



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS STATUS CHANGE SUMMARY

Report:	Allied Terminals Fertilizer Tank Collapse
Recommendation Number(s):	2009-3-I-VA-R5
Date Issued:	May 27, 2009
Recipient:	Governor and Legislature of the Commonwealth of Virginia
New Status:	R5: Closed – Acceptable Action
Date of Status Change:	September 30, 2013

Recommendation Text(s):

Require state regulation of 100,000-gallon and larger fertilizer storage tanks (which presently are located solely along and in the area of the Elizabeth River) or authorize local jurisdictions to regulate these tanks. The regulations should:

- 1) Address design, construction, maintenance, and inspection of 100,000-gallon and larger liquid fertilizer storage tanks, and*
- 2) Incorporate generally recognized and accepted good engineering practice.*

Board Status Change Decision:

A. Rationale for Recommendation

On November 12, 2008 a two-million-gallon liquid fertilizer storage tank collapsed at the Allied Terminal distribution facility in Chesapeake, VA. The incident critically injured two contract workers, who were hospitalized. Two members of the public who tried to aid the injured men required treatment likely related to exposure to ammonia vapor from the released fertilizer. The fertilizer overtopped a containment dike and flooded sections of a nearby residential neighborhood. At least 200,000 gallons of spilled fertilizer could not be accounted for, and some reached the nearby Elizabeth River, which flows into the Chesapeake Bay.

The CSB found that the tank involved in the accident had undergone welding repair work. The welding performed on the tanks did not conform to recommended industry practices and the company did not ensure that post-welding inspections were conducted prior to refilling the tank to its maximum capacity.

CSB recommended that the Commonwealth of Virginia regulate or authorize local jurisdictions to regulate the design, construction, maintenance and inspection of large fertilizer storage tanks located on the Elizabeth River.

B. Response to the Recommendation

On April 11, 2010, the Governor of the Commonwealth of Virginia approved H1211 which went into effect on July 1, 2010 requiring the Virginia Board of Housing and Community Development to develop and adopt the permanent regulations pertaining to Aboveground

Liquid Fertilizer Storage Tanks (ALFSTs). On March 1, 2011, the 2009 Virginia Construction and Maintenance Codes issued by the Virginia Board of Housing and Community Development became effective. These Codes added sections pertaining to ALFSTs in accordance with H1211.

The 2009 Virginia Construction Code added new definitions in Section 202 as well as Sections 425.1 through 425.6 pertaining to construction, alteration, repair, inspection, secondary containment, change of occupancy and abandonment of ALFSTs to Virginia's Industrial Building Code. These sections also require compliance with generally recognized and accepted good engineering practices. The 2009 Virginia Maintenance Code added Section 311.1 to Virginia's Industrial Plant Maintenance Code, thereby requiring ALFSTs to be maintained in accordance the Virginia Construction Code.

C. Board Analysis and Decision

As the additions made to the 2009 Virginia Construction and Maintenance Codes pertaining to ALFSTs are consistent with the intent of CSB Recommendation No. 2009-3-I-VA-R5, the Board voted to change its status to: "Closed—Acceptable Action."