



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

Report:	Public Safety at Oil and Gas Storage Facilities
Recommendation Number:	2011-H-XX-1-R1
Date Issued:	September 30, 2011
Recipient:	Environmental Protection Agency (EPA)
New Status:	Closed – Acceptable Action
Date of Status Change:	July 28, 2021

Recommendation Text:

Publish a safety alert directed to owners and operators of exploration and production facilities with flammable storage tanks, advising them of their general duty clause responsibilities for accident prevention under the Clean Air Act. At a minimum, the safety alert should:

- a) Warn that storage tanks at unmanned facilities may be subject to tampering or introduction of ignition sources by members of the public, which could result in a tank explosion or other accidental release to the environment*
- b) Recommend the use of inherently safer storage tank design features to reduce the likelihood of explosions, including restrictions on the use of open vents for flammable hydrocarbons, flame arrestors, pressure vacuum vent valves, floating roofs, vapor recovery systems or an equivalent alternative.*
- c) Describe sufficient security measures to prevent non-employee access to flammable storage tanks, including such measures as a full fence surrounding the tank with locked gate, hatch locks on tank manways, and barriers securely attached to tank external ladders or stairways*
- d) Recommend that hazard signs or placards be displayed on or near tanks to identify the fire and explosion hazards using words and symbols recognizable by the general public*

Board Status Change Decision:

A. Rationale for Recommendation

On October 31, 2009, two teenagers, aged 16 and 18, were fatally injured when a petroleum storage tank exploded in a rural oil field in Carnes, Mississippi. Six months later a group of young adults and teenagers were exploring a similar tank site in Weleetka, Oklahoma, when an explosion and fire fatally injured one individual. Two weeks later, a 25-year-old man and a 24-year-old woman were on top of an oil tank in rural New London, Texas, when the tank exploded, fatally injuring the woman and seriously injuring the man.

In April 2010, the U.S. Chemical Safety and Hazard Investigation Board (CSB) initiated a hazard study into the causes of these tragic incidents. All three incidents involved rural unmanned oil and gas storage sites that lacked fencing and signs warning of the hazards, which might have otherwise deterred members of the public from using them as places to gather. The CSB identified 26 similar incidents between 1983 and 2010, which resulted in a total of 44

fatalities and 25 injuries as part of this safety hazard study. All of the victims were 25 years of age or less.

As a part of this hazard study, the CSB also reviewed a number of environmental statutes relevant to oil and gas production, including the Clean Air Act (CAA); the Clean Water Act (CWA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Resource Conservation and Recovery Act (RCRA); and the Toxic Substances Control Act (TSCA) for provisions related to protection of human health. The CSB found that many of these statutes contain various exemptions applicable to oil and gas well sites, but that the general duty clause introduced in 1990 by the Clean Air Act (CAA) amendments applies to extremely hazardous substances. As the hydrocarbons stored at these oil exploration and production (E&P) facilities meet the definition of extremely hazardous substances, based on its flammable properties, the CSB concluded they would be subject to the CAA general duty clause, which holds owners and operators responsible for preventing chemical accidents involving these substances. Consequently, the Board voted to issue a recommendation to the EPA to publish a safety alert directed to owners and operators of E&P facilities with flammable storage tanks, advising them of their general duty clause responsibilities for accident prevention under the CAA.

B. Response to the Recommendation

In March of 2021, the CSB received notification from EPA that its Office of Land and Emergency Management had published a new Safety Alert entitled “Public Safety at Oil and Gas Upstream Facilities”, EPA 540B20001, dated March 2021 in response to the CSB recommendation and had also made it available on its website¹. EPA also advised the CSB that this new Safety Alert was being sent to State and Territory Emergency Response Commissions and to the Indian tribal governing bodies.

C. Board Analysis and Decision

Upon review, the Board determined that the EPA Safety Alert met the intent of the CSB recommendation and voted to change the status of CSB Recommendation No. 2011-H-XX-1-R1 to “Closed -- Acceptable Action.”

¹ <https://www.epa.gov/rmp/chemical-accident-prevention-publications#oilgasalerts>