§ 265.192 Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by a qualified Professional Engineer in accordance with §270.11(d) of this chapter attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include the following information:

1. Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

2. Hazardous characteristics of the waste(s) to be handled.

3. For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

   a. Factors affecting the potential for corrosion, including but not limited to: 
      i. Soil moisture content;
      ii. Soil pH;
      iii. Soil sulfides level;
      iv. Soil resistivity;
   b. Structure to soil potential;
   c. Influence of nearby underground metal structures (e.g., piping);
   d. Stray electric current; and,
   e. Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

   A. Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;
   B. Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and
   C. Electrical isolation devices such as insulating joints and flanges.

NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, “Recommended Practice (RP–02–85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” and the American Petroleum Institute (API) Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,” may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

4. For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

5. Design considerations to ensure that:

   i. Tank foundations will maintain the load of a full tank;
   ii. Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and
   iii. Tank systems will withstand the effects of frost heave.

   b. The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering,
§ 265.193 Containment and detection of releases.

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new and existing tank systems or components, prior to their being put into service.

(2) For tank systems that store or treat materials that become hazardous wastes, within 2 years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength.