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SPECIAL INSTRUCTIONS: Paul - Tank upgrade and repair requirements - New regulations

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Article 6. ~~Allowable~~ Repairs and Upgrade

2660. Applicability

~~(a) This article describes the conditions which must be met to allow primary containment repairs of underground storage tanks containing motor vehicle fuel not under pressure utilizing the interior coating process; the required repair methodology and the required underground storage tank testing following repair.~~

~~(b) Section 2661 of this article lists the required evaluations which must be completed in order to allow the repair of a primary containment. A satisfactory demonstration of each part of Section 2661 of this article shall be made prior to approval by the local agency of the repair process.~~

~~(c) Section 2662 of this article describes the required methodology which must be utilized in the interior coating repair process.~~

~~(d) Section 2663 of this article lists the required primary container monitoring which shall be implemented by operators of the permit by the local agency following primary container repair. Subsections (a) and (b) of Section 2663 of this article describe the monitoring which shall be performed prior to placing the underground storage tank back in service.~~

~~Authority: H&SC 25299.3~~

~~Reference: H&SC 25298.~~

(a) This article describes the conditions which must be met to repair or upgrade underground storage tank systems.

(b) Section 2661 of this article describes the repair requirements for underground storage tanks and piping.

(c) Section 2662 of this article describes upgrade requirements for corrosion protection for all underground storage tanks installed on or before January 1, 1984. Underground storage tanks constructed of fiberglass, steel clad with fiberglass or noncorrosive materials do not require upgrade to prevent releases due to corrosion.

(d) Section 2663 of this article describes the upgrade requirements for spill and overfill prevention equipment.

(e) Section 2664 of this article describes the upgrade requirements for underground pressurized piping.

(f) Upgrade requirement for underground storage tanks, for spill and overfill prevention, and for underground pressurized piping shall be completed on or before December 22, 1998.

Note: Fiberglass Reinforced plastic tanks require no further corrosion protection upgrade.

(g) The owner may line an underground storage tank containing motor vehicle fuel not under pressure as a preventative measure. The owner shall notify the local agency of his intent to line the tank. Prior to lining the tank, soil samples shall be taken to ensure that there has not been an unauthorized release. The owner shall notify the local agency prior to taking soil samples. If there has been no unauthorized release, the owner may line the tank in accordance with Section 2662 of this article.

Authority: H&SC 25299.3, 25299.7

References: H&SC 25292, 25292.1, 25296

40 CFR 280

Repairs Only

2661. Underground Storage Tank Repairs ~~Evaluation~~

(a) The evaluations described in ~~Subsections~~ Paragraphs (b) through (c) of this section must be completed before a primary container repair can be authorized by the local agency. ~~Failure~~ The local agency shall deny the proposed repair if the owner fails to adequately demonstrate that the repaired primary container will provide continued containment based on the evaluations described below ~~shall be grounds for a local agency to deny the proposed repair~~.

(b) It shall be determined if the cause of failure ~~determined~~ is isolated to the actual failure or is affecting other areas of the underground storage tank, or if any other causes of failure ~~determined~~ is affecting the primary container.

(c) One of the following Appropriate tests shall be conducted ~~to determine the thickness of the underground storage tank(s) as applicable tests(s) and certification~~ certified by a special inspector that the shell will provide structural support for if the tank is repaired using the interior lining method. The special inspector shall make this certification by entering and inspecting the entire interior surface of the underground storage tank and (a) base this certification upon the following procedures and criteria:

(1)

(A) If the underground storage tank is made of glass fiber, the tank shall be vacuum tested at a vacuum of 5.3 inches of Hg for no less than one minute. This vacuum test is not required if the tank is submerged in ground water by more than 50 percent. The underground storage tank shall be cleaned so that no residue remains on the underground storage tank wall surface. The special inspector shall take interior diameter measurements and, if the cross-section of the tank has compressed more than 1 percent of the original diameter, the underground storage tank shall not be certified and shall also not be returned to service unless the tank is excavated and rehabilitated to correct the compression. The special inspector shall also conduct an interior inspection to identify any areas where compression or tension cracking is occurring and shall determine whether additional glass fiber reinforcing is required for certification before the underground storage tank may be lined.

(B) FEB 21 1991

(2) If the underground storage tank is made of steel, the tank shall be vacuum tested at a vacuum of 5.3 inches of Hg for no less than one minute. This vacuum test is not required if the tank is submerged in ground water by more than 50 percent. The underground storage tank interior surface shall be abrasive blasted completely free of scale, rust, and foreign matter. The entire tank interior shall be tested using a thickness gauge on a one-foot grid pattern with wall thicknesses recorded on a form that identifies the location of each reading. The tank must be closed in accordance with Article 7, if any area shows metal thickness less than 75 percent of the original wall thickness. ~~The special inspector shall scan any perforations or areas showing corrosion pitting with a cross peened hammer to enlarge the perforation or break through a potentially thin steel area.~~ or the underground storage tank ~~that have~~ has any of the following defects ~~shall not be certified or returned to service~~

(i) ~~An underground storage tank which has~~ an open seam or a split longer than 3 inches.

(ii) ~~An underground storage tank which has~~ a perforation larger than 1-1/2 inches in diameter or below a gauging opening larger than 2-1/2 inches in diameter.

(iii) ~~An underground storage tank with~~ five or more perforations in any 1 square-foot area. ~~and any single perforation which is larger than 1/2 inch in diameter~~

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~~(ii) An underground storage tank with 20 or more perforations in a 500 square-foot area or any single perforation which is larger than 1/2 inch in diameter;~~

~~(v) Any failure or opening within 6 inches of any seam or weld~~

(iv) Multiple perforations of which any single perforation is larger than 1/2 inch in diameter.

(3) A test approved by the board as comparable to the tests specified in ~~sub~~Paragraph ~~(A) or (B)~~ (1) or (2) ~~of this subsection~~ immediately above.

(d) It shall be demonstrated to the satisfaction of the local agency based on ~~all of~~ the tests in ~~subsection~~ Paragraph (c) of this section that a serious corrosion or structural problem does not exist. If the local agency determines that a serious corrosion or structural problem exists, an interior lining repair may be used ~~allowed by the local agency~~ if it can be demonstrated that new or additional corrosion protection will significantly minimize the corrosion and that the existing corrosion problem does not threaten the structural integrity or containment ability of the underground storage tank.

(e) If interior lining is the proposed repair method, then it shall be demonstrated that the primary container has never been repaired using an interior lining.

26621 REPAIR METHODOLOGY

(A) IF AN INTERIOR LINING OF AN UNDERGROUND STORAGE TANK IS APPROVED BY THE LOCAL AGENCY BASED ON SATISFACTORY DEMONSTRATION OF THE INTENT CITED IN SECTION 2601 OF THIS ARTICLE, THEN THE REPAIR MUST BE ACCOMPLISHED ACCORDING TO THE APPLICABLE SUBSECTIONS OF THIS SECTION.

(B)

(c) If interior lining (coating) is the method of repair, the material used in the repair shall be applied in accordance with nationally recognized engineering practices.

(C)

(d) The repair material and any adhesives used shall be compatible with the existing tank materials and shall not be subject to deterioration due to contact with the hazardous substance being stored.

(D)

(e) The repair material and lining process shall be listed or certified by a nationally recognized an independent testing organization based on consensus standards. The requirement shall become effective 1 year after the effective date of these regulations or 1 year after a listing or certification procedure is available, whichever is later.

(3) Holes shall be plugged using self-tapping bolts or boiler plugs or by welding and shall be repaired as follows:

(1) Repair areas shall be prepared with epoxy or isophthalic polyester based resin. The resin shall be compatible with the intended use of the tank.

(2) Fiberglass cloth with a minimum weight of 1.5 oz/yd that is silane treated shall be worked completely into the resin base. The resin base shall be applied for a minimum of two inches beyond the fiberglass cloth.

(3) Repairs shall include installation of fiberglass cloth with a minimum dimension of 12 x 12 inches centered over the area to be repaired. Larger repairs shall require the cloth to be large enough to provide cloth coverage of at least five inches of cloth bonded to the tank wall, measured from the outermost edge of the repair area, to the cloth's edge.

(4) A second layer of fiberglass cloth of the same weight as specified in Paragraph 2 above, shall be installed directly over the primary cloth layer, and shall be cut so to overlap the primary patch by 1.5 inches on all sides.

(5) This repair shall be allowed sufficient cure time, as determined by the resin manufacturer, to provide an acceptable base for tank lining installation.

(j) Steel underground storage tanks that exhibit external corrosion during the course of inspection or repair shall comply with the cathodic protection requirements in Section 2635.

(k) Repaired tanks shall be internally inspected by a coatings expert for conformance with the standards under which it was repaired. Certification of this repair work shall be provided to the local agency by the owner or operator and the party performing the internal inspection.

(l) Repairs to non-steel underground storage tanks shall be properly conducted in accordance with the tank manufacturer's specifications.

(m) Sections of piping and fittings that have released product as a result of corrosion or other damage must be replaced. Soil samples shall be taken in accordance with the requirements in Section 2632(d) of Article 7 of this chapter.

(n) Repaired tanks and piping must be tested for tightness within 30 days following the date of completion of the repair in accordance with the tank manufacturer's specifications. Tanks that fail any test shall be repaired, replaced or closed in accordance with the appropriate article of this chapter.

(o) Underground storage tank owners and operators must maintain records of repairs for the remaining operating life of the tank that demonstrate compliance with the requirements of this section.

Motor vehicle fuel exemption for 2° Containment

(p) A vapor or ground water monitoring system shall be installed to continuously monitor the repaired underground storage tank for future unauthorized releases, in accordance with Section 2647 or 2648, if no secondary containment system exists.

Authority: H&SC 25299.3, 25299.4

Reference: H&SC 25299

40 CFR 280.33

2666. Upgrading Storage Tank Upgrade

(a) All underground storage tanks containing hazardous substances, other than those which contain motor vehicle fuel, shall be retrofitted with secondary containment meeting the requirements specified in Article 3 before December 22, 1998.

Steel

Owners of motor vehicle fuel tanks made of steel shall, on or before December 22, 1990, provide both interior lining and exterior cathodic protection by complying with the following upgrade requirements:

Line + Cath. Protect

(1) Tank owners shall provide interior lining by complying with all requirements set forth in Section 2661 except Paragraph 2661(p) and those pertaining to non-steel tank and piping, and

(2) Cathodic protection shall be designed, installed, and inspected as specified in Section 2635(b)(2). All cathodic protection wells must be constructed in accordance with applicable state and local well regulations.

(3) The upgraded underground storage tank interior shall be inspected by a coatings expert within ten years of lining and every five years thereafter as follows:

(A) The tank shall be cleaned so that no residue remains on the tank walls.

(B) The tank shall be vacuum tested at a vacuum of 5.3 inches of Hg for no less than one minute.

(C) The inspector shall take interior diameter measurements and visually inspect the lining.

(D) If the liner shows discontinuity, compression or tension [illegible] or the tank cross-section has compressed more than [illegible] the diameter measurement made at the time of lining, [illegible] be replaced or closed in accordance with Articles 3 or 7, respectively.

(E) The entire tank interior shall be tested using a thickness gauge on a one-foot grid pattern with wall thickness recorded on a form that identifies the location of each reading. If any area shows more thickness loss than 25 percent of the original wall thickness, the tank shall be closed in accordance with Article 7.

(4) The upgraded underground storage tank shall be replaced or closed in accordance with Articles 3 or 7 at the end of the tank's operational life.

Authority: HSC 25299.3, 25299.7
Reference: HSC 25296
40 CFR 280.21

(?) [illegible] Spill and Overfill Prevention Equipment Upgrade Requirements

~~(a) After any repair, the primary container shall be demonstrated to be capable of containing the stored hazardous substance by satisfactorily passing the underground storage tank test as described in Section 2643 of Article 4 of this subchapter. The underground storage tank shall also be vacuum tested at a vacuum of [illegible] for 1 minute. The vacuum test shall not be required if technology is not available for testing the underground storage tank using accepted engineering practices.~~

~~(b) All pipelines shall be pressure tested following repair to assure the adequacy of the repair. The testing shall be accomplished using accepted procedures. Some acceptable procedures for pressure testing are provided in Appendix [illegible] of this subchapter.~~

~~Authority: HSC [illegible]~~
~~Reference: HSC [illegible]~~

(a) Underground storage tank systems shall have an overfill prevention [illegible] a spill container which meets the requirements specified in Section [illegible] of this article. The overfill prevention equipment is not required if the spill container is in an observable area and can catch any spill. This requirement applies to all existing underground storage tanks, regardless of the date of installation, and must be complied with on or before December 22 1998.

(b) Owners or operators must use care to prevent releases due to spilling or overfilling. The owner, operator, or their agent must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

Authority: HASC 25299.3, 25299.7
Reference: H&SC 25292, 25292.1
40 CFR 280.21

2664. Underground Pressurized Piping Upgrade Requirement

(a) All underground pressurized piping containing non-petroleum hazardous substances shall be retrofitted with secondary containment meeting the requirements specified in Section 2635(c) by December 22, 1998.

(b) All underground pressurized piping [illegible] fuel installed on [illegible] January [illegible] shall be retrofitted with secondary containment [illegible] the piping [illegible] protected steel, or other materials [illegible] resistant to corrosion, [illegible] secondary containment [illegible] specified in [illegible](b) [illegible] is required shall be [illegible] December 22, 1998.

(c) [illegible] underground pressurized piping shall [illegible] with automatic line leak [illegible] no later than December 22, 1998.

(d) All underground pressurized piping and secondary containment shall be tested for tightness after installation and annually in accordance with the requirements specified in Section [illegible](b)(4) and (5).

Authority: H&SC 25299.3, 25299.7
Reference: H&SC 25292, 25292.1
40 CFR 280.21

✱ Pressurized Piping (Exist)
→ 2° Cont, or Corrosion protected Materials
→ Must by 12/1998
→ Leak [illegible]
→ Annual [illegible] 1° + 2° will be required.