



U.S. Chemical Safety and Hazard Investigation Board

OFFICE OF GENERAL COUNSEL

Memorandum

To: Board Members

From: Christopher M. Lyon *Christopher M. Lyon*  
Acting General Counsel

Cc: Amanda Johnson  
Adam Henson  
Leadership Team

Subject: Board Action Report – Notation Item 2024-109

Date: September 23, 2024

On September 23, 2024, the Board approved Notation Item 2024-109, thereby designating Recommendation 2017-08-I-TX-R5, to Harris County, Texas, from the Arkema Inc. Chemical Plant Fire investigation (2017-08-I-TX) with the status of Closed – Acceptable Action.

**Voting Summary – Notation Item 2024-109**

**Disposition: APPROVED**

**Disposition date: September 23, 2024**

	Approve	Disapprove	Calendar	Not Participating	Date
<b>S. Johnson</b>	X				9/23/2024
<b>S. Owens</b>	X				9/23/2024
<b>C. Sandoval</b>	X				9/23/2024



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

<b>Report:</b>	Arkema Inc. Chemical Plant Fire
<b>Recommendation Number:</b>	2017-08-I-TX-R5
<b>Date Issued:</b>	May 24, 2018
<b>Recipient:</b>	Harris County, Texas
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	September 23, 2024

### Recommendation Text:

*Update your emergency operations training using lessons learned from the Arkema incident to help ensure that personnel enforcing evacuation perimeters are not harmed by exposure to hazardous chemical releases. Update existing protocols and revise training curricula to include the use of analytical tools, air monitoring, and personal protective equipment, to provide appropriate protection when emergency equipment or personnel need to be moved through an evacuation zone during a hazardous materials release. Include a process for periodic refresher training.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On August 24, 2017, Hurricane Harvey, a Category 4 hurricane, made landfall in southeast Texas. Extensive flooding caused by heavy rainfall from the hurricane exceeded the equipment design elevations and caused the plant to lose power, backup power, and critical organic peroxide refrigeration systems. Consequently, Arkema used its standby refrigerated trailers to keep the organic peroxide products cool. On August 31, 2017, organic peroxide products stored inside a refrigerated trailer decomposed, causing the peroxides and the trailer to burn. Twenty-one people sought medical attention from exposure to fumes generated by the decomposing products when the vapor travelled across a public highway adjacent to the plant.

Emergency response officials initially decided to keep this highway open because this road served as an important route for hurricane recovery efforts. However, during these efforts, several police officers drove through a cloud of white smoke coming from the Arkema facility. After smelling and experiencing exposure symptoms, they sought medical attention.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) examined the emergency procedures developed by Harris County for hazardous materials releases and determined that they did not address appropriate precautions to ensure personnel enforcing evacuation perimeters are not harmed by exposure to hazardous chemical releases. Consequently, CSB issued a recommendation to Harris County to revise their procedures to address this shortcoming and provide periodic refresher training. This status change summary addresses CSB Recommendation No. 2017-08-I-TX-R5.

## B. Response to the Recommendation

In April 2021 Harris County notified the CSB that their updated emergency operations training was now available to all county employees. This training program is intended as an entry level course for all first responders and any other public employees or officials who are likely to encounter an emergency involving hazardous materials/weapons of mass destruction (WMDs) who are expected to recognize the emergency, protect themselves, call for help, and secure the area. The training is based on the Texas Commission on Fire Protection's Certification Manual Chapter 6. Over three chapters the training addresses the topics listed in the recommendation amongst others. At the end of the training, employees receive a certification which is good for one year, thereafter recertification is required addressing the 'refresher training' requirement of the recommendation. Upon review of the supporting documentation submitted the CSB determined that Harris County's updated training meets all of the requirements of the recommendation.

## C. Board Analysis and Decision

Based upon the information above, the Board voted to change the status of CSB Recommendation No. 2017-08-I-TX-R5 to: "Closed – Acceptable Action."