2.2.1.1. of this Part, the Owner or Operator shall obtain alternative coverage within one hundred (150) days of the latest completed Financial Reporting Year.

2.2.3.8. The Department may require reports of financial condition at any time from the Owner, Operator, or Guarantor. If the Department finds, on the basis of such reports or other information, that the Owner, Operator, or Guarantor no longer meets the requirements of §2.2.1.1. of this Part, the Owner or Operator shall obtain alternate coverage within thirty (30) days after notification by Verifiable Service of such a finding.

2.2.3.9. If the Owner and Operator fail to obtain alternate financial assurance within one hundred fifty (150) days of finding that he or she no longer meets the Requirements of §2.2.1.1.of this Part, or within thirty (30) days of notification by the Department that he or she no longer meets the Requirements of §2.2.1.1. of this Part, the Owner and Operator shall notify the Secretary of such failure within ten (10) days.

2.3. Guarantee

2.3.1. To satisfy the requirements of §1.3. of this Part the Owner or Operator may obtain a guarantee that conforms to the requirements of this Section.

2.3.2. The Guarantor shall be a business entity that:

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2.3.2.1. Possesses a Controlling Interest in the Owner or Operator; or

2.3.2.2. Possesses a Controlling Interest in a firm that has a Controlling Interest in the Owner or Operator; or

2.3.2.3. Is an affiliate which is controlled through stock ownership by a common parent firm that possesses a Controlling Interest in the Owner or Operator; or

2.3.2.4. Is engaged in a Substantial Business Relationship with the Owner or Operator and is issuing the guarantee as an act incident to that business relationship.

2.3.3. The Guarantor shall:

2.3.3.1. Comply with the requirements of §2.2. of this Part; and

2.3.3.2. Submit a Guarantee utilizing a form provided by the Department, as found in ~~Appendix~~ §3.2, Form B of ~~these Regulations~~this Part, worded exactly as shown, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted; and

2.3.3.3. Submit the completed Guarantee and the required submissions of §2.2 of this Part to the Department; and

2.3.3.4. Provide the Owner or Operator with copies of their submissions under §§2.3.2.1. and 2.3.2.3. of this Part.

2.3.4. If the Guarantor fails to meet the requirements of the financial test at the end of any Financial Reporting Year, within one hundred twenty (120) days of the end of that Financial Reporting Year the Guarantor shall send by Verifiable Service, before cancellation or non-renewal of the guarantee, notice to the Owner and Operator and to the Department. The guarantee will terminate no less than one hundred twenty (120) days after the date the Owner and Operator receives the notification, as evidenced by Verifiable Service. The Owner or Operator shall obtain alternative coverage as specified in §2.15. of this Part.

2.3.5. If the Department notifies the Guarantor that he no longer meets the Requirements of §2.2.1.1.of this Part, the Guarantor shall notify the Owner and Operator by Verifiable Service within ten (10) days of receiving such notification from the Department. The guarantee will terminate no less than one hundred twenty (120) days after the date the Owner and Operator receives the notification, as evidenced by Verifiable Service. The Owner or Operator shall obtain alternative coverage as specified in §2.15. of this Part.

2.3.6. The Owner or Operator who uses a guarantee to satisfy the Requirements of §1.3. of this Part shall also establish a standby trust fund at the same time that

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the guarantee is obtained. Under the terms of the guarantee, all amounts paid by the Guarantor under the guarantee will be deposited directly into the standby trust fund in accordance with instructions from the Department under §2.16. of this Part. This standby trust fund shall meet the requirements specified in §2.12. of this Part.

2.3.7. An Owner or Operator may use a guarantee to establish financial responsibility only if the State's Attorney General has submitted a written statement to the Department that a guarantee executed as described in this Section is a legally valid and enforceable obligation in the State of Delaware.

2.4. Insurance and Risk Retention Group Coverage

2.4.1. An Owner or Operator may satisfy the requirements of §1.3. of this Part by obtaining liability insurance that conforms to the requirements of this Section. Such insurance may be in the form of a separate insurance policy or an endorsement to an existing insurance policy.

2.4.2. The Owner or Operator shall submit an amendment to an insurance policy utilizing a form provided by the Department, as found in ~~Appendix~~§3.3,Form C of ~~these Regulations~~this Part, worded exactly as shown, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted or shall submit a certificate of insurance utilizing a form provided by the Department, as found in ~~Appendix~~§3.4, Form D of ~~these Regulations~~ this Part, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.4.3. Each insurance policy shall be issued by an insurer or a risk retention group that, at a minimum, is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more States and has a current Standard & Poor's rating of AAA, AA, A or BBB, or a current Moody's rating of Aaa, Aa, A or Baa.

2.5. Surety Bond

2.5.1. An Owner or Operator may satisfy the requirements of §1.3. of this Part by obtaining a surety bond that conforms to the requirements of this Section. The surety company issuing the bond shall be among those listed as acceptable sureties on federal bonds in the latest Circular 570 of the U.S. Department of the Treasury.

2.5.2. The Owner or Operator shall submit a surety bond utilizing a form provided by the Department, as found in ~~Appendix~~§3.5, Form E of ~~these Regulations~~ this Part, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

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2.5.3. Under the terms of the bond, the surety will become liable on the bond obligation when the Owner or Operator fails to perform as guaranteed by the bond. In all cases, the surety's liability is limited to the levels of financial responsibility required by §1.3. of this Part.

2.5.4. The Owner or Operator who uses a surety bond to satisfy the requirements of §1.3. of this Part shall also establish a standby trust fund when the surety bond is acquired. Under the terms of the bond, all amounts paid by the surety under the bond will be deposited directly into the standby trust fund in accordance with instructions from the Secretary under §2.16. of this Part. This standby trust fund shall meet the requirements specified in §2.12. of this Part.

2.5.5. An Owner or Operator may use a surety bond to establish financial responsibility only if the State's Attorney General has submitted a written statement to the Department that a surety bond executed as described in this Section is a legally valid and enforceable obligation in the State of Delaware.

2.5.6. The surety(ies) company may cancel the bond by sending notice of cancellation to the Owner and Operator and the Department by Verifiable Service, provided, however, that cancellation shall not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by the Owner and Operator as evidenced by Verifiable Service. The Owner or Operator shall obtain alternative coverage as specified in §2.15. of this Part.

2.5.7. If the Department notifies the Owner or Operator that the surety(ies) company no longer meets the requirements of this Section, the Owner or Operator shall obtain alternative coverage as specified in §2.15. of this Part.

2.6. Letter of Credit

2.6.1. An Owner or Operator may satisfy the requirements of §1.3. of this Part by obtaining an irrevocable standby letter of credit that conforms to the Requirements of this Section and is issued by an institution that has authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or State agency.

2.6.2. The Owner or Operator shall submit an irrevocable standby letter of credit utilizing a form provided by the Department, as found in ~~Appendix~~§3.6, Form F of~~-~~ this Part~~these Regulations~~, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.6.3. An Owner or Operator who uses a letter of credit to satisfy the Requirements of §1.3. of this Part shall also establish a standby trust fund when the letter of credit is acquired. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing

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institution directly into the standby trust fund in accordance with instructions from the Department under §2.16. of this Part. This standby trust fund shall meet the requirements specified in §2.12. of this Part.

2.6.4. The letter of credit shall be irrevocable with a term specified by the issuing institution. The letter of credit shall provide that credit be automatically renewed from the same term as the original term, unless, at least one hundred twenty (120) days before the current expiration date, the issuing institution notifies the Owner and Operator by Verifiable Service of its decision not to renew the letter of credit. Under the terms of the letter of credit, the one hundred twenty (120) days will begin on the date when the Owner and Operator receives the notice, as evidenced by the Verifiable Service.

2.7. Trust Fund

2.7.1. An Owner or Operator may satisfy the requirements of §1.3. of this Part by establishing a trust fund that conforms to the Requirements of this Section. The trustee shall be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal agency or an agency of the State in which the fund is established.

2.7.2. The Owner or Operator shall submit a trust agreement, utilizing a form provided by the Department, as found in ~~Appendix~~§3.7, Form G of this Part ~~these Regulations~~, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted and shall be accompanied by a formal certification of acknowledgment as specified in ~~Appendix~~§3.7, Form G of this Part.

2.7.3. The trust fund, when established, shall be funded for the full required amount of coverage, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining required coverage.

2.7.4. If the value of the trust fund is greater than the required amount of coverage, the Owner or Operator may submit a written request by Verifiable Service to the Secretary for release of the excess.

2.7.5. If other financial assurance as specified in this Section is substituted for part of the trust fund, the Owner or Operator may submit a written request by Verifiable Service to the Secretary for release of the excess.

2.7.6. Within sixty (60) days after receiving a request from the Owner or Operator for release of funds as specified in §§2.7.4. or 2.7.5. of this Part, the Department will instruct the trustee to release to the Owner or Operator such funds as the Department specifies in writing by Verifiable Service.

2.8. Local Government Bond Rating Test

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2.8.1. A general purpose Local Government Owner or Operator or Local Government serving as a Guarantor may satisfy the requirements of §1.3. of this Part by having a currently outstanding issue or issues of general obligation bonds of at least the minimum Annual Aggregate amount required in §1.3. of this Part excluding refunded obligations, with a Moody's rating of Aaa, Aa, A, or Baa, or a Standard & Poor's rating of AAA, AA, A, or BBB. Where a Local Government has multiple outstanding issues, or where a Local Government's bonds are rated by both Moody's and Standard & Poor's, the lowest rating shall be used to determine eligibility. Bonds that are backed by credit enhancement other than municipal bond insurance shall not be considered in determining the amount of applicable bonds outstanding.

2.8.2. A Local Government Owner or Operator or Local Government serving as a Guarantor that is not a general-purpose Local Government and does not have the legal authority to issue general obligation bonds may satisfy the requirements of §1.3. of this Part by:

2.8.2.1. Having a currently outstanding issue or issues of revenue bonds of at least $1 million dollars ($1,000,000) excluding refunded issues; and

2.8.2.2. Having a Moody's rating of Aaa, Aa, A, or Baa, or a Standard & Poor's rating of AAA, AA, A, or BBB as the lowest rating for any rated revenue bond issued by the Local Government. Where bonds are rated by both Moody's and Standard & Poor's, the lower rating for each bond shall be used to determine eligibility. Bonds that are backed by credit enhancement shall not be considered in determining the amount of applicable bonds outstanding.

2.8.3. The Local Government Owner or Operator or Guarantor using the Local Government bond rating test shall maintain a copy of its bond rating published within the last twelve (12) months by Moody's or Standard & Poor's.

2.8.4. To demonstrate that it meets the Local Government bond rating test, the Chief Financial Officer of a general purpose Local Government Owner, Operator or Guarantor shall submit a letter signed by the Chief Financial Officer, utilizing a form provided by the Department, as found in ~~Appendix~~§3.10., Form J of this Part~~these Regulations~~, worded exactly as shown, except that instructions in brackets are to be replaced by the relevant information and the brackets deleted.

2.8.5. To demonstrate that it meets the Local Government bond rating test, the Chief Financial Officer of a Local Government Owner, Operator, or Guarantor other than a general purpose government, shall submit a letter signed by the Chief Financial Officer, utilizing a form provided by the Department, as found in ~~Appendix~~§3.11., Form K of this Part~~these Regulations~~, worded exactly as shown, except that instructions in brackets are to be replaced by the relevant information and the brackets deleted.

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2.8.6. The Department may require reports of financial condition at any time from the Local Government Owner, Operator, or Local Government Guarantor. If the Department finds, on the basis of such reports or other information, that the Local Government Owner, Operator, or Guarantor, no longer meets the Local Government bond rating test Requirements of this Section, the Local Government Owner or Operator shall obtain alternative coverage within thirty (30) days after notification of such a finding.

2.8.7. If a Local Government Owner or Operator using the bond rating test to provide financial assurance finds that it no longer meets the bond rating test requirements, the Local Government Owner and Operator shall obtain alternative coverage within one hundred fifty (150) days of the change in status.

2.9. Local Government Financial Test

2.9.1. A Local Government Owner or Operator may satisfy the requirements of §1.3. of this Part by passing the financial test specified in this Section. To be eligible to use the financial test, the Local Government Owner or Operator shall have the ability and authority to assess and levy taxes or to freely establish fees and charges. To pass the Local Government financial test, the Owner or Operator shall meet the criteria of §2.9.3. and §2.9.4**.** of this Part based on year-end financial statements for the latest completed Financial Reporting Year.

2.9.2. The Local Government Owner or Operator shall have the following information available, as shown in the year-end financial statements for the latest completed fiscal year:

2.9.2.1. Total Revenues: Consists of the sum of general fund operating and non-operating revenues including net local taxes, licenses and permits, fines and forfeitures, revenues from use of money and property, charges for services, investment earnings, sales (property, publications, etc.), intergovernmental revenues (restricted and unrestricted), and total revenues from all other governmental funds including enterprise, debt service, capital projects, and special revenues, but excluding revenues to funds held in a trust or agency capacity. For purposes of this test, the calculation of total revenues shall exclude all transfers between funds under the direct control of the Local Government using the financial test (interfund transfers), liquidation of investments, and issuance of debt.

2.9.2.2. Total Expenditures: Consists of the sum of general fund operating and non-operating expenditures including public safety, public utilities, transportation, public works, environmental protection, cultural and recreational, community development, revenue sharing, employee benefits and compensation, office management, planning and zoning, capital projects, interest payments on debt, payments for retirement of

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debt principal, and total expenditures from all other governmental funds including enterprise, debt service, capital projects, and special revenues. For purposes of this test, the calculation of total expenditures shall exclude all transfers between funds under the direct control of the Local Government using the financial test (interfund transfers).

2.9.2.3. Local Revenues: Consists of total revenues (as defined in §2.9.2.1. of this Part) minus the sum of all transfers from other governmental entities, including all monies received from Federal, State, or Local Government sources.

2.9.2.4. Debt Service: Consists of the sum of all interest and principal payments on all long-term credit obligations and all interest-bearing short-term credit obligations. Includes interest and principal payments on general obligation bonds, revenue bonds, notes, mortgages, judgments, and interest bearing warrants. Excludes payments on noninterest bearing short term obligations, interfund obligations, amounts owed in a trust or agency capacity, and advances and contingent loans from other governments.

2.9.2.5. Total Funds: Consists of the sum of cash and investment securities from all funds, including general, enterprise, debt service, capital projects, and special revenue funds, but excluding employee retirement funds, at the end of the Local Government's Financial Reporting Year. Includes Federal securities, Federal agency securities, State and Local Government securities, and other securities such as bonds, notes and mortgages. For purposes of this test, the calculation of total funds shall exclude agency funds, private trust funds, accounts receivable, value of real property, and other non-security assets.

2.9.2.6. Population: Consists of the number of people in the area served by the Local Government.

2.9.3. The Local Government's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion or a disclaimer of opinion. The Local Government cannot have outstanding issues of general obligation or revenue bonds that are rated as less than investment grade.

2.9.4. The Local Government Owner or Operator shall have a letter signed by the Chief Financial Officer, utilizing a form provided by the Department, as found in ~~Appendix~~§3.12., Form L of this Part ~~these Regulations~~, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.9.5. To demonstrate that it meets the financial test under §2.9.2. of this Part, within one hundred twenty (120) days of the close of each Financial Reporting Year as defined by the twelve-month period for which financial

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statements used to support the financial test are prepared, the Chief Financial Officer of the Local Government Owner or Operator, shall sign and submit a letter, utilizing a form provided by the Department, as found in ~~Appendix~~§3.12., Form L of this Part~~these Regulations~~, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.9.6. If a Local Government Owner or Operator using the test to provide financial assurance finds that it no longer meets the requirements of the financial test based on the year-end financial statements, the Owner or Operator shall obtain alternative coverage within one hundred fifty (150) days of the end of the year for which financial statements have been prepared.

2.9.7. The Department may require reports of financial condition at any time from the Local Government Owner or Operator. If the Department finds, on the basis of such reports or other information, that the Local Government Owner or Operator no longer meets the financial test requirements of §§2.9.2. through 2.9.5. of this Part, the Owner or Operator shall obtain alternate coverage within thirty (30) days after notification of such a finding.

2.9.8. If the Local Government Owner and Operator fails to obtain alternate assurance within one hundred fifty (150) days of finding that it no longer meets the requirements of the financial test based on the year-end financial statements or within thirty (30) days of notification by the Department that it no longer meets the requirements of the financial test, the Owner and Operator shall notify the Department of such failure within ten (10) days.

2.10. Local Government Guarantee

2.10.1. A Local Government Owner or Operator may satisfy the requirements of §1.3. of this Part by obtaining a guarantee that conforms to the requirements of this Section. The Guarantor shall be either the State in which the Local Government Owner or Operator is located or a Local Government having a Substantial Business Relationship with the Owner or Operator and issuing the guarantee as an act incident to that relationship. A Local Government acting as the Guarantor shall:

2.10.1.1. Demonstrate that it meets the bond rating test requirement of §2.8. of this Part and deliver a copy of the completed Chief Financial Officer's letter as stipulated in §2.8.4. of this Part to the Local Government Owner or Operator; or

2.10.1.2. Demonstrate that it meets the worksheet test requirements of §2.9. of this Part and deliver a copy of the completed Chief Financial Officer's letter as stipulated in §2.8.5. of this Part to the Local Government Owner and Operator; or

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2.10.1.3. Demonstrate that it meets the Local Government fund requirements of §§2.11.1.1.**,** 2.11.1.2., or 2.11.1.3. of this Part and deliver a copy of the completed Chief Financial Officer's letter as stipulated in §2.11.2. of this Part to the Local Government Owner and Operator.

2.10.2. If the Local Government Guarantor is unable to demonstrate financial assurance under any of the mechanisms in §2.8., §2.9.or §2.11 of this Part, at the end of the Financial Reporting Year, the Guarantor shall send by Verifiable Service, before cancellation or non-renewal of the guarantee, notice to the Owner and Operator and to the Department. The guarantee will terminate no less than one hundred twenty (120) days after the date the Owner and Operator receives the notification, as evidenced by Verifiable Service. The Owner or Operator shall obtain alternative coverage as specified in §2.15. of this Part.

2.10.3. The Owner or Operator shall submit a guarantee agreement, utilizing approvided by the Department, as found in ~~Appendix~~§3.13., Form M, ~~Appendix~~§3.14., Form N, ~~Appendix~~§3.15., Form O or ~~Appendix~~§3.16, Form P of this Part ~~these Regulations~~, depending on which of the following alternative guarantee arrangements is selected:

2.10.3.1. If, in the default or incapacity of the Owner or Operator, the Guarantor guarantees to fund a standby trust as directed by the Secretary, the guarantee shall be worded exactly as specified in ~~Appendix~~§3.13., Form M or ~~Appendix~~§3.14., Form N of this Part~~these Regulations~~, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.10.3.2. If, in the default or incapacity of the Owner or Operator, the Guarantor guarantees to make payments as directed by the Secretary for taking corrective action or compensating third parties for Bodily Injury and Property Damage, the guarantee shall be worded exactly as specified in ~~Appendix~~§3.15., Form O or ~~Appendix~~§3.16., Form P of this Part~~these Regulations~~, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.10.3.3. If the Guarantor is a State, the Local Government guarantee with standby trust shall be worded exactly as specified in ~~Appendix~~§3.13., Form M of this Part~~these Regulations~~, except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

2.10.3.4. If the Guarantor is a Local Government, the Local Government guarantee with standby trust shall be worded exactly as specified in ~~Appendix~~§3.14., Form N of this Part~~these Regulations~~, except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

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2.10.3.5. If the Guarantor is a State, the Local Government guarantee without standby trust shall be worded exactly as specified in ~~Appendix~~§3.15., Form O of this Part~~these Regulations~~, except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

2.10.3.6. If the Guarantor is a Local Government, the Local Government guarantee without standby trust shall be worded exactly as specified in ~~Appendix~~§3.16., Form P of this Part~~these Regulations~~, except that instructions in brackets are to be replaced with relevant information and the brackets deleted.

2.10.4. A Local Government Owner or Operator using the Local Government guarantee under §2.10. of this Part, where the Guarantor's demonstration of financial responsibility relies on the bond rating test under §2.8. of this Part shall maintain a copy of the Guarantor's bond rating published within the last twelve months by Moody's or Standard & Poor's.

2.10.5. A Local Government Owner or Operator using the Local Government guarantee supported by the §2.11., Local Government fund, shall maintain a copy of the Guarantor's year-end financial statements for the most recent completed Financial Reporting Year showing the amount of the fund.

2.11. Local Government Fund

2.11.1. A Local Government Owner and Operator may satisfy the requirements of §1.3. of this Part by establishing a dedicated fund account that conforms to the requirements of this Section. Except as specified in §2.11.1.2. of this Part, a dedicated fund may not be commingled with other funds or otherwise used in normal operations. A dedicated fund will be considered eligible if it meets one of the following requirements:

2.11.1.1. The fund is dedicated by State constitutional provision, or Local Government statute, charter, ordinance, or order to pay for taking corrective action and for compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of UST Systems and is funded for the full amount of coverage required under §1.3. of this Part, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage; or

2.11.1.2. The fund is dedicated by State constitutional provision, or Local Government statute, charter, ordinance, or order as a contingency fund for general emergencies, including taking corrective action and compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of UST Systems, and is funded for five times the full amount of coverage required under §1.3. of this Part, or funded for part of the required

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amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage. If the fund is funded for less than five times the amount of coverage required under §1.3. of this Part, the amount of financial responsibility demonstrated by the fund shall not exceed one-fifth the amount in the fund; or

2.11.1.3. The fund is dedicated by State constitutional provision, or Local Government statute, charter, ordinance or order to pay for taking corrective action and for compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of UST Systems. A payment is made to the fund once every year for seven years until the fund is fully funded. This seven year period is hereafter referred to as the "pay-in-period." The amount of each payment shall be determined by this formula: (TF-CF)/Y, where TF is the total required financial assurance for the Owner or Operator, CF is the current amount in the fund, and Y is the number of years remaining in the pay-in-period, and

2.11.1.3.1. The Local Government Owner or Operator has available bonding authority, approved through voter referendum (if such approval is necessary prior to the issuance of bonds), for an amount equal to the difference between the required amount of coverage and the amount held in the dedicated fund. This bonding authority shall be available for taking corrective action and for compensating third parties for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of UST Systems, or

2.11.1.3.2. The Local Government Owner or Operator has a letter signed by the appropriate State Attorney General stating that the use of the bonding authority will not increase the Local Government's debt beyond the legal debt ceilings established by the relevant State laws. The letter shall also State that prior voter approval is not necessary before use of the bonding authority.

2.11.2. To demonstrate that it meets the requirements of the Local Government fund, the Chief Financial Officer of the Local Government Owner or Operator or Guarantor, shall submit a letter to the Department, utilizing a form provided by the Department, found in ~~Appendix~~§3.17., Form Q of this Part~~these Regulations~~, worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

2.11.3. An Owner or Operator using a Local Government fund under §2.11. of this Part shall maintain the following documents:

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2.11.3.1. A copy of the State constitutional provision or Local Government statute, charter, ordinance, or order dedicating the fund; and

2.11.3.2. Year-end financial statements for the most recent completed Financial Reporting Year showing the amount in the fund. If the fund is established under §2.11.1.3. of this Part using incremental funding backed by bonding authority, the financial statements shall show the previous year's balance, the amount of funding during the year, and the closing balance in the fund; and

2.11.3.3. If the fund is established under §2.11.1.3. of this Part using incremental funding backed by bonding authority, the Owner or Operator shall also maintain documentation of the required bonding authority, including either the results of voter referendum under §2.11.1.3.1. of this Part, or attestation by the State Attorney General as specified under §2.11.1.3.2. of this Part.

2.12. Standby Trust Fund

2.12.1. An Owner or Operator using any one of the mechanisms authorized by §§2.3., 2.5., 2.6., and 2.7. of this Part shall establish a standby trust fund when the mechanism is acquired. The trustee of the standby trust fund shall be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by an agency of the State in which the fund is established.

2.12.2. The Owner or Operator shall submit a standby trust agreement to the Department, utilizing a form provided by the Department, as found in ~~Appendix~~§3.8. Form H of this Part~~these Regulations~~, worded exactly as specified except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

2.12.3. The Secretary will instruct the trustee to refund the balance of the standby trust fund to the Provider of Financial Assurance if the Secretary determines that no additional corrective action costs or third party liability claims will occur as a result of a Release covered by the financial assurance mechanism for which the standby trust fund was established.

2.12.4. An Owner or Operator may establish one trust fund as the depository mechanism for all funds assured in compliance with this Part.

2.13. Substitution of Financial Assurance Mechanisms

2.13.1. An Owner or Operator may substitute any alternate financial assurance mechanisms as specified in this Part, provided that at all times the Owner or Operator maintains an effective financial assurance mechanism or combination of mechanisms that satisfies the Requirements of §1.3. of this Part.

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2.13.2. After obtaining alternate financial assurance as specified in this Part, an Owner or Operator may cancel a financial assurance mechanism by providing notice as evidenced by Verifiable Service, to the Provider of Financial Assurance and submitting a copy of such notice to the Department.

2.14. Cancellation or Non-Renewal, Bankruptcy or Other Incapacity of Owner or Operator or Provider of Financial Assurance

2.14.1. Cancellation or Non-Renewal:

2.14.1.1. Except as otherwise provided, a Provider of Financial Assurance may cancel or fail to renew an assurance mechanism by sending a notice of Termination by Verifiable Service to the Owner and Operator, subject to the following:

2.14.1.1.1. Termination of a Local Government guarantee, a guarantee, a surety bond or a letter of credit may not occur until 120 days after the date on which the Owner and Operator receives the notice of Termination, as evidenced by Verifiable Service.

2.14.1.1.2. Termination of insurance or risk retention group coverage, except for non-payment or misrepresentation by the insured, or State funded assurance may not occur until sixty (60) days after the date on which the Owner and Operator receives the notice of Termination, as evidenced by Verifiable Service.

2.14.1.1.3. Termination for non-payment of premium or misrepresentation by the insured may not occur until a minimum of 10 days after the date on which the Owner and Operator receives the notice of Termination, as evidenced by Verifiable Service.

2.14.1.1.4. The Owner or Operator shall notify the Department within ten (10) days upon receiving notification of cancellation or non-renewal subject to the Requirements of §2.14.1.

2.14.1.2. If a provider of financial assurance cancels or fails to renew for reasons other than the incapability of the provider as specified in §2.14.2. of this Part, the Owner or Operator shall obtain alternate coverage within sixty (60) days after receipt of the notice of Termination. If the Owner and Operator fail to obtain alternate coverage within sixty (60) days after receipt of the notice of Termination, the Owner or Operator shall notify the Department of such failure within ten (10) days and submit the following to the Department:

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2.14.1.2.1. The name and address of the Provider of Financial Assurance; and

2.14.1.2.2. The effective date of Termination; and

2.14.1.2.3. The evidence of the financial assurance mechanism subject to the Termination maintained in accordance with §1.1.7. of this Part.

2.14.2. Bankruptcy or Other Incapacity of Owner or Operator or Provider of Financial Assurance

2.14.2.1. Within ten (10) days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming an Owner or Operator as debtor, the Owner or Operator shall notify the Department by Verifiable Service of such commencement and shall submit the appropriate documentation as referenced in §§2.2. through 2.12. and ~~Appendices~~Forms A-Q of this Part demonstrating current compliance with the financial responsibility requirements of this Part.

2.14.2.2. Within ten (10) days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a Guarantor providing financial assurance as debtor, such Guarantor shall notify the Owner and Operator and the Department by Verifiable Service of such commencement.

2.14.2.3. Within ten (10) days after the suspension or revocation of the authority of a Provider of Financial Assurance to issue a financial assurance mechanism, such provider shall notify the Owner and Operator by Verifiable Service of such suspension or revocation.

2.14.2.4. Within ten (10) days after the failure of a Guarantor or indemnitor to meet the requirements of the financial test, such Guarantor or indemnitor shall notify the Owner and Operator and the Department by Verifiable Service of such failure.

2.14.2.5. Within ten (10) days of receiving notification per §§2.14.2.2.**,** 2.14.2.3.or 2.14.2.4.of this Part, the Owner shall notify the Department by Verifiable Service.

2.14.2.6. An Owner or Operator who obtains financial assurance by a mechanism other than the financial test of self-insurance will be deemed to be without the required financial assurance in the event of bankruptcy or incapacity of its Provider of Financial Assurance, or a suspension or revocation of the authority of the Provider of Financial Assurance to issue a guarantee, insurance policy, risk retention group coverage policy, surety bond, or letter of credit.

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2.14.2.7. Except in the case of financial test of self insurance, the Owner and Operator shall obtain alternate financial assurance within thirty (30) days after receiving notice of a bankruptcy or incapacity of its Provider of Financial Assurance per §2.14.2.of this Part. If the Owner or Operator does not obtain alternate coverage within thirty (30) days after such notification, the Owner and Operator shall notify the Department within ten (10) days.

2.14.2.8. An Owner or Operator who has a potential or existing claim filed with a Guarantor, indemnitor or other Provider of Financial Assurance who has filed a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code shall in a timely manner file a Proof of Claim and any necessary supporting documentation with the Court of appropriate jurisdiction and provide a copy of the Proof of Claim to the Department.

2.15. Drawing on Financial Assurance Mechanisms

2.15.1. Except as specified in §2.15.2.4. of this Part, the Department shall require the Guarantor, surety, or institution issuing a letter of credit, to place the amount of funds stipulated by the Department, up to the limit of funds provided by the financial assurance mechanism, into the standby trust if:

2.15.1.1. The Owner or Operator fails to establish alternate financial assurance within 60 days after receiving notice of cancellation of the guarantee, surety bond, letter of credit, or, as applicable, other financial assurance mechanisms and the Department determines or suspects that a Release from an UST System covered by the mechanism has occurred and so notifies the Owner or Operator or the Owner and Operator has notified the Department pursuant to requirements established under Part E of these Regulations of a Release from an UST System covered by the mechanism; or

2.15.1.2. The conditions of §2.15.2.1. or §2.15.2.2.of this Part are satisfied.

2.15.2. The Department may draw on a standby trust fund when:

2.15.2.1. The Department makes a final determination that a Release has occurred and immediate or long term corrective action for the Release is needed, but the Owner or Operator, after appropriate notice and opportunity to comply, has not conducted corrective action as required under Part E of these Regulations; or

2.15.2.2. The Department has received either:

2.15.2.2.1. Certification from the Owner or Operator and the third party liability claimant(s) and from attorneys representing the Owner or Operator and the third party

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liability claimant(s) that a third party liability claim should be paid. The certification shall be worded as specified by the Department, as found in ~~Appendix~~§3.9., Form I of this Part~~these Regulations~~ except that instructions in brackets are to be replaced with the relevant information and the brackets deleted; or

2.15.2.2.2. A valid final court order establishing a judgment against the Owner or Operator for Bodily Injury or Property Damage caused by an Accidental Release from an UST System covered by financial assurance under this Part and the Department determines that the Owner or Operator has not satisfied the judgment.

2.15.3. If the Department determines that the amount of corrective action costs and third party liability claims eligible for payment under §2.15.2.of this Part may exceed the balance of the standby trust fund and the obligation of the Provider of Financial Assurance, the first priority for payment shall be corrective action costs necessary to protect human health and the environment. The Department shall pay third party liability claims in the order in which the Department receives certifications under §2.15.2 of this Part.

2.15.4. A governmental entity acting as Guarantor under §2.10.of this Part, the Local Government guarantee without standby trust, shall make payments as directed by the Secretary under the circumstances described in §§2.15.1., 2.15.2., or 2.15.3. of this Part.

2.16. Release From the Requirements of Financial Responsibility

2.16.1. An Owner and Operator is no longer required to maintain financial responsibility under this Part for an UST System after the UST System has been Removed or permanently Closed in Place in accordance with the requirements of these Regulations and the Requirements of Part E of these Regulations have been completed.

2.17. Replenishments of Required Financial Responsibility

2.17.1. If at any time after a standby trust is funded upon the instruction of the Secretary with funds drawn from a guarantee, Local Government guarantee with standby trust, letter of credit, or surety bond, and the amount in the standby trust is reduced below the full amount of coverage required, the Owner or Operator shall by the anniversary date of the financial mechanism from which the funds were drawn:

2.17.1.1. Replenish the value of financial assurance to equal the full amount of coverage required, or

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2.17.1.2. Acquire another financial assurance mechanism for the amount by which funds in the standby trust have been reduced.

2.17.2. For purposes of this Section, the full amount of coverage required is the amount of financial responsibility required by §1.3. of this Part. If a combination of mechanisms was used to provide the assurance funds which were drawn upon, replenishment shall occur by the earliest anniversary date among the mechanisms.

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Section 3. Financial Responsibility Forms

~~2.17.3.~~3.1. Form A: Financial Test of Self Insurance

FORM A
Financial Test of Self Insurance
Letter from Chief Financial Officer

FC: 76
DNREC Facility ID#:

I am the Chief Financial Officer of [*name and address of the Owner or Operator or Guarantor*]

This letter is in support of the use of [*the financial test of self-insurance" and/or "guarantee"*]

to demonstrate financial responsibility for [*"taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage]* caused by [*"sudden Accidental Releases" and/or "non-sudden Accidental Releases"*] in the amount of at least [*dollar amount*] per occurrence and [*dollar amount*] Annual Aggregate arising from operating (an) Underground Storage Tank(s) System(s).

UST Systems at the following facilities are assured by this financial test by this ["Owner *or Operator"and/or "Guarantor*"].

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Financial Test of Self-Insurance

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A [*"financial test," and/or "guarantee"*] is also used by [*"Owner" or "Operator" or "Guarantor"*] to demonstrate evidence of financial responsibility in the following amounts under other EPA regulations or State programs including but not limited to Subtitle C Hazardous Waste Facilities, SDWA Class I Hazardous Waste Injection Wells and AST pollution liability coverage.

	Amount
Closure	_____
Post-Closure Care	_____
Liability Coverage	_____
Corrective Action	_____
Plugging and Abandonment	_____
Other	_____
TOTAL	_____

This [*"Owner or Operator," or "Guarantor"*] has not received an adverse opinion, a disclaimer of opinion, or a going concern qualification from an independent auditor on his financial statements for the latest completed fiscal year.

I hereby certify that the wording of this letter is identical to the wording specified in Part F, §2.2. as such Regulations were constituted on the date shown immediately below.

_____

[Signature of CF0]

_____

[Name of Person signing]

_____

[Title of Person signing]

_____

[Date]

[Fill in the information for Alternative I if the criteria of Part F, §2.2.2. are being used to demonstrate compliance with the financial test requirements. Fill in the information for Alternative II if the criteria of Part F, §2.2.3. are being used to demonstrate compliance with the financial test requirements.]

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Form A: Alternative I - Financial Test of Self Insurance
Net Worth Test

FC: 76
DNREC Facility ID#:

1. Amount of UST Annual Aggregate coverage being assured by a financial test, and/or guarantee:..... $_____
2. Amount of other liability coverage covered by a financial test, and/or guarantee: (This includes but is not limited to Subtitle C Hazardous Waste Facilities, SDWA Class I Hazardous Waste Injection Wells and AST coverage).....$_____
3. Sum of lines 1 and 2: .....$_____
4. Total tangible assets: .....$_____
5. Total liabilities .....$_____
   (if any of the amount reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6)
6. Tangible Net Worth (subtract line 5 from line 4): .....$_____
7. Is line 6 at least $10 million? ……☐Yes ☐No*
   (Tangible Net Worth at least $10million)
8. Is line 6 at least 10 times line 3? ..... ☐Yes ☐No*
   (Tangible Net Worth 10X's the sum of other environmental obligations)

***If the answer to line 7 or line 8 is "No", this test cannot be used to meet the UST Financial Responsibility requirements.**

Complete Lines 9-11 ***OR*** *Line 12*

9. Have financial statements for the latest fiscal year been filed with the Securities and Exchange Commission? ..... ……. ☐Yes ☐No
10. Have financial statements for the latest fiscal year been filed with the Energy Information Administration? ..... ☐Yes ☐No
11. Have financial statements for the latest fiscal year been filed with the Rural Utilities Service? ..... …….. ☐Yes ☐No
12. Has financial information been provided to Dun & Bradstreet, and has Dun & Bradstreet provided a financial strength rating of 4A or 5A? (Answer "Yes" only if both criteria have been met.) ..... ☐Yes ☐No
13. Have year-end financial statements which do not include an adverse auditor's opinion, a disclaimer of opinion, or a "going concern" qualification. (Answer "Yes" only if both criteria have been met)….. ☐Yes ☐No

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Form A: Alternative II - Financial Test of Self Insurance
Net Working Capital Test

FC: 76
DNREC Facility ID#:
CONFIDENTIAL

1. Amount of UST Annual Aggregate coverage being assured by a financial test, and/or guarantee: ..... $_____

2. Amount of other liability coverage covered by a financial test, and/or guarantee: (This includes but is not limited to Subtitle C Hazardous Waste Facilities, SDWA Class I Hazardous Waste Injection Wells and aggregate AST coverage) … $ _____

3. Sum of lines 1 and 2: ..... $ _____

4. Total tangible assets: ..... $ _____

5. Total liabilities (if any of the amount reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6):……..... $_____

6. Tangible Net Worth (subtract line 5 from line 4): ..... $ _____

7. Total assets in the U.S. (required only if less than 90 percent of assets are located in the U.S.): ..... $ _____

8. Is line 6 at least $10 million? ..... ☐Yes ☐No*
(Tangible Net Worth at least $10 million)

9. Is line 6 at least 6 times line 3? ..... ☐Yes ☐No*
(Tangible Net Worth 6X's other environmental obligations)

***If the answer to line 8 or line 9 is "No", this test cannot be used to meet the UST Financial Responsibility requirements.**

10. Are at least 90 percent of assets located in the U.S.? …… ☐Yes ☐No**
(If "No," complete line 11)

11. Is line 7 at least 6 times line 3?
(U.S. assets at least six times the required amount of UST coverage plus other environmental liabilities) ……. ☐Yes ☐No

(*Complete Lines 12-15 OR Lines 16-18)*

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12. Current Assets: ..... $_____

13. Current Liabilities: ..... $_____

14. Net working capital (subtract line 13 from line 12): ..... $_____

15. Is line 14 at least 6 times line 3? ..... …. ☐ Yes ☐No

-OR-

16. Current bond rating of most recent bond issue: ..... _____

17. Name of rating service: ..... _____

18. Date of maturity of bond: ..... _____

19. Have financial statements for the latest fiscal year been filed with the Securities and Exchange Commission (SEC), the Energy Information Administration (EIA), or the Rural Utilities Service (RUS)? ..... ☐Yes ☐No*

*(If "No," please attach a report from an independent certified public accountant certifying that there are no material differences between the data as reported in lines 4-18 above and the financial statements for the latest fiscal year).

20. The firm's year-end financial statements have been independently audited and do not include an adverse auditor's opinion, a disclaimer of opinion, or a "going concern" qualification…… ☐Yes ☐No

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~~2.18.~~3.2. Form B: Guarantee

FORM B

GUARANTEE

FC: 76
DNREC Facility ID#:

Guarantee made this [*Date]* by [*Name of guaranteeing entity*], a business entity organized under the laws of the State of Delaware, herein referred to as Guarantor, to the Department of Natural Resources and Environmental Control (Department) and to any and all third parties, and obliges, on behalf of [*Owner or Operator]* of [*Business Name and Address]*

Recitals

(1) Guarantor meets or exceeds the financial test criteria of §§2.2.2. or 2.2.3. and agrees to comply with the requirements for Guarantors as specified in §2.3.

(2) [*Owner or Operator*] owns or operates the following Underground Storage Tank Systems covered by this guarantee:

Attach ~~Appendix~~§3.18., Form R, Tank Schedule, listing each UST System assured by this Guarantee

This guarantee satisfies Part F, §1.3. for assuring funding for [insert: "*taking corrective action*" and/or "*compensating third parties for Bodily Injury and Property Damage*"] caused by Accidental Releases; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST or location arising from operating the above-identified UST(s) in the amount of [*insert dollar amount*] per Occurrence and [*insert dollar amount*] Annual Aggregate.

(3) [Insert appropriate phrase: *"On behalf of our subsidiary"* (if Guarantor is corporate parent of the Owner or Operator); *"On behalf of our affiliate"* (if Guarantor is a related firm of the Owner or Operator); *or "Incident to our business relationship with*" (if Guarantor is providing the guarantee as an incident to a Substantial Business Relationship with Owner or Operator)] _____ , Guarantor guarantees to the Department and to any and all third parties that: In the event that [*Owner or Operator*] fails to provide alternate coverage within 60 days after receipt of a notice of cancellation of this guarantee and the Secretary has determined or suspects that a Release has occurred at an UST Facility covered by this guarantee, the Guarantor, upon instructions from the Department, shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. in an amount not to exceed the coverage limits specified above.

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In the event that the DNREC determines that [*Owner or Operator*] has failed to perform corrective action for Release arising out of the operation of the above–identified Underground Storage ~~t~~Tank System(s) in accordance with Part E, the Guarantor upon written instructions from the DNREC shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. in an amount not to exceed the coverage limits specified above.

If [*Owner or Operator*] fails to satisfy a judgment or award based on a determination of liability for Bodily Injury or Property Damage to third parties caused by Accidental Releases arising from the operation of the above-identified UST Systems, or fails to pay an amount agreed to in. settlement of a claim arising from or alleged to arise from such injury or damage, the Guarantor, upon written instructions from the Department, shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above

(4) Guarantor agrees that if, at the end of any fiscal year before cancellation of this guarantee, the Guarantor fails to meet the financial test criteria of Part F, §2.2.2. or §2.2.3., Guarantor shall send within 120 days of such failure, by Verifiable Service, notice to [*Owner and Operator*]. The guarantee will terminate 120 days from the date of receipt of the notice by [*Owner and Operator*] as evidenced by Verifiable Service .

(5) Guarantor agrees to notify [*Owner or Operator*] by Verifiable Service of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming Guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [*Owner or Operator*] pursuant to these Regulations.

(7) Guarantor agrees to remain bound under this guarantee for so long as [*Owner or Operator*] shall comply with the applicable financial responsibility requirements of these regulations for the above-identified UST Systems, except that Guarantor may cancel this guarantee by sending notice by certified mail to[*Owner or Operator*] such cancellation to become effective no earlier than 120 days after receipt of such notice by[*Owner or Operator*] as evidenced by the return receipt.

(8) The Guarantor's obligation does not apply to any of the following:

(a) Any obligation of [*Owner or Operator*] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*Owner or Operator*] arising from, and in the course of, employment by [*Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaned to, in the care of, custody, or control of, or occupied by [*Owner or Operator*] that is not the direct result of a Release from an UST System;

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(e) Bodily Injury or Property Damage for which [*Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the Requirements of §1.3. of this Part.

(9) Guarantor expressly waives notice of acceptance of this guarantee by the Department, by any or all third parties, or by [*Owner or Operator*].

I hereby certify that the wording of this guarantee is identical to the wording specified in Part F, §2.3. as such Regulations were constituted on the effective date shown immediately below.

Effective date:

_____

[Name of Guarantor]

_____

[Authorized signature for Guarantor]

_____

[Name of Person signing]

_____

[Title of Person signing]

Signature of witness or notary:

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~~2.19.~~3.3. Form C: Endorsement

~~APPENDIX~~FORM C
ENDORSEMENT

FC: 76
DNREC Facility ID#:

Name: _____ [*name of each covered location*]

Address: _____ [*address of each covered location*]

_____

_____

Policy Number:

_____

Period of Coverage: _____ [*current policy period*]

Name of [*Insurer or Risk Retention Group*]:

_____

_____

Address of [*Insurer or Risk Retention Group*]:

_____

_____

Name of Insured:

_____

Address of Insured:

_____

_____

Endorsement:

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering the following Underground Storage Tank Systems:

Attach ~~Appendix~~§3.18., Form R,Underground Storage Tank Schedule, listing each UST System assured by this Endorsement.

For [insert: "*taking corrective action*" and/or "*compensating third parties for Bodily Injury and Property Damage"]* caused by Accidental Releases in accordance with and subject to the limits

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of liability, exclusions, conditions, and other terms of the policy; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST System or location] arising from operating the UST(s) System(s) identified above.

The limits of liability are [*insert the dollar amount of the "each Occurrence" and "Annual Aggregate"*] limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different UST Systems or locations, indicate the amount of coverage for each type of coverage and/or for each UST System or location], exclusive of Legal Defense Costs which are subject to a separate limit under the policy. This coverage is provided under _____.
[*Policy Number*]
The effective date of said policy is _____.
[*Date*]

2. The insurance afforded with respect to such Occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions inconsistent with subsections (a) through (e) of this Section 2 are hereby amended to conform with subsections (a) through (e):

   a. Bankruptcy or insolvency of the insured shall not relieve the [*"Insurer" or "Group*"] of its obligations under the policy to which this endorsement is attached.

   b. The [*"Insurer" or "Group*"] is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured from any such payment made by the ["Insurer" or "Group"]. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in Part F, §§2.2. through 2.12. of these Regulations.

   c. Whenever requested by the Department, the [*"Insurer" or "Group*"] agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

   d. Cancellation or any other Termination of the insurance by the [*"Insurer" or "Group*"], except for non-payment of premium or misrepresentation by the insured, shall be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured. Cancellation for non-payment of premium or misrepresentation by the insured shall be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the insured.

   e. Insert for claims-made policies:
   The insurance covers claims otherwise covered by the policy that are reported to the [*"Insurer" or "Group"]* within six months of the effective date of the cancellation or non-renewal of the policy except where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the prior policy, and which arise out of any covered Occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or Termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.

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I hereby certify that the wording of this instrument is identical to the wording in ~~Appendix~~§3.3,Form C and that the [*"Insurer" or "Group"*] is [*"licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more States"*].

_____

[Date]

_____

[Signature of authorized representative of Insurer or Risk Retention Group]

_____

[Name of Person signing]

_____

[Title of Person signing]

_____

Authorized Representative of [name of Insurer or Risk Retention Group]

_____

[Address of Representative]

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~~2.20.~~3.4. Form D: Certificate of Insurance

~~APPENDIX~~FORM D

CERTIFICATE OF INSURANCE

FC: 76
DNREC Facility ID#:

Name: _____
[*name of each covered location*]

Address: _____
[*address of each covered location*]

_____

_____

Policy Number: _____

Endorsement (if applicable): _____

Period of Coverage: [*current policy period*]_____

Name of [*Insurer or Risk Retention Group*]: _____

_____

Address of [*Insurer or Risk Retention Group*]:

_____

_____

Name of Insured: _____

Address of Insured: _____

_____

_____

Certification:

1. [*Name of the Insurer or Risk Retention Group*], the "insurer" or "Group," as identified above, hereby certifies that it has issued liability insurance covering the following Underground Storage Tank Systems:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Insurance Policy.

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For [insert: "*taking corrective action*" and/or "*compensating third parties for Bodily Injury and Property Damage*"] caused by Accidental Releases in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the policy (if coverage is different for different UST Systems ~~tanks~~ or locations, indicate the type of coverage applicable to each ~~tank~~UST System or location arising from operating the UST System(s) identified above).

The limits of liability are [*insert the dollar amount of the "each Occurrence" and "Annual Aggregate"]* limits of the Insurer's or Group's liability *(if the amount of coverage is different for different types of coverage or for different UST System(s) or locations, indicate the amount of coverage for each type of coverage and/or for each UST System or location)*, exclusive of Legal Defense Costs which are subject to separate limits under the policy. This coverage is provided under [*policy number]*. The effective date of said policy is [*date*].

2. The "Insurer" or "Group" further certifies the following with respect to the insurance described in Paragraph 1:

   a. Bankruptcy or insolvency of the insured shall not relieve the "Insurer" or "Group" of its obligations under the policy to which this certificate applies.

   b. The "Insurer" or "Group" is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the "Insurer" or "Group." This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in Part F, §§2.2. through 2.12.

   c. Whenever requested by the Department, the [*"Insurer" or "Group"*] agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

   d. Cancellation or any other Termination of the insurance by the [*"Insurer" or "Group"*], except for non-payment of premium or misrepresentation by the insured shall be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured.
   Cancellation for non-payment of premium or misrepresentation by the insured shall be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the insured.

   e. Insert for claims-made policies:
   The insurance covers claims otherwise covered by the policy that are reported to the [*"Insurer" or "Group"*] within six months of the effective date of the cancellation or non-renewal of the policy except where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the prior policy, and which arise out of any covered Occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or Termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.

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I hereby certify that the wording of this instrument is identical to the wording in ~~Appendix~~§3.4, Form D and that the [*"Insurer" or "Group"*] is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States."

_____
[Date]

_____
[Signature of authorized representative of Insurer or Risk Retention Group]

_____
[Name of Person signing]

_____
[Title of Person signing]

_____
Authorized Representative of [name of Insurer or Risk Retention Group]

_____
[Address of Representative]

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3.5. Form E: Performance Bond

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~~APPENDIX~~FORM E

PERFORMANCE BOND

FC: 76
DNREC Facility ID#:

Date bond executed: _____

Period of Coverage: _____

Principal: [*legal name and business address of Owner or Operator*] _____
_____

Type of organization: [*insert "individual," "joint venture," "partnership," or "corporation"*]
_____

State of incorporation (if applicable): _____

Surety(ies): _____ [*name(s) and business address(es)*]
_____
_____

Scope of Coverage:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Performance Bond.

List the coverage guaranteed by the bond: [*"taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"]* caused by Accidental Releases arising from operating the UST System(s).

Penal sums of bond: Per Occurrence $ _____

Annual Aggregate $ _____

Surety's bond number: _____

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Know all Persons by these presents, that we, the Principal and Surety(ies), hereto are firmly bound to the Department, in the above penal sums for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sums jointly and severally only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sums only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sums.

Whereas said Principal is required under 7 Del. C. Chapter 74, as amended, to provide financial assurance for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"*] caused by Accidental Releases; (if coverage is different for different ~~tanks~~ UST Systems or locations, indicate the type of coverage applicable to each ~~tank~~UST Systems or location) arising from operating the UST System(s) identified above, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully ["take corrective action, in accordance with Part E of these regulations and the Department's instructions for, compensate injured third parties for Bodily Injury and Property Damage caused by Accidental Releases arising from operating the ~~tank~~UST System(s) identified above,] or if the Principal shall provide alternate financial assurance, as specified in Part F of these regulations, within 120 days after the date the notice of cancellation is received by the Principal from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

Such obligation does not apply to any of the following:

(a) Any obligation of [*Owner or Operator*] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*Owner or Operator*] arising from, and in the course of, employment by [insert Owner or Operator];

(c) Bodily Injury or Property Damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [*Owner or Operator*] that is not the direct result of a release from an UST System;

(e) Bodily Injury or Property Damage for which [*insert Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the Requirements of Part F §1.3. of these Regulations.

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The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Department that the Principal has failed to [*"take corrective action, in accordance with Part E of these Regulations and the Department's instructions," and/or "compensate injured third parties"*] as guaranteed by this bond, the Surety(ies) shall either perform [*"corrective action in accordance with Part E of these Regulations and the Department's instructions," and/or "third-party liability compensation"*] or place funds in an amount up to the Annual Aggregate penal sum into the standby trust fund as directed by the Department under Part F, §2.12. of these Regulations.

Upon notification by the Department that the Principal has failed to provide alternate financial assurance within 60 days after the date the notice of cancellation is received by the Principal from the Surety(ies) and that the Department has determined or suspects that a Release has occurred, the Surety(ies) shall place funds in an amount not exceeding the Annual Aggregate penal sum into the standby trust fund as directed by the Department under Part F, §2.12. of these regulations.

The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged, by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the Annual Aggregate to the penal sum shown on the face of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said Annual Aggregate penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal, as evidenced by the return receipt.

The Principal may terminate this bond by sending written notice to the Surety(ies).

In witness thereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The Persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in this ~~Appendix~~Form as such Regulations were constituted on the date this bond was executed.

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PRINCIPAL

_____
[Signature(s)]

_____
[Name(s)]

_____
[Title(s)]

[Corporate seal]

CORPORATE SURETY(IES)

[*Name*] _____

[*Address]*_____
____

State of Incorporation: _____

Liability limit: $ _____

[Signature(s)] 1. _____ 2. _____

[Name(s) and title(s)] 1. _____

2. _____

[Corporate seal]

[*For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above*.]

Bond Premium: $_____

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3.6. Form F: Irrevocable Standy Letter of Credit

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~~APPENDIX~~FORM F

IRREVOCABLE STANDBY LETTER OF CREDIT

FC: 76
DNREC Facility ID#:

_____
_____
_____
_____
[*Name and address of issuing institution*]

Delaware Department of Natural Resources and Environmental Control

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [*Owner or Operator name*] of [*address*] up to the aggregate amount of [*in words*] U.S. dollars ($ [*insert dollar amount*]), available upon presentation [*insert, if more than one Director of a State implementing agency is a beneficiary, "by any one of you"*] of

(1) your sight draft, bearing reference to this letter of credit, No. _____, and
(2) your signed statement reading as follows:

"I certify that the amount of the draft is payable pursuant to Regulations issued under the authority of 7 **Del.C.** Chapter 74."

This letter of credit may be drawn on to cover [insert: "*taking corrective action" and/or"compensating third parties for Bodily Injury and Property Damage" caused by Accidental Releases*] arising from operating the Underground Storage Tank Systems identified below in the amount of [*in words*] $[*insert dollar amount*] per Occurrence and [*in words*] $[*insert dollar amount*] Annual Aggregate:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Letter of Credit

The letter of credit may not be drawn on to cover any of the following:

(a) Any obligation of [*Owner or Operator*]under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*insert Owner or Operator*] arising from, and in the course of, employment by [*insert Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

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(d) Property Damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [*insert Owner or Operator*] that is not the direct result of a Release from a UST System;

(e) Bodily Injury or Property Damage for [*Owner or Operator*] which is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part F, §1.3. of these Regulations.

This letter of credit is effective as of [*date*] and shall expire on [*date*] but such expiration date shall be automatically extended for a period of [at least the length of the original term] on [*expiration date*] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify [*Owner or Operator*] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event that [*Owner or Operator*] is so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by [*Owner or Operator*] as shown on the signed return receipt.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [*Owner or Operator*] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in this ~~Appendix~~§3.6, Form F as such Regulations were constituted on the date shown immediately below.

Signature(s) and title(s) of official(s) of issuing institution

_____

[Date]

_____

[Signature of Official of Issuing Institution]

_____

[Name of Person signing]

_____

[Title of Person signing]

_____

Authorized Representative of [name of Issuing Institution]

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This credit is subject to [*insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"*].

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3.7. Form G: Trust Agreement

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~~APPENDIX~~FORM G

TRUST AGREEMENT

FC: 76
DNREC Facility ID# :

Trust agreement, the "Agreement," entered into as of [*date*] by and between [*Owner or Operator*] a [*Name of State*] [*"corporation", "partnership," "association," or "proprietorship"*], the "Grantor," and [Name of Corporate Trustee] [*insert "Incorporated in the State of _____" or "a national bank"*], the "Trustee."

Whereas, the Department of Natural Resources and Environmental Control (Department), an agency of the State of Delaware, has established certain regulations applicable to the Grantor, requiring that an Owner or Operator of an Underground Storage Tank System shall provide assurance that funds will be available when needed for corrective action and third-party compensation for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of the UST System. The attached ~~Appendix~~*§3.18.*, Form R, Underground Storage Tank Schedule for Financial Assurance, lists the number of UST System(s) at each Facility and the name(s) and address(es) of the Facility(ies) where the UST System(s) are located that are covered by the standby trust agreement.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee; Now, therefore, the Grantor and the Trustee agree as follows:

SECTION 1. DEFINITIONS

As used in this Agreement:

(a) The term "Grantor" means the Owner or Operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

SECTION 2. IDENTIFICATION OF THE FINANCIAL ASSURANCE MECHANISM
This Agreement pertains to the [identify the financial assurance mechanism, either a guarantee, surety bond, or letter of credit, from which the standby trust fund is established to receive payments (This paragraph is only applicable to the standby trust agreement.)].

SECTION 3. ESTABLISHMENT OF THE FUND
The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of [the Department]. The Grantor and the Trustee intend that no third party have access to the fund except as herein provided. [The Fund is established initially as a standby to receive payments and shall not consist of any property.] Payments made by the Provider of Financial Assurance

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pursuant to the Secretary's instruction are transferred to the Trustee and are referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor as Provider of Financial Assurance, any payments necessary to discharge any liability of the Grantor established by the Department.

SECTION 4. PAYMENT FOR *CORRECTIVE ACTION* AND/OR *THIRD–PARTY LIABILITY CLAIMS*
The Trustee shall make payments from the Fund as the Secretary shall direct, in writing, to provide for the payment of the costs of [*insert: "taking corrective action" and/or "compensating third parties for bodily injury and Property Damage" caused by Accidental Releases*] arising from operating the UST Systems covered by the financial assurance mechanism identified in this Agreement.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of [*insert Owner or Operator*] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to any employee of [*insert Owner or Operator*] arising from, and in the course of employment by [*insert Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [*insert Owner or Operator*] that is not the direct result of a Release from an UST System;

(e) Bodily Injury or Property Damage for which [*insert Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part F, §1.3. of these Regulations. The Trustee shall reimburse the Grantor, or other Persons as specified by the Department, from the Fund for corrective action expenditures and/or third-party liability claims in such amounts as the Secretary shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

SECTION 5. PAYMENTS COMPRISING THE FUND
Payments made to the Trustee for the Fund shall consist of cash and securities acceptable to the Trustee.

SECTION 6. TRUSTEE MANAGEMENT
The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties

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with respect to the trust fund solely in the interest of the beneficiaries and with the care, skill, prudence, and diligence under the circumstances then prevailing which Persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

A. Securities or other obligations of the Grantor, or any other Owner or Operator of the UST System(s), or any of their affiliates as defined in the *Investment Company Act of 1940*, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the federal or a State government;

B. The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or State government; and

C. The Trustee is authorized to hold cash awaiting investment or distribution un-invested for a reasonable time and without liability for the payment of interest thereon.

SECTION 7. COMMINGLING AND INVESTMENT

The Trustee is expressly authorized in its discretion:

A. To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

B. To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

SECTION 8. EXPRESS POWERS OF TRUSTEE

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

A. To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No Person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

B. To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

C. To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by

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another Person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

D. To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or State government; and

E. To compromise or otherwise adjust all claims in favor of or against the Fund.

SECTION 9. TAXES AND EXPENSES
All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

SECTION 10. ADVICE OF COUNSEL
The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any questions arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

SECTION 11. TRUSTEE COMPENSATION
The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

SECTION 12. SUCCESSOR TRUSTEE
The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor and the present Trustee by Verified Service 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in §8.

SECTION 13. INSTRUCTIONS TO THE TRUSTEE
All orders, requests, and instructions by the Grantor to the trustee shall be in writing, signed by such Persons as are designated in the attached Schedule B or such other designees as the Grantor may designate by amendment to Schedule B. The Trustee shall be fully protected in acting

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without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Secretary to the Trustee shall be in writing, signed by the Secretary, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a Termination of the authority of any Person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

SECTION 14. AMENDMENT OF AGREEMENT
This Agreement may be amended by an instrument in writing executed by the Grantor and the Trustee, or by the Trustee and the Department if the Grantor ceases to exist.

SECTION 15. IRREVOCABILITY AND TERMINATION
Subject to the right of the parties to amend this Agreement as provided in §14 of this ~~Appendix~~Form above, this Trust shall be irrevocable and shall continue until terminated at the written direction of the Grantor and the Trustee, or by the Trustee and the Department, if the Grantor ceases to exist. Upon Termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

SECTION 16. IMMUNITY AND INDEMNIFICATION
The Trustee shall not incur Personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor, from and against any Personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

SECTION 17. CHOICE OF LAW
This Agreement shall be administered, construed, and enforced according to the laws of the State of Delaware, or the Comptroller of the Currency in the case of National Association Banks.

SECTION 18. INTERPRETATION
As used in this Agreement, words in singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

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In witness thereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals (if applicable) to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in ~~Appendix~~§3.7, Form G of Part F as such Regulations were constituted on the date written above.

_____

[*Signature of Grantor*]

_____

[*Name of the Grantor*]

_____

[*Title*]

Attest:

_____

_____

[*Signature of Trustee*]

_____

[*Name of Trustee*]

_____

[*Title*]

[*Seal*]

Attest:_____

_____

[*Signature of Witness*]

_____

[*Name of Witness*]

_____

[*Title*]

[*Seal*]

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The trust agreement shall be accompanied by a formal certification of acknowledgment similar to the following. State requirements may differ on the proper content of this acknowledgment.

State of _____

County of _____

On this _____, before me Personally came _____
[*Date*] [*Owner or Operator*]

to me known, who, being by me duly sworn, did depose and say that he/she resides at

_____, and that she/he is [*Title*] of [*Corporation*] the corporation described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that she/he signed his/her name thereto by like order.

[*Signature of Notary Public*] _____

[*Name of Notary Public*] _____

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3.8. Form H: Standby Trust Agreement

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~~APPENDIX~~FORM H

STANDBY TRUST AGREEMENT

FC: 76
DNREC Facility ID#:

Standby Trust agreement, the "Agreement," entered into as of [*date*] by and between [*Owner or Operator*]a [*Name of State*] [*"corporation", "partnership," "association," or "proprietorship"*], the "Grantor," and [*Name of Corporate Trustee*] [*insert "Incorporated in the State of _____" or "a national bank"*], the "Trustee."

Whereas, the Department of Natural Resources and Environmental Control (Department), an agency of the State of Delaware, has established certain regulations applicable to the Grantor, requiring that an Owner or Operator of an Underground Storage Tank (UST) System shall provide assurance that funds will be available when needed for corrective action and third-party compensation for Bodily Injury and Property Damage caused by Accidental Releases arising from the operation of the UST. The attached ~~Appendix~~*§3.18.*, Form R, Underground Storage Tank Schedule for Financial Assurance lists the number of UST System(s) at each Facility and the name(s) and address(es) of the Facility(ies) where the UST System(s) are located that are covered by the standby trust agreement.

Whereas, the Grantor has elected to establish [*insert either "a guarantee," "surety bond," or "letter of credit"*] to provide all or part of such financial assurance for the UST System(s) identified herein and is required to establish a standby trust fund able to accept payments from the instrument;

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee; Now, therefore, the Grantor and the Trustee agree as follows:

SECTION 1. DEFINITIONS

As used in this Agreement:

(a) The term "Grantor" means the Owner or Operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

SECTION 2. IDENTIFICATION OF THE FINANCIAL ASSURANCE MECHANISM
This Agreement pertains to the [identify the financial assurance mechanism, either a guarantee, surety bond, or letter of credit, from which the standby trust fund is established to receive payments (This paragraph is only applicable to the standby trust agreement.)].

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SECTION 3. ESTABLISHMENT OF THE FUND

The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Department. The Grantor and the Trustee intend that no third party have access to the fund except as herein provided. [The Fund is established initially as a standby to receive payments and shall not consist of any property.] Payments made by the Provider of Financial Assurance pursuant to the Department instruction are transferred to the Trustee and are referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the trustee, IN TRUST, as hereinafter provided.

The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor as Provider of Financial Assurance, any payments necessary to discharge any liability of the Grantor established by the Department

SECTION 4. PAYMENT FOR *CORRECTIVE ACTION* AND/OR *THIRD–PARTY LIABILITY CLAIMS*

The Trustee shall make payments from the Fund as the Secretary shall direct, in writing, to provide for the payment of the costs of [*insert: "taking corrective action" and/or "compensating third parties for bodily injury and Property Damage" caused by Accidental Releases*] arising from operating the ~~tanks~~ UST Systems covered by the financial assurance mechanism identified in this Agreement.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of [*insert Owner or Operator*] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to any employee of [*insert Owner or Operator*] arising from, and in the course of employment by [*insert Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [*insert Owner or Operator*] that is not the direct result of a Release from an UST System;

(e) Bodily Injury or Property Damage for which [*insert Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part F,§1.3. of these Regulations. The Trustee shall reimburse the Grantor, or other Persons as specified by the Department, from the Fund for corrective action expenditures and/or third-party liability claims in such amounts as the Secretary shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

SECTION 5. PAYMENTS COMPRISING THE FUND

Payments made to the Trustee for the Fund shall consist of cash and securities acceptable to the Trustee.

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SECTION 6. TRUSTEE MANAGEMENT

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiaries and with the care, skill, prudence, and diligence under the circumstances then prevailing which Persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

A. Securities or other obligations of the Grantor, or any other Owner or Operator of the ~~tank~~UST Systems, or any of their affiliates as defined in the *Investment Company Act of 1940*, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the federal or a State government;

B. The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or State government; and

C. The Trustee is authorized to hold cash awaiting investment or distribution un-invested for a reasonable time and without liability for the payment of interest thereon.

SECTION 7. COMMINGLING AND INVESTMENT

The Trustee is expressly authorized in its discretion:

A. To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

B. To purchase shares in any investment company registered under the *Investment Company Act of 1940*, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

SECTION 8. EXPRESS POWERS OF TRUSTEE

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

A. To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No Person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

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B. To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

C. To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another Person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

D. To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or State government; and

E. To compromise or otherwise adjust all claims in favor of or against the Fund.

SECTION 9. TAXES AND EXPENSES

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

SECTION 10. ADVICE OF COUNSEL

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any questions arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

SECTION 11. TRUSTEE COMPENSATION

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

SECTION 12. SUCCESSOR TRUSTEE

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in

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the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor and the present Trustee by Verified Service 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 8.

SECTION 13. INSTRUCTIONS TO THE TRUSTEE
All orders, requests, and instructions by the Grantor to the trustee shall be in writing, signed by such Persons as are designated in the attached Schedule B or such other designees as the Grantor may designate by amendment to Schedule B. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Secretary to the Trustee shall be in writing, signed by the Secretary, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a Termination of the authority of any Person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

SECTION 14. AMENDMENT OF AGREEMENT
This Agreement may be amended by an instrument in writing executed by the Grantor and the Trustee, or by the Trustee and the Department if the Grantor ceases to exist.

SECTION 15. IRREVOCABILITY AND TERMINATION
Subject to the right of the parties to amend this Agreement as provided in Section 14 of this ~~Appendix~~Form above, this Trust shall be irrevocable and shall continue until terminated at the written direction of the Grantor and the Trustee, or by the Trustee and the Department, if the Grantor ceases to exist. Upon Termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

SECTION 16. IMMUNITY AND INDEMNIFICATION
The Trustee shall not incur Personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor, from and against any Personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

SECTION 17. CHOICE OF LAW
This Agreement shall be administered, construed, and enforced according to the laws of the State of Delaware, or the Comptroller of the Currency in the case of National Association Banks.

SECTION 18. INTERPRETATION

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As used in this Agreement, words in singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In witness thereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals (if applicable) to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in ~~Appendix~~§3.8., Form H of Part F as such Regulations were constituted on the date written above.

[*Signature of Grantor*]

_____

[*Name of the Grantor*]

_____

[*Title*]

_____

Attest:

_____

[*Signature of Trustee*]

_____

[*Name of Trustee*]

_____

[*Title*]

_____

[*Seal*]

Attest:_____

[*Signature of Witness*]

_____

[*Name of Witness*]

_____

[*Title*]

_____

[*Seal*]

The standby trust agreement shall be accompanied by a formal certification of acknowledgment similar to the following. State requirements may differ on the proper content of this acknowledgment.

State of _____, County of _____,

On this [*Date*], before me Personally came [*Owner or Operator*]to me known, who,

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being by me duly sworn, did depose and say that he/she resides at [*address*], that she/he is [*Title*] of [*Corporation*]the corporation described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that she/he signed his/her name thereto by like order.

[*Signature of Notary Public*] _____

[*Name of Notary Public*] _____

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3.9. Form I: Certification of Valid Claim

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~~APPENDIX~~FORM I

CERTIFICATION OF VALID CLAIM

FC: 76
DNREC Facility ID#:

The undersigned, as principals and as legal representatives of [*Owner or Operator]* and [*insert name and address of third-party claimant*] hereby certify that the claim of Bodily Injury [and/or] Property Damage caused by an Accidental Release arising from operating [*Owner or Operator*] underground storage tank should be paid in the amount of $[_____].

_____
[Signature of Owner or Operator]

_____
[Signature of Attorney for Owner or Operator]

(Notary)_____ Date _____

_____
[Signature of Claimant]

_____
[Signature of Attorney for Claimant]

(Notary)_____ Date _____

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3.10. Form J: Bond Rating Test: General Purpose Local Government

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~~APPENDIX~~FORM J

BOND RATING TEST
GENERAL PURPOSE LOCAL GOVERNMENT

FC: 76
DNREC Facility ID#:

Letter from Chief Financial Officer

I am the Chief Financial Officer of [*insert: name and address of Local Government Owner or Operator, or Guarantor*]. This letter is in support of the use of the bond rating test to demonstrate financial responsibility for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"*] caused by [*insert : "sudden Accidental Releases" and/or "nonsudden Accidental Releases"*] in the amount of at least [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate arising from operating (an) Underground Storage Tank System(s) (USTs).

UST System(s) at the following facilities are assured by this bond rating test:
Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Local Government Bond Rating Test.

The details of the issue date, maturity, outstanding amount, bond rating, and bond rating agency of all outstanding bond issues that are being used by [*name of Local Government Owner or Operator, or Guarantor*] to demonstrate financial responsibility are as follows: [complete table]

Issue Date	Maturity Date	Outstanding Amount	Bond Rating	Rating Agency [Moody's or Standard & Poor's]

The total outstanding obligation of [insert amount], excluding refunded bond issues, exceeds the minimum amount of $1 million. All outstanding general obligation bonds issued by this government that have been rated by Moody's or Standard & Poor's are rated as at least investment grade (Moody's Baa or Standard & Poor's BBB) based on the most recent ratings published within the last 12 months. Neither rating service has provided notification within the

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last 12 months of downgrading of bond ratings below investment grade or of withdrawal of bond rating other than for repayment of outstanding bond issues.

I hereby certify that the wording of this letter is identical to the wording specified in Part F, ~~Appendix~~§3.10., Form J as such regulations were constituted on the date shown immediately below.

[*Signature*]
[*Name*]
[Title]
[*Date*]

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3.11. Form K: Bond Rating Test: Local Government Other

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~~APPENDIX~~FORM K

BOND RATING TEST/LOCAL GOVERNMENT OTHER

FC: 76
DNREC FACILITY ID#:

Letter from Chief Financial Officer

I am the Chief Financial Officer of [*insert: name and address of Local Government Owner or Operator, or Guarantor*]. This letter is in support of the use of the bond rating test to demonstrate financial responsibility for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"*] caused by [*insert : "sudden Accidental Releases" and/or"nonsudden Accidental Releases"*] in the amount of at least [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate arising from operating (an) Underground Storage Tank System(s) (USTs). This Local Government is not organized to provide general governmental services and does not have the legal authority under state law or constitutional provisions to issue general obligation debt.

UST System(s) at the following facilities are assured by this bond rating test:
Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Local Government Bond Rating Test.

The details of the issue date, maturity, outstanding amount, bond rating, and bond rating agency of all outstanding revenue bond issues that are being used by [*name of Local Government Owner or Operator, or Guarantor*] to demonstrate financial responsibility are as follows: [*complete table*]

Issue Date	Maturity Date	Outstanding Amount	Bond Rating	Rating Agency [Moody's or Standard & Poor's]

The total outstanding obligation of [*insert amount*], excluding refunded bond issues, exceeds the minimum amount of $1 million. All outstanding revenue bonds issued by this government that have been rated by Moody's or Standard & Poor's are rated as at least investment grade (*Moody's Baa or Standard & Poor's BBB*) based on the most recent ratings published within the last 12 months. The revenue bonds listed are not backed by third-party credit enhancement or are insured by a municipal bond insurance company. Neither rating service has provided notification within the last 12 months of downgrading of bond ratings below investment grade or of withdrawal of bond rating other than for repayment of outstanding bond issues.

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I hereby certify that the wording of this letter is identical to the wording specified in Part F, ~~Appendix~~§3.11., Form K as such regulations were constituted on the date shown immediately below.

[*Signature*]

[*Name*]

[*Title*] [*Date*]

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3.12. Form L: Local Government Financial Test

~~APPENDIX~~FORM L
LOCAL GOVERNMENT FINANCIAL TEST

FC: 76
DNREC Facility ID#:

Letter from Chief Financial Officer

I am the Chief Financial Officer of [*insert: name and address of the Owner or Operator*]. This letter is in support of the use of the Local Government financial test to demonstrate financial responsibility for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"*] caused by [*insert: "sudden Accidental Releases" and/or "nonsudden Accidental Releases"*] in the amount of at least [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate arising from operating [an] Underground Storage Tank System(s) (USTs)].

UST System(s) at the following facilities are assured by this financial test:
Attach ~~Appendix~~§3.18.,Form R, Underground Storage Tank Schedule, listing each UST System assured by this Local Government— Financial Test.

This Owner or Operator has not received an adverse opinion, or a disclaimer of opinion from an independent auditor on its financial statements for the latest completed fiscal year. Any outstanding issues of general obligation or revenue bonds, if rated, have a Moody's rating of Aaa, Aa, A, or Baa or a Standard & Poor's rating of AAA, AA, A, or BBB; if rated by both firms, the bonds have a Moody's rating of Aaa, Aa, A, or Baa and a Standard & Poor's rating of AAA, AA, A, or BBB.

WORKSHEET FOR MUNICIPAL FINANCIAL TEST

PART I: BASIC INFORMATION

1. Total Revenues
   a. Revenues (dollars)
      Value of revenues excludes liquidation of investments and issuance of debt. Value includes all general fund operating and non-operating revenues, as well as all revenues from all other governmental funds including enterprise, debt service, capital projects, and special revenues, but excluding revenues to funds held in a trust or agency capacity.
   b. Subtract interfund transfers (dollars)
   c. Total Revenues (dollars)

2. Total Expenditures
   a. Expenditures (dollars)
      Value consists of the sum of general fund operating and non-operating expenditures including interest payments on debt, payments for retirement of debt principal, and total expenditures

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from all other governmental funds including enterprise, debt service, capital projects, and special revenues.

b. Subtract interfund transfers (dollars)
c. Total Expenditures (dollars)

3. Local Revenues
   a. Total Revenues (from 1c) (dollars)
   b. Subtract total intergovernmental transfers (dollars)
   c. Local Revenues (dollars)

4. Debt Service
   a. Interest and fiscal charges (dollars)
   b. Add debt retirement (dollars)
   c. Total Debt Service (dollars)

5. Total Funds (dollars)
   (Sum of amounts held as cash and investment securities from all funds, excluding amounts held for employee retirement funds, agency funds, and trust funds)

6. Population (Persons)

PART II: APPLICATION OF TEST

7. Total Revenues to Population
   a. Total Revenues (from 1c)
   b. Population (from 6)
   c. Divide 7a by 7b
   d. Subtract 417
   e. Divide by 5,212
   f. Multiply by 4.095

8. Total Expenses to Population
   a. Total Expenses (from 2c)
   b. Population (from 6)
   c. Divide 8a by 8b
   d. Subtract 524
   e. Divide by 5,401
   f. Multiply by 4.095

9. Local Revenues to Total Revenues
   a. Local Revenues (from 3c)
   b. Total Revenues (from 1c)
   c. Divide 9a by 9b
   d. Subtract .695
   e. Divide by .205
   f. Multiply by 2.840

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10. Debt Service to Population
    a. Debt Service (from 4c)
    b. Population (from 6)
    c. Divide 10a by 10b
    d. Subtract 51
    e. Divide by 1,038
    f. Multiply by -1.866

11. Debt Service to Total Revenues
    a. Debt Service (from 4c)
    b. Total Revenues (from 1c)
    c. Divide 11a by 11b
    d. Subtract .068
    e. Divide by .259
    f. Multiply by -3.533

12. Total Revenues to Total Expenses
    a. Total Revenues (from 1c)
    b. Total Expenses (from 2c)
    c. Divide 12a by 12b
    d. Subtract .910
    e. Divide by .899
    f. Multiply by 3.458

13. Funds Balance to Total Revenues
    a. Total Funds (from 5)
    b. Total Revenues (from 1c)
    c. Divide 13a by 13b
    d. Subtract .891
    e. Divide by 9.156
    f. Multiply by 3.270

14. Funds Balance to Total Expenses
    a. Total Funds (from 5)
    b. Total Expenses (from 2c)
    c. Divide 14a by 14b
    d. Subtract .866
    e. Divide by 6.409
    f. Multiply by 3.270

15. Total Funds to Population
    a. Total Funds (from 5)
    b. Population (from 6)
    c. Divide 15a by 15b
    d. Subtract 270
    e. Divide by 4,548
    f. Multiply by 1.866

16. Add 7f + 8f + 9f + 10f + 11f + 12f + 13f + 14f + 15f + 4.937

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I hereby certify that the financial index shown on line 16 of the worksheet is greater than zero and that the wording of this letter is identical to the wording specified in Part F, ~~Appendix~~§3.12., Form L as such regulations were constituted on the date shown immediately below.

[*Signature*]

[*Name*]

[*Title*] [*Date*]

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3.13. Form M: Local Government Guarantee With Standby Trust Made By A State

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~~APPENDIX~~FORM M

LOCAL GOVERNMENT GUARANTEE WITH STANDBY TRUST MADE BY A STATE

FC: 76
DNREC Facility ID#:

Guarantee made this [date] by [name of State], herein referred to as Guarantor, to [Department of Natural Resources and Environmental Control] and to any and all third parties, and obliges, on behalf of [Local Government Owner or Operator].

Recitals:

(1) Guarantor is a State.

(2) [*Local Government Owner or Operator*] owns or operates the following Underground Storage Tank System(s) (USTs) covered by this guarantee:

[*Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Local Government Guarantee with Standby Trust Made by a State.]*

If more than one instrument is used to assure different UST System(s) at any one Facility, for each UST System covered by this instrument, list the UST System identification number provided in the notification submitted pursuant to Part A of Delaware's Regulations Governing Underground Storage Tank Systems, and the name and address of the Facility.] This guarantee satisfies Part F, requirements for assuring funding for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage caused by" either "sudden Accidental Releases" or "nonsudden Accidental Releases" or "Accidental Releases"; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST System or location*] arising from operating the above-identified UST System(s) in the amount of *[insert dollar amount*] per Occurrence and [*insert dollar amount*] Annual Aggregate.

(3) Guarantor guarantees to the Department and to any and all third parties that:
In the event that [*Local Government Owner or Operator*] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the Department has determined or suspects that a Release has occurred at an UST System covered by this guarantee, the Guarantor, upon instructions from the Department shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. in an amount not to exceed the coverage limits specified above.

In the event that the Department determines that [Local Government Owner or Operator] has failed to perform corrective action for Releases arising out of the operation of the above-identified UST Systems~~tank~~(s) in accordance with Part E the Guarantor upon written instructions from the Department shall fund a standby trust fund in accordance with the provisions of Part F, §1.12. in an amount not to exceed the coverage limits specified above.

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If [*Owner or Operator*] fails to satisfy a judgment or award based on a determination of liability for Bodily Injury or Property Damage to third parties caused by *[“sudden” and/or “nonsudden”*] Accidental Releases arising from the operation of the above-identified UST System~~tank~~(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the Guarantor, upon written instructions from the Department, shall fund a standby trust in accordance with the provisions of Part F, §1.12. to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above.

(4) Guarantor agrees to notify [*Owner or Operator*] by certified mail of a voluntary or involuntary proceeding under Title 11 {Bankruptcy}, U.S. Code naming Guarantor as debtor, within 10 days after commencement of the proceeding.

(5) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [*Owner or Operator*] pursuant to the Delaware *Regulations Governing Underground Storage Tank Systems*.

(6) Guarantor agrees to remain bound under this guarantee for so long as [*Local Government Owner or Operator*] shall comply with the applicable financial responsibility requirements of Part F for the above identified UST System~~tank~~(s), except that Guarantor may cancel this guarantee by sending notice by certified mail to [*Owner or Operator*], such cancellation to become effective no earlier than 120 days after receipt of such notice by [*Owner or Operator*], as evidenced by the return receipt.

(7) The Guarantor’s obligation does not apply to any of the following:

(a) Any obligation of [*Local Government Owner or Operator*] under a workers’ compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*insert: Local Government Owner or Operator*] arising from, and in the course of, employment by [*insert: Local Government Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaded to, in the care, custody, or control of, or occupied by [*insert: Local Government Owner or Operator*] that is not the direct result of a Release from an UST System;

(e) Bodily Injury or Property Damage for which [*insert Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part F,§1.3. .

(8) Guarantor expressly waives notice of acceptance of this guarantee by the Department, by any or all third parties, or by [*Local Government Owner or Operator*],

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I hereby certify that the wording of this guarantee is identical to the wording specified in ~~Appendix~~§3.13., Form M as such Regulations were constituted on the effective date shown immediately below.

Effective date:

[*Name of Guarantor*]

[*Authorized signature for Guarantor*]

[*Name of Person signing*]

[*Title of Person signing*]

Signature of witness or notary:

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3.14. Form N: Local Government Guarantee With Standby Trust Made By A Local Government

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~~APPENDIX~~FORM N

LOCAL GOVERNMENT GUARANTEE WITH STANDBY TRUST MADE BY A LOCAL GOVERNMENT

FC: 76
DNREC Facility ID#:

Guarantee made this [*date*] by [*name of guaranteeing entity*], a Local Government organized under the laws of [*name of State*], herein referred to as Guarantor, to DNREC and to any and all third parties, and obliges, on behalf of [*Local Government Owner or Operator*].

Recitals

(1) Guarantor meets or exceeds [*select one: the Local Government bond rating test requirements of Part F, §2.8., the Local Government financial test requirements of Part F, §2.9., or the Local Government fund under Part F, §2.11.*].

(2) [*Local Government Owner or Operator*] owns or operates the following Underground Storage -Tank System(s) (USTs) covered by this guarantee:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule, listing each UST System assured by this Local Government Guarantee.

This guarantee satisfies Part F requirements for assuring funding for [*insert: "taking corrective action" and/or"compensating third parties for Bodily Injury and Property Damage caused by" either "sudden Accidental Releases" or "nonsudden Accidental Releases" or "Accidental Releases"; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST System or location*] arising from operating the above-identified UST System(s) in the amount of [*insert dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate.

(3) Incident to our Substantial Business Relationship with [*Local Government Owner or Operator*], Guarantor guarantees to Department and to any and all third parties that:

In the event that [*Local Government Owner or Operator*] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the Department has determined or suspects that a Release has occurred at an UST System covered by this guarantee, the Guarantor, upon instructions from the Department shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. , in an amount not to exceed the coverage limits specified above.

In the event that the Department determines that [*Local Government Owner or Operator*] has failed to perform corrective action for Releases arising out of the operation of the above-identified UST System(s) in accordance with Part E of these Regulations, the Guarantor upon written instructions from the Department shall fund a standby trust fund in accordance with the provisions of Part F, §2.12. in an amount not to exceed the coverage limits specified above.

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If [*Owner or Operator*] fails to satisfy a judgment or award based on a determination of liability for Bodily Injury or Property Damage to third parties caused by *[“sudden” and/or “nonsudden”*] Accidental Releases arising from the operation of the above-identified UST System~~tank~~(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the Guarantor, upon written instructions from the Department, shall fund a standby trust in accordance with the provisions of Part F, §1.12. to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above.

(4) Guarantor agrees that, if at the end of any fiscal year before cancellation of this guarantee, the Guarantor fails to meet or exceed the requirements of the financial responsibility mechanism specified in paragraph (1), Guarantor shall send within 120 days of such failure, by certified mail, notice to [Local Government Owner or Operator], as evidenced by the return receipt.

(5) Guarantor agrees to notify [*Owner or Operator*] by certified mail of a voluntary or involuntary proceeding under Title 11 {Bankruptcy}, U.S. Code naming Guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [*Owner or Operator*] pursuant to the Regulations.

(7) Guarantor agrees to remain bound under this guarantee for so long as [*Local Government Owner or Operator*] shall comply with the applicable financial responsibility requirements of Part F for the above identified ~~tank~~UST System(s), except that Guarantor may cancel this guarantee by sending notice by certified mail to [*Owner or Operator*], such cancellation to become effective no earlier than 120 days after receipt of such notice by [*Owner or Operator*], as evidenced by the return receipt.

(8) The Guarantor’s obligation does not apply to any of the following:

(a) Any obligation of [*Local Government Owner or Operator*] under a workers’ compensation, disability benefits, or unemployment compensation law or other similar law;
(b) Bodily Injury to an employee of *[insert: Local Government Owner or Operator*] arising from, and in the course of, employment by [*insert: Local Government Owner or Operator*];
(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;
(d) Property Damage to any property owned, rented, loaded to, in the care, custody, or control of, or occupied by [*insert: Local Government Owner or Operator*] that is not the direct result of a Release from a UST System;

(e) Bodily Injury or Property Damage for which [*insert: Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part F, § 3 .

(9) Guarantor expressly waives notice of acceptance of this guarantee by the Department, by any or all third parties, or by [*Local Government Owner or Operator*].

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I hereby certify that the wording of this guarantee is identical to the wording specified in Part F, ~~Appendix~~§3.14., Form N as such regulations were constituted on the effective date shown immediately below.

Effective date:

[*Name of Guarantor*]

[*Authorized signature for Guarantor*]

[*Name of Person signing*]

[*Title of Person signing*]

Signature of witness or notary:

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3.15. Form O: Local Government Guarantee Without Standby Trust Made By A State

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~~APPENDIX~~FORM O

LOCAL GOVERNMENT GUARANTEE WITHOUT STANDBY TRUST MADE BY A STATE

FC: 76
DNREC Facility ID#:

Guarantee made this [*date*] by [*name of State*], herein referred to as Guarantor, to DNREC and to any and all third parties, and obliges, on behalf of [*Local Government Owner or Operator*].

Recitals

(1) Guarantor is a State.

(2) [*Local Government Owner or Operator*] owns or operates the following Underground Storage Tank System(s) (USTs) covered by this guarantee:

Attach ~~Appendix~~§3.18., Form R~~,~~, Underground Storage Tank Schedule, listing each UST System assured by this Local Government Guarantee Without Standby Trust Made by a State

This guarantee satisfies Part F requirements for assuring funding for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage caused by" either "sudden Accidental Releases" or "nonsudden Accidental Releases" or "Accidental Releases"; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST System or location*] arising from operating the above-identified UST System(s) in the amount of [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate.

(3) Guarantor guarantees to the Department and to any and all third parties and obliges that:

In the event that [*Local Government Owner or Operator*] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the DNREC has determined or suspects that a Release has occurred at an UST System covered by this guarantee, the Guarantor, upon written instructions from the Department shall make funds available to pay for corrective actions and compensate third parties for Bodily Injury and Property Damage in an amount not to exceed the coverage limits specified above.

In the event that the Department determines that [*Local Government Owner or Operator*] has failed to perform corrective action for Releases arising out of the operation of the above-identified UST System~~tank~~(s) in accordance with Part E of these Regulations, the Guarantor upon written instructions from the Department shall make funds available to pay for corrective actions in an amount not to exceed the coverage limits specified above.

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In the event that the Department determines that [*Local Government Owner or Operator*] has failed to perform corrective action for Releases arising out of the operation of the above-identified UST Systems in accordance with Part E of Delaware's *Regulations Governing Underground Storage Tanks*, the Guarantor upon written instructions from the Department shall make funds available to pay for corrective actions in an amount not to exceed coverage limits specified above.

If [*Owner or Operator*] fails to satisfy a judgment or award based on a determination of liability for Bodily Injury or Property Damage to third parties caused by *[“sudden” and/or “nonsudden”*] Accidental Releases arising from the operation of the above-identified UST System~~tank~~(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the Guarantor, upon written instructions from the Department, shall make funds available to compensate third parties for Bodily Injury and Property Damage in an amount not to exceed the coverage limits specified above.

(4) Guarantor agrees to notify [*Owner or Operator*] by Verified Service of a voluntary or involuntary proceeding under Title 11 {Bankruptcy}, U.S. Code naming Guarantor as debtor, within 10 days after commencement of the proceeding.

(5) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [*Owner or Operator*] pursuant to the Regulations.

(6) Guarantor agrees to remain bound under this guarantee for so long as [*Local Government Owner or Operator*] shall comply with the applicable financial responsibility requirements of Part F for the above identified UST Systems, except that Guarantor may cancel this guarantee by sending notice by Verified Service to [*Owner or Operator*], such cancellation to become effective no earlier than 120 days after receipt of such notice by [*Owner or Operator*], as evidenced by the return receipt. If notified of a probable Release, the Guarantor agrees to remain bound to the terms of this guarantee for all charges arising from the Release, up to the coverage limits specified above, notwithstanding the cancellation of the guarantee with respect to future Releases.

(7) The Guarantor’s obligation does not apply to any of the following:

(a) Any obligation of [*Local Government Owner or Operator*] under a workers’ compensation disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*insert Local Government Owner or Operator*] arising from, and in the course of, employment by [*insert: Local Government Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [*insert: Local Government Owner or Operator*] that is not the direct result of a Release from an UST System;

(e) Bodily injury or Property Damage for which [*insert: Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the Requirements of Part F,§1.3

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(8) Guarantor expressly waives notice of acceptance of this guarantee by the Department, by any or all third parties, or by [*Local Government Owner or Operator*].

I hereby certify that the wording of this guarantee is identical to the wording specified in ~~Appendix~~§3.15., Form O as such regulations were constituted on the effective date shown immediately below.

Effective date:

[*Name of Guarantor*]

[*Authorized signature for Guarantor*]

[*Name of Person signing*]

[*Title of Person signing*]

Signature of witness or notary:

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3.16. Form P: Local Government Guarantee Without Standby Trust Made By A Local Government

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~~APPENDIX~~FORM P

LOCAL GOVERNMENT GUARANTEE WITHOUT STANDBY TRUST MADE BY A LOCAL GOVERNMENT

FC: 76
DNREC Facility ID#:

Guarantee made this [*date*] by [*name of guaranteeing entity*], a Local Government organized under the laws of [*name of State*], herein referred to as Guarantor, to DNREC and to any and all third parties, and obliges, on behalf of [*Local Government Owner or O*perator].

Recitals

(1) Guarantor meets or exceeds [*select one: the Local Government bond rating test requirements of Part F, §2.8., the Local Government financial test requirements of Part F, §2.9., the Local Government fund under Part F, §2.11..*]

(2) [*Local Government Owner or Operator*] owns or operates the following Underground Storage Tank System(s) (USTs) covered by this guarantee:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule for Financial Assurance listing ____all UST Systems———assured by this Local Government Guarantee.

This guarantee satisfies Part F requirements for assuring funding for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage caused by" either "sudden Accidental Releases" or "nonsudden Accidental Releases" or "Accidental Releases"; if coverage is different for different UST Systems or locations, indicate the type of coverage applicable to each UST System or location*] arising from operating the above-identified UST System(s) in the amount of [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate.

(3) Incident to our Substantial Business Relationship with [*Local Government Owner or Op*erator], Guarantor guarantees to the Department and to any and all third parties and obliges that:
In the event that [*Local Government Owner or Operator*] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the Department has determined or suspects that a Release has occurred at an UST System covered by this guarantee, the Guarantor, upon written instructions from the Department shall make funds available to pay for corrective actions and compensate third parties for Bodily Injury and Property Damage in an amount not to exceed the coverage limits specified above.

In the event that the Department determines that [*Local Government Owner or Operator*] has failed to perform corrective action for Releases arising out of the operation of the above-identified UST System~~tank~~(s) in accordance with Part E, the Guarantor upon written instructions from the Department shall make funds available to pay for corrective actions in an amount not to exceed the coverage limits specified above.

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If [*Owner or Operator*] fails to satisfy a judgment or award based on a determination of liability for Bodily Injury or Property Damage to third parties caused by *[“sudden” and/or “nonsudden”*] Accidental Releases arising from the operation of the above-identified UST Systems, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the Guarantor, upon written instructions from the Department, shall make funds available to compensate third parties for Bodily Injury and Property Damage in an amount not to exceed the coverage limits specified above.

(4) Guarantor agrees that if at the end of any fiscal year before cancellation of this guarantee, the Guarantor fails to meet or exceed the requirements of the financial responsibility mechanism specified in paragraph (1), Guarantor shall send within 120 days of such failure, by certified mail, notice to [*Local Government Owner or Operator*], as evidenced by the return receipt.

(5) Guarantor agrees to notify [*Owner or Operator*] by Verifiable Service of a voluntary or involuntary proceeding under Title 11 {Bankruptcy}, U.S. Code naming Guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [*Owner or Operator*] pursuant to the Regulations.

(7) Guarantor agrees to remain bound under this guarantee for so long as [*Local Government Owner or Operator*] shall comply with the applicable financial responsibility requirements of Part F for the above identified UST Systems, except that Guarantor may cancel this guarantee by sending notice by Verifiable Service to [*Owner or Operator*], such cancellation to become effective no earlier than 120 days after receipt of such notice by [*Owner or Operator*], as evidenced by the return receipt. If notified of a probable Release, the Guarantor agrees to remain bound to the terms of this guarantee for all charges arising from the Release, up to the coverage limits specified above, notwithstanding the cancellation of the guarantee with respect to future Releases.

(8) The Guarantor’s obligation does not apply to any of the following:

(a) Any obligation of [*Local Government Owner or Operator*] under a workers’ compensation disability benefits, or unemployment compensation law or other similar law;

(b) Bodily Injury to an employee of [*insert: Local Government Owner or Operator*] arising from, and in the course of, employment by [*insert: Local Government Owner or Operator*];

(c) Bodily Injury or Property Damage arising from the Ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property Damage to any property owned, rented, loaded to, in the care, custody, or control of, or occupied by [*insert: Local Government Owner or Operator*] that is not the direct result of a Release from an UST System;

(e) Bodily Injury or Property Damage for which [*insert: Owner or Operator*] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of Part .

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(9) Guarantor expressly waives notice of acceptance of this guarantee by DNREC, by any or all third parties, or by [*Local Government Owner or Operator*],

I hereby certify that the wording of this guarantee is identical to the wording specified in Part F, ~~Appendix~~§3.16., Form P as such regulations were constituted on the effective date shown immediately below.

Effective date:

[*Name of Guarantor*]

[*Authorized signature for Guarantor*]

[*Name of Person signing*]

[*Title of Person signing*]

Signature of witness or notary:

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3.17. Form Q: Local Government Fund Mechanism

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~~APPENDIX~~FORM Q

LOCAL GOVERNMENT FUND MECHANISM

FC: 76
DNREC Facility ID#:

Letter from Chief Financial Officer

I am the Chief Financial Officer of [*insert: name and address of Local Government Owner or Operator, or Guarantor*]. This letter is in support of the use of the Local Government fund mechanism to demonstrate financial responsibility for [*insert: "taking corrective action" and/or "compensating third parties for Bodily Injury and Property Damage"]* caused by [*insert: "sudden Accidental Releases" and/or "nonsudden Accidental Releases"*] in the amount of at least [*insert: dollar amount*] per Occurrence and [*insert: dollar amount*] Annual Aggregate arising from operating (an) Underground Storage Tank System(s) (USTs).

UST Systems at the following facilities are assured by this Local Government fund mechanism:

Attach ~~Appendix~~§3.18., Form R, Underground Storage Tank Schedule for Financial Assurance listing all ~~tank~~UST Systems assured by this Local Government Fund.

[*Insert: "The Local Government fund is funded for the full amount of coverage required under Part F,§1.3. , or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining coverage." or "The Local Government fund is funded for ten times the full amount of coverage required under Part F,§1.3. , or funded for part of the required amount of coverage and used in combination with other mechanisms(s) that provide the remaining coverage," or "A payment is made to the fund once every year for seven years until the fund is fully-funded and [name of Local Government Owner or Operator] has available bonding authority, approved through voter referendum, of an amount equal to the difference between the required amount of coverage and the amount held in the dedica*

ted fund" or "A payment is made to the fund once every year for seven years until the fund is fully-funded and I have attached a letter signed by the State Attorney General stating that (1) the use of the bonding authority will not increase the Local Government's debt beyond the legal debt ceilings established by the relevant State laws and (2) that prior voter approval is not necessary before use of the bonding authority"].

The details of the Local Government fund are as follows:
Amount in Fund (market value of fund of close of last fiscal year): _____
[If fund balance is incrementally funded as specified in §24, insert:
Amount added to fund in the most recently completed fiscal year: _____

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Number of years remaining in the pay-in period: _____]

A copy of the State constitutional provision, or Local Government statute, charter, ordinance or order dedicating the fund is attached.

I hereby certify that the wording of this letter is identical to the wording specified in Part F, ~~Appendix~~§3.17., Form Q as such Regulations were constituted on the date shown immediately below.

[*Signature*]

[*Name*]

[*Title*]

[*Date*]

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3.18. Form R: Underground Storage Tank Schedule for Financial Assurance

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~~APPENDIX~~FORM R

UNDERGROUND STORAGE TANK SCHEDULE FOR FINANCIAL ASSURANCE

FC: 76
DNREC Facility ID#:

DNREC UST Facility ID# _____-_____

Type of Financial Assurance Mechanism _____

Is this mechanism being used in combination with any other FR mechanism? ☐ Yes* ☐ No
*If "Yes" note additional FR mechanism _____

Facility Name

Facility Street Address

Facility City Facility Zip

Owner Name

Owner Street Address

Owner City Owner State Owner Zip

_____

Tank ID# _____ (from UST registration form)

Tank capacity _____

Regulated substance stored _____

_____

Tank ID# _____ (from UST registration form)

Tank capacity _____

Regulated substance stored _____

_____

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PART G.

REQUIREMENTS FOR CONTRACTOR CERTIFICATION

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Section 1. General Requirements for Contractor Certification

1.1. General Provisions

1.1.1. Certification is required for business entities contracting for, or engaged in UST System work which includes the following:

1.1.1.1. Installation

1.1.1.2. Retrofit

1.1.1.3. Removal or Closure in Place

1.1.2. Certification is required for individuals supervising the following UST System related work:

1.1.2.1. Installation

1.1.2.2. Retrofit

1.1.2.3. Removal or Closure in Place

1.1.3. Upon completion of all requirements, the Department shall issue a certificate to business entities and a wallet card to supervisors, endorsed for the appropriate UST System activities they are certified to perform.

1.1.4. Proof of certification shall be provided immediately upon request by representatives from the Department while individuals are performing UST System work requiring certification. Proof of certification shall consist of a valid card issued by the Department certifying that Contractor Certification requirements have been met. All UST System work requiring certification shall immediately cease if proof of certification is not provided.

1.1.5. Any individual or business entity that is certified shall notify the Department of any name or address change within thirty (30) days of such change.

1.1.6. Any individual or business entity who is certified shall notify the Department of any pending litigation against them involving any type of construction or any environmental or regulatory compliance, within ten (10) days of receipt of notice of that litigation.

1.2. Qualification Requirements for Certification

1.2.1. Business Entities

1.2.1.1. A business entity may apply for certification for one or more UST System activities.

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1.2.1.2. All business entities engaged in Installation, Retrofit, Removal or Closure in Place of UST Systems shall meet the following requirements for certification:

1.2.1.2.1. Submit to the Tank Management Branch a complete application form and attach appropriate documentation of experience and training with the required application fee; and

1.2.1.2.2. Provide proof of general liability insurance in the amount of $1,000,000 and Contractor's Pollution Liability Insurance in the amount of $250,000; and

1.2.1.2.3. Score 80% or more correct on an examination given by the Department.

1.2.1.3. In the event that an applicant scores less than 80% on the examination, they may request to sit for the examination at the next regularly scheduled examination or within thirty (30) days, whichever is less.

1.2.1.4. An applicant who has not scored 80% or more on the test after three tries shall wait six (6) months before submitting a new application and retesting.

1.2.2. Individual On-site Certification

1.2.2.1. Each site where UST System ~~I~~installation, Retrofit, Removal or Closure in Place occurs shall have a minimum of one individual, certified for the UST System activity to be performed, present at all times while work is occurring. This individual shall be a permanent employee of the business firm performing the UST System activity and the business firm shall be certified for the UST System activity being performed.

1.2.2.2. Individuals engaged in ~~I~~installation, Retrofit, Removal or Closure in Place of UST Systems shall meet the following requirements for certification:

1.2.2.2.1. Submit to the Tank Management Branch a complete application form with the required application fee; and

1.2.2.2.2. Submit proof of applicable training or experience for type of work for which the individual is to be certified; and

1.2.2.2.3. Score 80% or more correct on an examination to be given by the Department for each activity for which the individual wishes their certification to apply.

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1.2.2.3. In the event that an individual scores less than 80% on the examination, they may request to sit for the examination at the next regularly scheduled examination or within thirty (30) days, whichever is less.

1.2.2.4. An individual who has not scored 80% or more on the test after three tries shall wait six (6) months before submitting a new application and retesting.

1.3. Application for Certification Requirements

1.3.1. All applications shall be submitted in writing on forms supplied by the Department. Copies of such forms may be obtained from DNREC.

1.3.2. Each application shall contain a verified statement by the applicant for certification or, its duly authorized representative, that they and any person employed by the applicant on any UST System installation, Retrofit, or tank closure, ~~will~~shall be provided with a copy of these regulations and ~~will~~shall be required to abide by all applicable rules and regulations promulgated by the Department.

1.3.3. The completed application shall be sent to the address specified in the application package and shall be accompanied by a non-refundable fee of $250 for business entities or $100 for individuals.

1.3.4. The Department shall notify the applicant in writing no later than thirty (30) days from receipt of the certification application of the issuance or denial of the certification, or the need for further information in order to process the application. Denial of certification for cause shall be explained by the Department at the time of denial.

1.3.5. Any applicant denied for cause may appeal in writing within ten (10) days of receipt of denial. Each reapplication requires a new application fee.

1.3.6. Certification shall be valid for a period of two years from the date of issuance.

1.4. Standards of Performance for Certified Companies and Supervisors

1.4.1. All certified individuals and companies are required to meet the following ~~S~~standards of ~~P~~performance:

1.4.1.1. All UST System work performed as a Certified Contractor shall be performed according to accepted engineering practices and procedures and applicable OSHA safety procedures contained in 29 CFR 1910.

1.4.1.2. All required notifications and applications shall be submitted to the Department as specified in the Regulations.

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1.4.1.3. Any deviation from standard practices and procedures shall be approved by the Department in writing.

1.4.1.4. Installation of UST Systems and all associated equipment shall be in accordance with the conditions in the Department's approval letter, the manufacturer's specifications, or procedures detailed in the current version of PEI RP 100. In the event of conflicting wording in these documents, the Department's approval letter shall take precedence, followed by the manufacturer's specifications, and finally PEI RP 100.

1.4.1.5. Any contractor installing equipment requiring a manufacturer's certification shall have a current manufacturer's certification for that product and shall provide it immediately upon a request ~~by~~from representatives from the Department.

1.4.1.6. Removal or Closure in Place of an UST System shall be performed in accordance with the procedures detailed in the current version of API 1604, and API 2015.

1.4.1.7. Contractors shall report within twenty-four (24) hours to the Tank Management by calling 302-395-2500 and the Department when required in accordance with 7 **Del.C.** Chapter 60, by calling 1-800-662-8802 ~~within twenty-four (24) hours~~, any R~~r~~elease of a Regulated Substance, or confirmed or suspected contamination of soil, surface or groundwater from Regulated Substances observed while performing services as a certified contractor. This notification shall be submitted to the Department in writing within forty-eight (48) hours of observing. When a reportable release is noted, the notification may be submitted jointly by the ~~o~~Owner, ~~o~~Operator, and certified contractor.

1.4.1.8. All paperwork resulting from performing certified UST System activities shall be submitted to the Department within sixty (60) days of the completion of UST System activities at a site.

1.4.1.9. Copies of all paperwork generated as a result of certified UST System work performed shall be retained for a minimum of three (3) years.

1.5. Requirements for Renewal of Certification

1.5.1. A certificate holder who intends to seek renewal of their certificate shall submit a notice to renew the certificate at least sixty (60) days prior to its expiration. Upon receipt of such notice, the Department shall furnish a renewal application to the certificate holder.

1.5.2. The certificate holder shall submit the completed form to the Department at least thirty (30) days prior to expiration of the certificate.

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1.5.3. The Department shall notify the applicant in writing no later than thirty (30) days from receipt of the certification application of the issuance or denial of the certification, or the need for further information in order to process the application. Denial of certification for cause shall be explained by the Department at the time of denial. Each reapplication requires a new application fee.

1.5.4. Any applicant denied certification for cause may appeal in writing within ten (10) days of receipt of denial.

1.5.5. Certification shall be valid for a period of two (2) years from the date of issuance.

1.5.6. In the event the certificate holder fails to renew the certification before the expiration date, the certification will expire. Any certificate holder whose certification has expired shall be required to reapply for certification. If the expiration period has been two (2) years or more, the applicant shall apply as a first time applicant.

1.5.7. A person whose certification renewal is denied for cause may not reapply for certification for two (2) years from the date of denial.

1.6. Denial of Certification

1.6.1. The Department may deny certification if it determines that the applicant has not demonstrated the ability to comply fully with applicable requirements or a standard of performance. The Department may deny any request for certification for cause including, but not limited to:

1.6.1.1. Fraudulently or deceptively attempting to obtain a certification.

1.6.1.2. Failure at any time to meet the qualifications for certification or failure to comply with any provision or requirement of any rules and regulations adopted by the Department.

1.6.1.3. Denial or revocation of certification or decertification in any other State. A review panel will evaluate each State's regulations and the reason for denial or decertification on an individual basis.

1.6.1.4. Failure to submit an application or provide all required information.

1.6.1.5. If any information exists to indicate that the person has failed to meet obligations under a contract or has failed to safely perform any UST System project.

1.6.1.6. Has demonstrated repeated deficiencies in performing UST System work.

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1.6.1.7. A court has found that the applicant has violated any law for the protection of the environment, or that the applicant breached any duty owed in the performance of UST System related work.

1.6.2. The Department shall notify the applicant in writing no later than thirty (30) days from receipt of the certification application of the issuance or denial of the certification, or the need for further information in order to process the application. Denial of certification for cause shall be explained by the Department at the time of denial.

1.6.3. Any applicant denied certification for cause may appeal in writing within ten (10) days of receipt of denial. Each reapplication requires a new application fee.

1.6.4. A person whose certification is denied for cause may not reapply for certification for two (2) years from the date of denial.

1.7. Suspension or Revocation of Certification

1.7.1. The Department may, for cause or for violation of this Regulation or applicable DNREC regulations, suspend and or revoke any certification issued under this regulation. Further, in any circumstances where any certificate holder has demonstrated the inability or reluctance to follow safety precautions or project specifications, or has violated a standard of performance, the certification may be suspended or revoked.

1.7.2. Upon notification of suspension or revocation of the certification, the certificate holder shall surrender their proof of certification to the Department within the time period specified in the notice.

1.7.3. A certificate holder whose certification has been suspended or revoked shall not bid, contract, subcontract or directly perform any work involving UST Systems within the State of Delaware during the period of suspension or revocation.

1.7.4. Any officer, director, partner, or owner with a controlling interest of any business entity whose certification has been suspended or revoked shall not serve as an officer, director, or partner, or have a controlling interest, in another business entity certified or applying for certification in Delaware during the period of suspension or revocation. Violation of the foregoing may result in suspension or revocation of the latter business entity's certification.

1.7.5. No certificate holder whose certification was suspended or revoked shall participate in another business entity as a shareholder, officer, director, partner, or profit-sharing employee or investor during the period of suspension or revocation. Violation of the foregoing may result in suspension or revocation of all certificates involved.

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1.7.6. A certificate holder whose certification has been suspended or revoked for cause in any other State or municipality may have the Delaware certification immediately suspended or revoked.

1.7.7. If a certificate holder is barred from bidding on UST System projects for any Federal, State, or local government project, that person's certification may immediately be suspended or revoked within the State of Delaware.

1.7.8. In addition to the above, causes for suspension or revocation include, but may not be limited to the following:

1.7.8.1. Providing false information to the Department.

1.7.8.2. Shows evidence of a mental or physical impairment including but not limited to~~such as (but not limited to)~~, use of alcohol or drugs, as determined by the Department, which may interfere with the safe performance of UST System work.

1.7.8.3. Knowingly or recklessly disregarding safe work practices while performing UST System work.

1.7.8.4. Failure to comply with any applicable regulations or procedures administered by the Department.

1.7.8.5. Failure to meet the standards of performance in Section 1.4.

1.7.8.6. Failure to comply with the terms of a Notice of Violation or Secretarial Order issued by the Department.

1.7.8.7. Direct violation of applicable DNREC, Occupational Safety & Health Administration (OSHA) or Environmental Protection Agency (EPA) regulations.

1.7.8.8. Failure to comply with contract specifications.

1.7.8.9. Any acts of fraud or conviction of an act of fraud.

1.7.8.10. When any person, claims to have been damaged or injured by the gross negligence, incompetence, fraud, dishonest dealing or misconduct in the practice of contracting on the part of any person certified hereunder shall file suit upon such claims in any of the courts of record in Delaware and recover judgment in such case, revoke the certificate under which such person is operating at the time of the aforementioned violations.

1.7.8.11. Any action deemed by the Department as worthy of suspension and/or revocation.

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1.7.9. If the Department acts to suspend or revoke any certification under the provisions of this Section, the Department shall promptly notify the certificate holder in writing, by certified mail, of the reason for suspension or revocation. The notice of suspension or revocation will provide necessary information concerning the right to appeal.

1.7.10. A person whose certification is suspended or revoked under this Section shall surrender the Certificate to the Department within the time period specified in the notice.

1.7.11. A person whose certification is revoked may not reapply for certification for two (2) years from the date of revocation.

1.8. Appeals

1.8.1. Appeal Procedures

1.8.1.1. Any business entity or individual who is initially denied certification, denied renewal of certification, or whose certification is suspended or revoked may request an evidentiary hearing before an impartial hearing officer.

1.8.1.2. This request shall be made in writing to the Department within ten (10) days of the initial notification of denial, suspension or revocation.

1.8.1.3. The evidentiary hearing shall be scheduled by the Department within fourteen (14) days of a written request.

1.8.2. Evidentiary Hearing Procedures

1.8.2.1. The Hearing shall be audio recorded by the Hearing Officer but no transcript is necessary. The audio recording shall be kept for at least 90 days from the date that the Department makes its final decision in the matter. Respondents are entitled to have legal counsel present. Witnesses are sworn before testifying. The Hearing Officer decides all objections to evidence.

1.8.2.2. The Hearing shall proceed in the following order:

1.8.2.2.1. A brief opening statement is made by the prosecution, then the Respondent, if they so choose.

1.8.2.2.2. The prosecution presents witnesses. After the prosecution is finished with the direct examination of a witness, the Respondent may cross-examine the witness.

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1.8.2.2.3. The Respondent presents witnesses. The Respondent may testify. The Respondent and any witnesses for the respondent are subject to cross-examination by the prosecution.

1.8.2.2.4. Closing statements are made by the prosecution and then the Respondent.

1.8.3. The Hearing Officer's Written Report and Decision

1.8.3.1. Introductory Information

1.8.3.1.1. Introductory information in the Report and Recommendation includes the date, time and place of the hearing, the persons present and their capacities, and the witnesses who testified.

1.8.3.2. Findings of Fact

1.8.3.2.1. The Hearing Officer shall make findings of fact based on the sworn testimony and exhibits entered into evidence at the hearing. Conflicting testimony is noted. If the Hearing Officer chooses to place more weight and credibility on certain testimony in evidence, the reasons are given. If critical testimony is uncontroverted by the opposing party, the Hearing Officer should say so. Evidence that is excluded or given less weight because of objection should be so noted. Exhibits relevant to the decision should be referenced and attached.

1.8.3.3. Conclusions of Law

1.8.3.3.1. The Hearing Officer should explicitly state: "I make the following conclusions of law." This section applies facts to the applicable statute or law.

1.8.3.4. Decision

1.8.3.4.1. The Hearing Officer shall then make a decision based on the Findings of Fact and Conclusions of Law.

1.8.3.5. Procedures

1.8.3.5.1. The written Report and Decision shall be sent to the Respondent by hand-delivery or regular and certified U.S. Mail. The cover letter by the Hearing Officer shall inform the Respondent of the decision and shall state

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that the Respondent has the right to appeal the decision to the Environmental Appeals Board at that time.

1.8.3.6. Burden of Proof

1.8.3.6.1. The Hearing Officer's Report and Recommendation should explicitly state that the Hearing Officer finds the prosecution proved, or did not prove, its case by a preponderance of evidence.

1.8.3.6.2. Any applicant whose denial, suspension or revocation is upheld by the hearing officer may appeal to the Environmental Appeals Board. Appeals to the Environmental Appeals Board shall be in writing and shall be within ten (10) days of receiving notice of denial, suspension or revocation from the hearing officer

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PART H.

REGULATIONS GOVERNING REIMBURSEMENT FOR PETROLEUM CONTAMINATION SITE CLEANUP

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Section 1. Introduction and Scope of the Early Compliance and Detection Incentive Program

1.1. General Provisions

1.1.1. ~~Title~~ 7 **Del.C.** §7417 provides that, in order to encourage voluntary and expeditious clean-up of contaminated sites related to the storage of petroleum or petroleum products, any person responsible for conducting site cleanup may be entitled to reimbursement from the Delaware Underground Petroleum Storage Tank Response Fund. Reimbursement for all or a portion of allowable costs defined in 7 **Del.C.** §7409 incurred on or after July 16, 1987 in connection with site clean-up will be made at a reasonable rate.

1.1.2. This Part shall apply to requests for reimbursement of costs integral to clean up of sites eligible for participation in the reimbursement program established by 7 **Del.C.** §§7409 and 7417, where the contamination is related to the storage of petroleum or petroleum products.

1.1.3. This Part establishes procedures and documentation required to receive reimbursement.

1.1.4. Records relating to site clean-up which were generated prior to July 11, 1986 ~~the effective date of these Regulations~~ shall, to the maximum extent practicable, be assembled in accordance with §11. of this Part.

1.1.5. The requirements contained in this Part shall apply only to those facilities with petroleum UST System as defined in Part A, §2 of these Regulations.

1.1.6. This Part of the Regulations applies to all applicants who applied for the Early Compliance and Detection Incentive (ECDI) Program.

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Section 2. Definitions

All words and phrases defined in 7 **Del.C** §7402 shall have the same meaning when used in these Regulations unless otherwise set forth in this Part unless the context clearly indicates otherwise. The following words, terms and phrases, when used in this Part shall have the meaning ascribed to them in this Section, except where the context clearly indicates a different meaning.

"Assignment" means the scheduling of reimbursement for Corrective Action or for payment of reimbursable expenses.

"Capital Expense Item" means equipment, fixtures, and other tangible personal property of a non-consumable and non-expendable nature, the value or cost of which is $1 thousand ($1000) or more and the normal expected life of which is one year or more.

"Cleanup, Rehabilitation or Action" means those activities necessary to meet the requirements of an approved Remedial Action work plan.

"ECDI Program" means Early Compliance and Detection Incentive Program.

"Obligate, Obligated or Obligation" means a charge, based on best department cost estimate, against the un-obligated balance in the fund made in accordance with the requirements of ~~Title~~ 7~~,~~ **Del.C.** §§7409 and 7417.

"Corrective Action Task" means a phase of site clean-up, including all Corrective Action tasks including initial investigation and Remedial Action as described in Part E of these Regulations.

"Reimbursement" means the payment of money to a qualified recipient from obligated funds.

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Section 3. Reimbursement Costs Eligibility

3.1. Eligible Costs

3.1.1. Disbursements from the fund shall be made only for the following costs:

3.1.1.1. Costs incurred in investigation and assessment of an eligible site under this Part.

3.1.1.2. Costs associated with restoration or replacement of potable water supplies.

3.1.1.3. Costs incurred in taking immediate Corrective Action to contain or mitigate the effects of any Release of petroleum into the environment from an UST System if such action is necessary, in the judgment of the Department to protect human health, safety, welfare, or the environment.

3.1.1.4. Costs associated with maintenance and monitoring of contaminated sites.

3.1.1.5. Costs incurred in inspection and supervision of cleanup activities.

3.1.1.6. The "cost share" of Corrective Action with respect to any release of petroleum into the environment from Underground Storage Tank Systems undertaken under a cooperative agreement with the Administrator of the United States Environmental Protection Agency, as determined by the Administrator of the United States Environmental Protection Agency S. 9003 (h) (7) (B) of the United States Public Law 98-616 (as amended in 1986 by United States Public Law 99-662).

3.2. Ineligible Costs

3.2.1. Nothing in this Part must be construed to authorize reimbursement for costs incurred before July 16, 1987.

3.2.2. Nothing in this Part must be construed to authorize reimbursement for costs associated with the following:

3.2.2.1. Achieving compliance with the provisions of the Delaware *Regulations Governing Underground Storage Tank Systems* with the exception of the eligible costs outlined in §3.1 of this Part;

3.2.2.2. Interest or carrying charges of any kind;

3.2.2.3. Insurance premiums other than specific policies or bonds required for site rehabilitation;

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3.2.2.4. Contamination assessments performed in conjunction with property acquisition where no contamination is discovered;

3.2.2.5. Site clean-up costs which are determined to be not reimbursable as a result of an audit performed pursuant to §5 of this Part;

3.2.2.6. Costs relating to post cleanup activities, including preparation of reimbursement applications or keeping and compiling records of costs related to site clean-up.

3.2.3. Nothing in this Part must be construed to authorize reimbursement for costs incurred solely in cleaning up non-petroleum or non-petroleum product contamination.

3.2.4. Nothing in this Part must be construed to authorize reimbursement for costs incurred solely in cleaning up petroleum or petroleum product contamination which is not related to the underground storage of those substances.

3.2.5. Nothing in this Part must be construed to authorize reimbursement for costs of site clean-up unless cleanup tasks are completed in accordance with requirements by the Department.

3.2.6. Nothing in this Part must be construed to authorize reimbursement for costs of site clean-up for a release for which the responsible party failed to comply with the enforcement action initiated by the Department in accordance with 7 **Del. C.** §7411.

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Section 4. Conditions of Participation

4.1. Eligibility Conditions

4.1.1. Participation in the reimbursement program shall be subject to the following conditions:

4.1.1.1. The first twenty-five hundred dollars ($2,500) in costs per site as described in §3 of this Part will not be reimbursed by the fund.

4.1.1.2. The facility owner must not be the Federal Government or any agency or subdivision thereof.

4.1.1.3. Contamination of the site is as a result of normal aging and/or corrosion, and is not as a result of intentional damage, or improper handling or installation.

4.1.1.4. Contamination of the site is as a result of a release from an ~~u~~Underground Storage ~~t~~Tank containing ~~p~~Petroleum or ~~h~~Heating ~~f~~Fuel.

4.1.1.5. Reimbursement for site clean-up either through a person's own personnel or through responsible corrective action contractors or subcontractors shall not be considered a State contract or subject to State bid requirements.

4.1.1.6. Site rehabilitation must be completed in accordance with requirements established by the Department.

4.1.1.7. Nothing in this Section must be construed to authorize any payments for the ~~r~~Repair, replacement, ~~r~~Retrofit, ~~u~~Upgrade, Removal or Closure in Place of any UST System.

4.1.1.8. The release did not result from any gross negligence, including, but not limited to the following:

4.1.1.8.1. Willful intent to conceal existence of a serious discharge; or

4.1.1.8.2. Falsified inventory or reconciliation records; or

4.1.1.8.3. Intentional damage to an UST System; or

4.1.1.8.4. Willful failure to perform the inventory and reconciliation of records required in the Delaware *Regulations Governing Underground Storage Tank Systems*; or

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4.1.1.8.5. Failure to meet the ~~r~~Retrofitting or ~~u~~Upgrading requirements of the Delaware *Regulations Governing Underground Storage Tank Systems;* or

4.1.1.8.6. Willful failure to comply with the Release Detection requirements Delaware *Regulations Governing Underground Storage Tank Systems*; or

4.1.1.8.7. Violation of any of the requirements of the Delaware *Regulations Governing Underground Storage Tank Systems*.

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Section 5. Audit

5.1. Financial Audit

5.1.1. The Department will perform financial audits as necessary to ensure compliance with these Regulations and to certify site rehabilitation costs.

5.1.2. Prior to any financial audit, the Department will give the person conducting site clean-up reasonable notice of the proposed audit.

5.1.3. The Department will provide a written report on each audit by hand delivery or certified mail to the person responsible for conducting site clean-up. The person responsible for conducting site clean-up must respond, in writing, to the findings and recommendations of the report within thirty (30) days of the receipt of the report.

5.2. Technical Audit

5.2.1. Technical audits may be performed during review of the complete application to determine if the work performed was substantially in excess of that necessary to meet the requirements of any Remedial Action Work Plan approved by the Department.

5.2.2. Additional technical audits will be performed as necessary to insure compliance with applicable rules and to verify site clean-up activities.

5.2.3. The Department will provide a written report on each technical audit by hand delivery or by certified mail to the person responsible for conducting site remediation. The person responsible for conducting site clean-up must respond, in writing, to the findings and recommendations of the report within thirty (30) days of receipt of the report. A final determination of the acceptability of questioned corrective and remedial activities will be made by the Department.

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Section 6. Limitations

6.1. General Limitations

6.1.1. Nothing in this Part must be construed to authorize reimbursement for costs incurred before July 16, 1987.

6.1.2. Nothing in this Part must be construed to authorize reimbursement for costs associated with the following:

6.1.2.1. Achieving compliance with the provisions of Delaware's *Regulations Governing Underground Storage Tank Systems* with the exception of the eligible costs outlined in §3 of this Part.

6.1.2.2. Interest or carrying charges of any kind.

6.1.2.3. Insurance premiums other than specific policies or bonds required for site rehabilitation.

6.1.2.4. Contamination assessments performed in conjunction with property acquisition where no contamination is discovered.

6.1.2.5. Site clean-up costs which are determined to be not reimbursable as a result of an audit performed pursuant to §5 of this Part.

6.1.2.6. Costs relating to post cleanup activities, including preparation of reimbursement applications or keeping and compiling records of costs related to site clean-up.

6.1.3. Nothing in this Part must be construed to authorize reimbursement for costs incurred solely in cleaning up non-petroleum or non-petroleum product contamination.

6.1.4. Nothing in this Part must be construed to authorize reimbursement for costs incurred solely in cleaning up petroleum or petroleum product contamination which is not related to the underground storage of those substances.

6.1.5. Nothing in this Part must be construed to authorize reimbursement for costs of site clean-up unless cleanup tasks are completed in accordance with requirements by the Department.

6.1.6. Nothing in this Part must be construed to authorize reimbursement for costs of site clean-up for a release for which the responsible party failed to comply with the enforcement action initiated by the Department in accordance with 7 **Del.C.** §7411.

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Section 7. Site Reimbursement Eligibility Finding

7.1. Eligibility Finding Requirements

7.1.1. Upon receipt of an application for consideration of eligibility for reimbursement for petroleum and heating fuel contamination Corrective Action, the Department will conduct a site inspection and review applicable records to determine whether the site is eligible for reimbursement.

7.1.2. The site inspection and record review will be conducted in such a manner as to determine whether the conditions established under §4 of this Part have been met.

7.1.3. Upon completion of the inspection, the Department will prepare a Site Reimbursement Eligibility Finding and provide a copy of the finding by hand delivery or certified mail to the applicant.

7.1.4. In the event that the Department determines the site is not eligible for reimbursement, the finding must include specific reference to the eligibility conditions which were not met. The applicant must respond, in writing, to the finding within thirty (30) days of the receipt of finding. A final determination of eligibility for reimbursement must be made by the Department.

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Section 8. Site Prioritization

8.1. Site Prioritization Requirements

8.1.1. The Department will prioritize all eligible petroleum contamination sites based on factors that include, but are not limited to:

8.1.1.1. The degree to which human health, safety, or welfare may be affected by exposure to the contamination; and

8.1.1.2. The present and future uses of the affected aquifer or surface waters, with particular consideration as to the probability that the contamination is substantially affecting, or will migrate to and substantially affect, a known public or private source of potable water; and

8.1.1.3. The size of the population or area affected by the contamination;

8.1.1.4. The effect of the contamination on the environment.

8.1.2. The priority list of sites will be based on an ordering of scored sites such that the highest scored site(s) will be of highest priority for response action or payment of reimbursable expenses and the lowest scored site(s) will be of lowest priority for response action or payment of reimbursable expenses.

8.1.3. The Department may adjust the Priority List if it determines that a more cost effective approach can be achieved by a reassignment or that a compelling public health or environmental condition warrants a reassignment or that reassignment is otherwise in the overall public interest.

8.1.4. Regardless of the position of a site on the priority list, the Department may initiate emergency action for those sites that, in the judgment of the Department, are an imminent hazard to human health and safety or where failure to prevent migration of petroleum or contamination would cause irreversible damage to the environment.

8.1.5. The Department will develop the list of sites prioritized for the purpose of reimbursement. The list will be made available to participants of the ECDI program upon request.

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Section 9. Cost and Completion Schedule Form

9.1. Cost and Completion Schedule Form Requirements

9.1.1. The cost and completion schedule estimates provided will be used by the Department to obligate funds for site rehabilitation against the un-obligated balance in the Delaware Underground Petroleum Storage Tank Response Fund account.

9.1.2. Within thirty (30) days of receipt of the Department's written approval of a hydrogeologic investigation work plan, the person conducting eligible activities must provide to the Department estimates of costs and completion schedules for the hydrogeologic investigation for that site. These estimates must be provided on a form provided by the Department.

9.1.3. Within thirty (30) days of receipt of the Department's written approval of a Remedial Action Work Plan, the person conducting eligible activities must provide to the Department an amended cost and completion schedule estimate which includes costs and schedules for Remedial Action Work Plan as applicable. The cost and completion schedule estimates must be amended for each year Remedial Action task is in progress. These estimates must be provided on a form to be provided by the Department.

9.1.4. The person conducting eligible activities may amend the cleanup cost and completion schedule estimate no more frequently than once per quarter.

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Section 10. Capital Expense Items

10.1. Reimbursement of Capital Expense Items

10.1.1. Reimbursement of all capital expense items will be prorated based on the normal expected life of the item and the length of time the item was used for purposes eligible for reimbursement, but must not include any shown on previous reimbursement applications.

10.1.2. Reimbursement of all leased capital expense items will be limited to the lease rate multiplied by the length of time the item was used. However, this amount must not exceed the amount calculated using §10.01 of this Part, unless operation, maintenance or other service agreements are included in the cost and are identified in the application.

10.1.3. In the event a capital expense item fails during its normal expected life, the Department will, upon a demonstration that the item has no further useful life, reimburse the remaining unpaid balance of the item minus any salvage value provided such failure was not the result of abuse, misuse, neglect, or improper maintenance. Such payment must be made on the next scheduled reimbursement date.

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Section 11. Application for Reimbursement

11.1. Submittal of Reimbursement Requests

11.1.1. Upon completion of a Remedial Action Work Plan task, the person conducting eligible activities may apply for reimbursement of allowable costs actually incurred. The application must be made using the forms provided by the Department and must include, where applicable:

11.1.1.1. All records of hydrogeologic investigations and Remedial Action work plans, contracts and contract negotiations, and accounts, invoices, sales tickets, or other payment records from purchases, sales, leases, or other transactions involving costs actually incurred related to site clean-up. Such records must be made available upon request to the Department during regular business hours and at other times upon written request of the Department. In addition, the Department may from time to time request submission of such site-specific information as it may require. All records of costs actually incurred for Corrective Action shall be certified by affidavit to the Department as being true and correct; and

11.1.1.2. Any records regarding sale of recovered product.

11.1.2. Records relating to site clean-up which were generated prior to ~~the effective date of these Regulations~~January 11, 2008 must, to the greatest extent practicable, be assembled and submitted in accordance with the requirements under this Part.

11.1.3. Copies of any records submitted will be accepted provided the original records are maintained for a period of at least five (5) years from the date of submission of the application and provided these records are made available upon request by the Department.

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Section 12. Department Review

12.1. Reimbursement Application Review Requirement

12.1.1. The Department will notify the applicant of any apparent errors or omissions in the application, and request any additional information which is required to complete the application.

12.1.2. Additional information may be requested by the Department if an application for reimbursement of the Corrective Action is inconsistent with eligible activities.

12.1.3. The Department's reimbursement application review shall result in approval or denial of the application. However, approval will be limited to those costs for eligible activities which were integral to site clean-up and for which reasonable rates were paid.

12.1.4. All costs which do not meet the application approval requirements described under this Part shall be denied.

12.1.5. The Department's written notice will inform the applicant of the reasons for the Department's action.

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Section 13. Schedule for Reimbursement

13.1. Reimbursement Payment Schedule

13.1.1. Reimbursement for reasonable expenditures will be due and payable within one hundred and eighty (180) days following the date on which the site become eligible for allocation or within one hundred and eighty (180) days following final approval of the reimbursement application, if reimbursement is paid for in stages, whichever is later.

13.1.2. No reimbursement shall be paid to any applicant until the Department's funding obligations for higher priority sites have been met for the year in which reimbursement is due and payable.

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