

**GUIDELINES FOR
SECONDARY CONTAINMENT FOR ABOVE GROUND STORAGE TANKS
INDUSTRIAL WASTE AND WASTEWATER BRANCH
ALBERTA ENVIRONMENTAL PROTECTION
MAY 16, 1997**

Above ground storage tanks, and processing or transfer areas with potential for spills or leaks, shall be contained and maintained in such a manner that:

- (a) they are surrounded by an earthen dyke or other equivalent structure configured to contain the contents under tank failure conditions with the following capacity:
 - (i) when the dyke contains one tank, 110 percent of the capacity of the tank, or
 - (ii) when the dyke contains more than one tank, 100 percent of the volume of the largest tank within the dyked area plus 10 percent of the aggregate capacity of all other tanks.

The dyke for storage tanks shall have a minimum height of 30 cm;

- (b) the dyke and dyked area (including the area underneath the tank) is lined with a material that is compatible (chemically resistant) with the material being stored, and which has a permeability of 10^{-6} cm/s or less (eg 0.5 meters or more of compacted clay; a minimum of a 30 mil geomembrane liner; etc.);
- (c) the dyked area is graded to a sump or low lying area (within the dyked area) for rain water collection. There shall be no openings in the dyke that provides a direct connection to any place beyond the dyked area; and
- (d) there is a leakage detection and removal system below the base of the tank, which directs any leakage into a sump or low lying area within the dyked area.

COMMENTS

1. Storing greater than 5000 m³ of chemical or liquid fertilizer, or 10 000 m³ of petroleum products will require approval under EPEA.
2. Additional regulations and guidelines may apply (eg Alberta Fire Code, Hazardous Waste Storage Guidelines, (Alberta) and Environmental Code of Practice for Above Ground Storage Tank Systems Containing Petroleum Products (CCME, 1994)).
3. Containment methods other than those described above may be used in some cases, with prior written authorization from Alberta Environmental Protection.
4. The dyked area shall be inspected monthly. Any leaks or spills shall be recovered and recycled or disposed of in accordance with provincial or federal regulations.

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