



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

Report:	Veolia Environmental Services Flammable Vapor Explosion and Fire
Recommendation Number:	2009-10-I-OH-R6 (superseded 2007-1-I-NC-R2)
Date Issued:	August 16, 2010
Recipient:	Environmental Technology Council (ETC)
New Status:	Closed—Acceptable Alternative Action
Date of Status Change:	April 24, 2017

Recommendation Text:

Petition the National Fire Protection Association, following the guidelines of their "Codes and Standards Development Process" (www.nfpa.org), to develop an occupancy standard specific to hazardous waste treatment, storage, and disposal facilities. The purpose of the standard would be to prescribe technical requirements for the safety to life and property from fire, explosion, and release; and to minimize the resulting damage from a fire, explosion, and release.

At a minimum, but not limited to, the standard should address:

- *Hazard Identification*
- *Chemical Fire and Release Protection and Prevention*
- *Facility and Systems Design*
- *Employee Training and Procedures*
- *Inspection and Maintenance*

Board Status Change Decision:

A. Rationale for Recommendation

On May 4, 2009, an explosion and fire occurred at the Veolia Environmental Services Technical Solutions LLC (Veolia) facility in West Carrollton, Ohio. The facility provided hazardous waste services for industrial and municipal customers and was a state-permitted treatment storage and disposal facility (TSDF). On the day of the incident, tetrahydrofuran (THF), a flammable, organic solvent, was released from a solvent recovery process in a tank farm area. Uncontrolled venting of THF allowed the flammable vapors to accumulate to explosive concentrations outside the process equipment and the gas ignited. The likely ignition source was two nearby gas-fired boilers in service at the time. The initial blast injured four workers; two of which were seriously injured. Multiple subsequent explosions significantly damaged the site. Nearby residences and businesses also sustained considerable damage.

Two and a half years earlier, on October 2, 2006, the U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated a major fire at another TSDF which was owned by the Environmental Quality Industrial Services (EQ) in Apex, North Carolina. Approximately 30 people, including first responders, sought treatment at local hospitals for respiratory distress and nausea and 16,000 area residents were evacuated. The CSB concluded that the lack of

effective fire prevention and suppression measures allowed the initiating fire to spread rapidly and completely destroy the hazardous waste building.

As a part of both investigations, the CSB reviewed regulatory and industry standards and found no guidance on the safe operation of TSDFs. Therefore, pursuant to the Veolia investigation, CSB re-issued two recommendations to the Environmental Technology Council (ETC) to assist in developing guidance for this specific industry sector. ETC is a national trade association of commercial environmental firms that recycle, treat, and dispose of industrial and hazardous waste. This status change summary only addresses the recommendation to petition the the National Fire Protection Association (NFPA) for a new occupancy standard for hazardous waste sites, namely 2009-10-I-OH-R6 (which superseded 2007-1-I-NC-R2).

B. Response to the Recommendation

- In 2013, ETC held preliminary discussions with NFPA concerning possible development of a new occupancy standard that would apply to TSDF.
- In May 2015, NFPA sought input from the stakeholders, members, and affected parties as to the need for a separate NFPA Standard to address the various processes associated with hazardous waste disposal. The Fire Protection Research Council also issued its TSDF Fire Code Gap Analysis indicating that hazardous waste is covered in NFPA 400, but that gaps existed that needed to be addressed.
- In June 2015, ETC sent a letter to NFPA supporting clarification of NFPA 400 and related codes, as required, to make it clear that the storage and processing of hazardous waste at TSDFs are covered by local fire codes and to offer to have ETC representatives help with that effort.
- In August 2015, the NFPA Standards Council formed a task group charged with determining the best approach to address hazardous waste disposal. Several ETC members served on the task group.
- In February 2016, the NFPA Task Group on Hazardous Waste Disposal recommended the formation of a new technical committee to develop a Recommended Practice for Hazardous Waste Generation and Management.
- In April 2016, NFPA Standards Councils voted to approve a new Technical Committee on Hazardous Waste which would have “primary responsibility for documents on safeguarding against the fire and explosion hazards associated with the treatment, storage, disposal, generation, and transportation of hazardous waste.”
- In December 2016, the NFPA Standards Council approved the start-up roster for the new Technical Committee on Hazardous Waste which included several ETC members. In 2017, the Technical Committee will hold its first meeting to develop a scope and draft document. It will likely take two years before a final document is ready for issuance and publication.

C. Board Analysis and Decision

As ETC was instrumental in both providing comments and participating in the NFPA task group that resulted in the NFPA establishing a new Technical Committee with the primary responsibility for developing documents on safeguarding against fire and explosion hazards associated with the treatment, storage, disposal, generation and transportation of hazardous waste. As it will most likely be added to the existing NFPA 400 rather than creating a new occupancy standard, the Board voted to change the status of CSB Recommendation No. 2009-10-I-OH-R6 (supersedes 2007-1-I-NC-R2) to: “**Closed – Acceptable Alternative Action.**”