



## U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS 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>	Open –Acceptable Response or Alternative Response
<b>Date of Status Change:</b>	May 23, 2019

### 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.

B. Response to the Recommendation

In March of 2019, Harris County informed the CSB that the Sheriff's Office and the Fire Marshal were in the process of updating existing protocols and revising training curricula to address the CSB Recommendation and that additional training, including a refresher component, will be provided to personnel during 2019.

C. Board Analysis and Decision

As Harris County confirmed their intentions to implement the CSB Recommendation and provided an approximate timeline for completion, the Board voted to change the status of **Recommendation No. 2017-08-I-TX-R5** to: **"Open--Acceptable Response or Alternative Response."**