

Containment Dikes and Pads

June 2010



Most people recognize that containment dikes around storage tanks, and sloped containment pads for pumps, process buildings and structures, truck and rail car unloading areas, and other potential spill locations have an important environmental protection function – preventing contamination of soil and surface water. But, do you know that they often also have important safety functions? Some examples include:

- limiting the spread of a fire and preventing exposure of other equipment if a flammable material spills and is ignited
- preventing contact of incompatible reactive materials in case of leak or spill
- limiting the spread of spilled corrosive material and preventing contact with equipment which could be damaged by contact with the corrosive material

In 2001, the US Chemical Safety and Hazard Investigation Board (CSB) investigated a fire that destroyed a petroleum blending facility in Texas. Poor dike design and maintenance resulted in burning liquid spreading the fire from tank to tank, eventually engulfing the whole plant.

← Spill containment dikes for chemical storage tanks

A sloped containment pad directs any spills from a truck unloading facility to a chemical sewer trench →



What can you do?

- Periodically include containment dikes around storage tanks, sloped containment areas, and drainage trenches as part of your routine plant safety inspections. Look for physical damage, spilled material, accumulation of rain water in dikes, or blocked drainage. Look for debris, equipment, or anything which restricts flow of a spill.
- Make sure that your plant procedures include pumping out or draining rain water from containment dikes – if a dike is partly filled with rain water, it may not be able to contain a large spill.
- If you have any kind of valves or other piping to remove rain water from a containment dike, make sure these are closed or otherwise blocked when not being used.
- If you do any maintenance or construction work on a storage dike which results in damage to the integrity of the dike, make sure the damage is repaired before the job is finished.



The arrow shows a hole in a containment dike. More damage can be seen at the base and the top of the dike wall. Other examples of damage include cracks in dike walls or floors, holes where pipes have been installed passing through dike walls, and anything else which would allow spilled material to flow out of the dike area.

Inspect and maintain your containment dikes and pads!