**Section 721.293 Containment and Detection of Releases**

a) The following must be true of a secondary containment system:

1) The system is designed, installed, and operated to prevent any migration of materials 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) The system is capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

BOARD NOTE: If the collected material is a hazardous waste under this Part, the material is subject to management as a hazardous waste in accordance with all applicable requirements of 35 Ill. Adm. Code 722 through 728. If the collected material is discharged through a point source to waters of the United States, it is subject to the NPDES permit requirement of Section 12(f) of the Environmental Protection Act and 35 Ill. Adm. Code 309. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of 35 Ill. Adm. Code 307 and 310. If the collected material is released to the environment, it may be subject to the reporting requirements of 35 Ill. Adm. Code 750.410 and federal 40 CFR 302.6.

b) To meet the requirements of subsection (a), a secondary containment system must fulfill the following requirements:

1) The secondary containment system must be constructed of or lined with materials that are compatible with the materials to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the material to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

2) The secondary containment system must be placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

3) The secondary containment system must be provided with a leak-detection system that is designed and operated so that the system will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous secondary material or accumulated liquid in the secondary containment system at the earliest practicable time; and

4) The secondary containment system must be sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked material and accumulated precipitation must be removed from the secondary containment system in as timely a manner as is possible, but in no case later than 24 hours after the leak, spill, or accumulation of precipitation occurs, to prevent harm to human health and the environment.

c) Secondary containment for tanks must include one or more of the following devices:

1) A liner (external to the tank);

2) A vault; or

3) A double-walled tank.

d) In addition to the requirements of subsections (a), (b), and (c), secondary containment systems must satisfy the following requirements:

1) An external liner system must fulfill the following requirements:

A) The secondary containment system must be designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

B) The secondary containment system must be designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

C) The secondary containment system must be free of cracks or gaps; and

D) The secondary containment system must be designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the material if the material is released from the tanks (i.e., capable of preventing lateral as well as vertical migration of the material).

2) A vault system must fulfill the following requirements:

A) The vault system must be designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

B) The vault system must be designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

C) The vault system must be constructed with chemical-resistant water stops in place at all joints (if any);

D) The vault system must be provided with an impermeable interior coating or lining that is compatible with the stored material and that will prevent migration of material into the concrete;

E) The vault system must be provided with a means to protect against the formation of and ignition of vapors within the vault, if the material being stored or treated is ignitable or reactive; and

F) The vault system must be provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

3) A double-walled tank must fulfill the following requirements:

A) The double-walled tank must be designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

B) The double-walled tank must be protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

C) The double-walled tank must be provided with a built-in continuous leak detection system capable of detecting a release at the earliest practicable time, but in no case later than 24 hours after the release occurs.

BOARD NOTE: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks", incorporated by reference in 35 Ill. Adm. Code 720.111, may be used as guidelines for aspects of the design of underground steel double-walled tanks.

e) This subsection (e) corresponds with 40 CFR 261.194(e), which USEPA has marked "reserved". This statement maintains structural consistency with the corresponding federal regulations.

f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping, etc.) that meets the requirements of subsections (a) and (b), except for the following equipment:

1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

3) Seal-less or magnetic coupling pumps and seal-less valves that are visually inspected for leaks on a daily basis; and

4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices, etc.) that are visually inspected for leaks on a daily basis.

(Source: Amended at 42 Ill. Reg. 21673, effective November 19, 2018)