



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

Report:	BP - Husky Oregon Chemical Release and Fire
Recommendation Number:	2022-01-I-OH-R4
Date Issued:	June 21, 2024
Recipient:	Ohio Refining Company LLC
New Status:	Open – Awaiting Response or Evaluation/Approval of Response
Date of Status Change:	Not Applicable – Initial Status

Recommendation Text:

Revise the ‘Toledo Alarm Philosophy’ by incorporating the Engineering Equipment and Manufacturers Users Association (EEMUA) guidance for alarm rate following an upset and not limiting alarm performance to a single metric averaged over a month. In addition to including analyzing individual alarm flood events, the revised philosophy document should improve refinery alarm performance to reduce alarm flood duration and peak rate for events similar to the September 20, 2022, incident. Consult EEMUA Publication 191, Chapter 6.5.1, for guidance regarding abnormal condition performance levels. Apply the improved performance levels where applicable, but specifically to the Crude 1 control board alarm performance.

Board Status Change Decision:

A. Rationale for Recommendation

On September 20, 2022, a vapor cloud ignited at the BP-Husky Refining LLC (“BP Husky”) refinery in Oregon, Ohio. The vapor cloud formed when flammable liquid naphtha was intentionally released from a pressurized vessel to the ground in response to an abnormal situation. Two employees were fatally injured. BP Husky estimated that over 23, 000 pounds of naphtha was released during the event, and that \$597 million in damage was incurred.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including inadequate safeguarding to prevent liquid overflow, ineffective abnormal situation management, and failure to learn from previous incidents. As a result of these findings, the CSB issued four recommendations to the Ohio Refining Company LLC. This status change summary addresses **CSB Recommendation No. 2022-01-I-OH-R4**.