



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

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| Report: | Veolia Environmental Services Flammable Vapor Explosion and Fire |
| Recommendation Number: | 2009-10-I-OH-R2 |
| Date Issued: | July 21, 2010 |
| Recipient: | Veolia Environmental Services Technical Solutions LLC |
| New Status: | Closed – Reconsidered/Superseded |
| Date of Status Change: | September 11, 2023 |

Recommendation Text:

During the rebuild, design and install a closed relief system and develop a policy for safe venting (e.g., use of a flare) for relief systems to the atmosphere.

Board Status Change Decision:

A. Rationale for Recommendation

On May 4, 2009, flammable vapor released from a solvent recovery process, ignited, and exploded at a state-permitted treatment, storage, and disposal facility (TSDF) that provided waste services for industrial and municipal customers operated by Veolia Environmental Services Technical Solutions, LLC (Veolia) in West Carrollton, Ohio. The initial blast injured four workers, two of whom were seriously injured. Multiple subsequent explosions significantly damaged the site. Nearby residences and businesses also sustained considerable damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigation of the incident concluded that uncontrolled venting of Tetrahydrofuran (THF) allowed flammable vapors to accumulate to explosive concentrations outside the process area. Three recommendations were issued to Veolia. This status change summary addresses **CSB Recommendation No. 2009-10-I-OH-R2**.

B. Response to the Recommendation

Veolia was very responsive and forthcoming specific to this recommendation. In October of 2010, Veolia notified the CSB that the redesign of the facility was already in-progress. In March of 2012, Veolia notified the CSB that the completion date of the new facility would be March or April of 2012. Veolia stated that they had their vents and other devices evaluated and based upon that evaluation engineered a blowdown system that captured releases from pressure safety valves (PSVs) from their two distillation units using the guidance found in API 521 (5th edition 2007 with 2008 Addendum), *Pressure Relieving and Depressuring Systems*. They based this decision on the determination that the blowdown system did not pose a vapor cloud explosion hazard, which was the result of two separate independent third-party dispersion modeling analyses.

C. Board Analysis and Decision

Veolia provided ample information to support their decision to build a blowdown system vs. a closed relief system (a flare), including additional safety factors associated with the new system. Following a comprehensive review, the Board also determined that the investigation report does not support the requirement for a closed relief system (e.g., flare) prescribed by the recommendation.

The Board appreciates the cooperation demonstrated by Veolia throughout the recommendation closure process. Based upon Veolia's rationale for implementing the requirement of the recommendation and the Board's concurrence with that rationale, the Board voted to change **CSB Recommendation No. 2009-10-I-OH-R2** to: "**Closed – Reconsidered/Superseded.**"