



Chemical Safety and Hazard Investigation Board

Office of General Counsel

Memorandum

To: Board Members

From: Christopher Warner

Cc: Leadership Team

Subject: Board Action Report – Notation Item 757

Date: October 17, 2011

On April 1, 2010, the Board approved Notation Item 757, thereby taking the following actions:

- a. Approving, and authorizing the issuance of, the CSB safety video entitled, “No Place to Hang Out: The Danger of Oil Sites.”
- b. Authorizing and directing the Chairman, in conjunction with the public release of the video, to issue a statement on behalf of the Board urging oil and gas production companies to ensure that they provide adequate security and warning signage around sites that have tank fire or explosion hazards; and further urging state legislatures, local governments, and regulators to review rules governing oil and gas tank sites to ensure they require adequate barriers, security measures, and warning signs.

Voting Summary – Notation Item 757

Disposition: APPROVED

Disposition date: April 1, 2010

	Approve	Disapprove	Calendar	Not Participating	Date
J. Bresland	X				4/1/2010
W. Wark	X				4/1/2010
W. Wright	X				4/2/2010



Chemical Safety and Hazard Investigation Board

John S. Bresland
Chairman

William B. Wark
Board Member

William E. Wright
Board Member

CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD MEMBER VOTING RECORD

Notation No.: 757

Voting Period: Urgent Notation Item, March 31 – April 7, 2010, but votes are requested as soon as possible.

Subject: Approval of Safety Video on Oil Tank Hazards

Whereas,

1. The Board is authorized by 42 U.S.C. § 7412(r)(6)(C)(i) to “investigate . . . and report to the public in writing the facts, conditions, and circumstances and the cause or probable cause of any accidental release resulting in a fatality, serious injury or substantial property damages;”
2. The Board is further authorized by 42 U.S.C. § 7412(r)(6)(C)(ii) to “issue periodic reports to the Congress, Federal, State and local agencies, including the Environmental Protection Agency and the Occupational Safety and Health Administration, concerned with the safety of chemical production, processing, handling and storage, and other interested persons recommending measures to reduce the likelihood or the consequences of accidental releases and proposing corrective steps to make chemical production, processing, handling and storage as safe and free from risk of injury as is possible;”
3. At approximately 4:00 a.m. on October 31, 2009, two teenagers who were alone at a rural oil production site in Carnes, Mississippi, were killed when an oil storage tank suddenly exploded. The teenagers were members of the public and were not employed by the oil site operator;
4. The Forrest County Sheriff’s Office, the Carnes Volunteer Fire Department, the Forrest County Emergency Management Agency, the Mississippi Oil and Gas Board, and the Forrest County Coroner responded to the incident and provided information to the CSB. Reports of the medical examiner concluded that both deaths were accidental and resulted from blunt force injuries sustained in the tank explosion;
5. According to a report of the Mississippi Oil and Gas Board, which is a state environmental regulatory agency, the storage tank which exploded contained approximately 14 barrels of oil and had a flammable atmosphere. The explosion likely occurred when the two victims were above the tank, which was readily accessible via an unsecured catwalk. The explosion propelled the tank approximately 75 yards through the air and propelled the victims

Notation No.: 757
Subject: Approval of Safety Video on Oil Tank Hazards

approximately 40 yards, over an earthen berm. There was no conclusive evidence to identify the ignition source and there were no surviving eyewitnesses;

6. The accident site did not have fences, barriers, gates, warning signs, or other security measures to discourage entrance;
7. Some jurisdictions have requirements for fencing around oil sites. For example, the City of Laurel, Mississippi, which is located in Jones County adjacent to Forrest County, requires oil and gas sites to be fenced. The State of California requires barbed wire fencing around oilfield facilities “where it is necessary to protect life and property.” The State of Colorado requires fencing of oil and gas production sites that are located in high-density areas or within 1000 feet of schools or other high-occupancy facilities. For sites in urbanized areas, the State of Ohio requires 8-foot security fencing, lockable gates, warning signs, designation of no-smoking areas around tanks, and securing of tank hatches at all times when a site is unattended;
8. The CSB could not identify any federal, state, or local laws or regulations that would have required fencing or other security measures at the accident site in Carnes, Mississippi. Following the accident, CSB staff observed a number of other unsecured oil sites nearby in Forrest County;
9. Based on witness testimony, the CSB determined that oil and gas production sites, which are often unattended, are common locations for gathering, socializing, and other recreational activities among teenagers in Forrest County and in other parts of the country;
10. According to the U.S. Department of Energy, in 2008 Mississippi had a total of 3,788 operating oil and gas wells. The number of operating wells grew by 43% between 2002 and 2008, consistent with broader trends across the U.S. as oil and gas prices generally increased.

The following paragraph (11) has been modified as shown, prior to public posting, to correct an inadvertent error in the original notation item.

11. Media reports collected by the CSB indicate that approximately 36 teenagers and 6 young adults have been killed since 1983 in accidental oil tank explosions resulting from the ignition of vapor, often from a match, cigarette, or lighter; the victims were members of the public and not site employees. A number of members of the public also have been injured in explosions. Recent multiple-fatality accidents include a 2003 explosion in Long Lake, Texas, that killed four teenagers; ~~a 2003 explosion in Palestine, Texas, that killed three teenagers~~ **a 2005 explosion in Ripley, Oklahoma, that killed a teenager and a young adult**; a 2007 explosion in Mercedes, Texas, that killed three teenagers; and a 2007 explosion in Routt National Forest, Colorado, that killed two teenagers;
12. The ongoing serious accidents likely reflect (a) a lack of uniform, effective security measures and warning signage at oil and gas production sites to discourage unauthorized entry; and (b) a lack of understanding among teenagers and adults of the serious explosion hazards from crude oil, gas condensate, or other forms of petroleum that may create a flammable atmosphere inside or near storage tanks;
13. The American Petroleum Institute (API), which is the largest U.S. trade association representing the oil and gas industry, develops recommended safety practices that are widely

Notation No.: 757
Subject: Approval of Safety Video on Oil Tank Hazards

followed by petroleum and chemical companies. In 2001, following a CSB safety recommendation that resulted from a fatal explosion at a Louisiana oil and gas production facility, the API developed the *Recommended Practice for Occupational Safety for Onshore Oil and Gas Production Operations* (RP 74). RP 74 includes safety guidance for fire prevention and protection, including requirements for designating areas where there are fire hazards, prohibiting smoking and ignition sources within those areas and posting conspicuous warning signs, and properly labeling tanks that contain flammable liquids. These recommended safety measures were not in place at the accident site in Carnes, Mississippi;

14. Although Appendix A of RP 74 suggests “No Smoking,” “No Trespassing,” and “Authorized Personnel Only” signs at oil site entrances, RP 74 does not include any guidance on fencing, physical barriers, gates, locking or securing of tank catwalks and tank hatches, or specific tank explosion warning signs to prevent fatal accidents resulting from unauthorized entry by minors and others; and
15. In light of these findings, CSB staff have prepared a proposed 11-minute safety video entitled, “No Place to Hang Out: The Danger of Oil Sites.”

Therefore, the Board hereby votes to:

- a. Approve, and authorize the issuance of, the CSB safety video entitled, “No Place to Hang Out: The Danger of Oil Sites.”
- b. Authorize and direct the Chairman, in conjunction with the public release of the video, to issue a statement on behalf of the Board urging oil and gas production companies to ensure that they provide adequate security and warning signage around sites that have tank fire or explosion hazards; and further urging state legislatures, local governments, and regulators to review rules governing oil and gas tank sites to ensure they require adequate barriers, security measures, and warning signs.

_____ I **APPROVE** this notation item **AS PRESENTED**.

_____ I **CALENDAR** this notation item for discussion at a Board meeting.

_____ *Some of my concerns are discussed below or on the attached memorandum.*

_____ I **DISAPPROVE** this notation item.

_____ *A dissent is attached.*

_____ *I will not file a dissent.*

_____ I am **NOT PARTICIPATING**.

Date: _____

Member: _____