



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

Report:	Oil Tank Safety Study
Recommendation Number:	2011-1-H-XX-R6
Date Issued:	October 27, 2011
Recipient:	National Fire Protection Association (NFPA)
New Status:	Closed – Acceptable Alternative Action
Date of Status Change:	October 31, 2023

Recommendation Text:

Amend NFPA 30, “Storage of Liquids in Tanks—Requirements for all Storage Tanks” as follows:

- a) Remove the term “isolated” from the current wording of the standard and replace it with a more descriptive term, such as “normally unoccupied”*
- b) Remove the words “Where necessary” from Security for Unsupervised Storage Tanks, Chapter 21.7.2.2.*
- c) Add a reference to a relevant security standard that offers specifications on fencing, locks and other site security measures.*
- d) Add a definition of security encompassing requirements such as fencing, locked gates, hatch locks, and barriers.*

Board Status Change Decision:

A. Rationale for Recommendation

On October 31, 2009, two teenagers, aged 16 and 18, were killed 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, killing the woman and seriously injuring the man.

In April 2010, the U.S. Chemical Safety Board (CSB) initiated an investigation into the root 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 otherwise have deterred members of the public from using them as places to gather. As part of its investigation, the CSB identified 26 similar incidents between 1983 and 2010, which resulted in a total of 44 fatalities and 25 injuries. All the victims were 25 years of age or less.

The CSB also reviewed voluntary consensus codes and standards applicable to security, fire protection and prevention at oil exploration and production (E&P) storage tanks. The CSB determined that 44 states have adopted a version of NFPA 30, the *Flammable and Combustible Liquids Code* (ranging from the 1990 to 2008 editions) into their state fire codes. The CSB concluded that while NFPA 30 applies to the oil storage tanks at E&P sites and lists safety and security provisions applicable to these tanks in Chapter 21, the code does not adequately define the security expectations for E&P tanks such as those involved in these deadly incidents. Consequently, the Board voted to issue a recommendation to the NFPA to address this issue. This status change summary addresses CSB Recommendation No. 2011-1-H-XX-R6.

B. Response to the Recommendation

The NFPA issued the 2024 edition of NFPA 30 on April 23, 2023. The updated version of the code addresses the recommendation in its new Chapter 26, *Petroleum Production Sites*. Section 26.8* *Security* requires security measures shall be in accordance with API 12R1, *Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service*. By adopting these requirements into NFPA 30, the NFPA has successfully implemented the intent of the recommendation.

C. Board Analysis and Decision

The Board appreciates the cooperation and professionalism demonstrated by the NFPA's leadership and staff throughout the recommendation closure process. Based upon the information above, the actions taken by the NFPA meets the objectives envisioned by the Board, therefore, the Board voted to change the status of CSB Recommendation No. 2011-1-H-XX-R6 to: "Closed – Acceptable Alternative Action."