



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-1-R4
Date Issued:	September 30, 2011
Recipient:	Railroad Commission of Texas (RRC-TX)
New Status:	Open – Unacceptable Response
Date of Status Change:	September 20, 2012

Recommendation Text:

Amend state oil and gas regulations to:

- a) *Protect storage tanks at exploration and production sites from public access by requiring sufficient security measures, such as full fencing with a locked gate, hatch locks on tank man ways, and barriers securely attached to tank external ladders and stairways.*
- b) *Require hazards signs or placards on or near tanks that identify the fire and explosion hazards using words and symbols recognizable by the general public.*
- c) *Require the use of inherently safer tank design features such as flame arrestors, pressure vacuum vents, floating roofs, vapor recovery systems or an equivalent alternative, to prevent the ignition of a flammable atmosphere inside the tank.*

Board Status Change Decision:

A. Rationale for Recommendation

This recommendation was issued following an investigation of three fatal incidents (Carnes, MS; Weelteka, OK; and New London, TX) in 2009 and 2010, involving teenagers and young adults gathering at rural unmanned oil and gas storage sites that lacked tank security and design features which might have deterred public access, or minimized the risk of explosion, such as fencing, signs warning of the hazards or other measures. As part of its investigation, the CSB identified a total of 26 similar incidents between 1983 and 2010, which resulted in 44 fatalities and 25 injuries. Of these 26 incidents, 7 (27%) occurred in Texas, resulting in 12 fatalities and 8 injuries.

The Railroad Commission of Texas (RRC-TX) regulates oil and gas site safety for the state, and the CSB concluded that RRC-TX rules did not require fencing, warning signs, or locked tank hatches for oil storage tanks (apart from tanks with hydrogen sulfide hazards) and did not have requirements for tank design features to prevent an internal vapor explosion. The recommendation was issued to RRC-TX to address these issues.

B. Response to the Recommendation

In April 2012, the RRC-TX formally responded to the CSB recommendation by declining to impose new security and design measures for oil tank storage sites. The Commission argued that the number of incidents identified by the CSB study did not demonstrate a need for new

measures based on potential risk, and also that the teenagers and young adults had entered the sites without authorization. The Commission also decided against requiring hazard warning signs because it judged that existing OSHA regulations already require such signs and for the RRC-TX to require such signs would be duplicative and result in confusion and increased cost to the state. Finally, the Commission declined to implement safer tank design features because it felt that proposed EPA and TCEQ regulations for increased control of air emissions for oil storage tanks would incorporate some of the safety requirements that the CSB recommended.

C. Board Analysis and Decision

The Board reviewed the response provided by the RRC-TX and noted the following:

- The Commission has neither proposed any action that would meet the intent of the security protection provisions contained in the CSB recommendation, nor provided sufficient justification for the Board to reclassify this recommendation in any other manner.
- As the CSB noted in its report, following existing OSHA hazard communication regulations would not ensure that the warning signs at oil sites would be understood by the general public. OSHA allows various labeling systems to be used for hazard warnings on storage tanks; the most common is the National Fire Protection Association's "Hazard Diamond." This system uses numeric codes and other symbols that are not recognizable to the general public, especially teenagers and young adults with little or no work experience. Thus OSHA requires workers to be trained in these systems, training that the general public does not receive. Thus the CSB's recommendation was not duplicative but called for requiring new hazard warnings that are easily understood by the general public. The RRC-TX has proposed no action to address the hazard warning provisions contained in the CSB recommendation.
- While emission control retrofits to oil storage tanks may prove to have some safety benefits, their primary purpose is to prevent environmental releases in order to enhance ambient air quality. Any claims that they provide an increased level of safety for oil storage tanks will need to be independently demonstrated. RRC-TX has provided no such evidence in its response, nor is it involved in the effort to get these devices installed. Moreover, as these are merely proposed requirements, they are subject to change based on public comments and executive and judicial reviews, and the timetable for their implementation is uncertain.

The RRC-TX responded by expressing disagreement with the need outlined in the CSB recommendation. It has made no effort to seriously address any of its provisions, and has provided insufficient justification as to why the recommendation status should be favorably changed. Therefore, the Board votes to change the status of 2011-H-1-R04 to "Open – Unacceptable Response."