



U.S. Chemical Safety and Hazard Investigation Board

OFFICE OF GENERAL COUNSEL

Memorandum

To: Board Members

From: Steven Messer
General Counsel

STEVEN
MESSER

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STEVEN MESSER
Date: 2026.07.13
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Cc: Charles Barbee
Adam Henson
Leadership Team

Subject: Board Action Report – Notation Item 2026-53 | Recommendation to the Governor and Legislature of the State of Washington (2010-08-I-WA-R7) from the Tesoro Anacortes Refinery Fatal Explosion and Fire investigation (2010-08-I-WA)

Date: July 13, 2026

On July 10, 2026, the Board approved Notation Item 2026-53, thereby designating Recommendation 2010-08-I-WA-R7 to the Governor and Legislature of the State of Washington from the Tesoro Anacortes Refinery Fatal Explosion and Fire investigation (2010-08-I-WA) with the status of Open – Acceptable Response or Alternate Response.

Voting Summary – Notation Item 2026-53

Disposition: APPROVED

Disposition date: July 10, 2026

	Approve	Disapprove	Calendar	Not Participating	Date
S. Johnson	X				7/9/2026
S. Owens	X				7/10/2026



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATION STATUS CHANGE

SUMMARY

Report:	Tesoro Anacortes Refinery Fatal Explosion and Fire
Recommendation Number:	2010-08-I-WA-R7
Date Issued:	May 01, 2014
Recipient:	Governor and Legislature of the State of Washington
New Status:	Open – Acceptable Response or Alternate Response
Date of Status Change:	July 10, 2026

Recommendation Text:

Work with the regulator, the petroleum refining industry, labor, and other relevant stakeholders in the state of Washington to develop and implement a system that collects, tracks, and analyzes process safety leading and lagging indicators from operators and contractors to promote continuous process safety improvements. At a minimum, this program shall:

- a. Require the use of leading and lagging process safety indicators to actively monitor the effectiveness of process safety management systems and safeguards for major accident prevention. Include leading and lagging indicators that are measureable, actionable, and standardized. Include indicators that measure safety culture, such as incident reporting and action item implementation culture. Require that the reported data be used for continuous process safety improvement and accident prevention;*
- b. Analyze data to identify trends and poor performers and publish annual reports with the data at facility and corporate levels;*
- c. Require companies to publicly report required indicators annually at facility and corporate levels;*
- d. Use process safety indicators (1) to drive continuous improvement for major accident prevention by using the data to identify industry and facility safety trends and deficiencies and (2) to determine appropriate allocation of regulator resources and inspections; and*
- e. Be periodically updated to incorporate new learning from world-wide industry improvements in order to drive continuous major accident process safety improvements in Washington.*

Board Status Change Decision:

A. Rationale for Recommendation

On April 2, 2010, a catastrophic heat exchanger rupture occurred at the Tesoro Anacortes refinery which fatally injured seven workers. The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found that management at the refinery

failed to effectively evaluate the potential for high temperature hydrogen attack (HTHA), the damage mechanism which caused the heat exchanger rupture.

The CSB concluded that the State of Washington's (WA) process safety management (PSM) regulation, *Safety Standards for Process Safety Management of Highly Hazardous Chemicals*, was insufficient to prevent this incident and to promote a culture of continuous improvement in the refining industry. The CSB also found that the WA Department of Labor and Industries (L&I) – Division of Occupational Safety and Health (DOSH), which oversees workplace safety in the state, lacked sufficient technically experienced and qualified inspectors to verify compliance with existing PSM requirements. As a result of these findings, the CSB issued three recommendations to the Governor and Legislature of the State of Washington. This status change summary addresses CSB Recommendation No. 2010-08-I-WA-R7.

B. Response to the Recommendation

Washington's newly adopted process safety management (PSM) regulations for petroleum refineries under WAC 296-67 was adopted on December 27, 2023, and became effective on December 27, 2024.¹ [WAC 296-67-311](https://app.leg.wa.gov/wac/default.aspx?cite=296-67) is one of the new regulations that requires refinery employers to “develop, implement and maintain an effective program to track, document, and assess leading and lagging process safety performance indicators.”

The new regulations also provide the following definitions:

- **Process safety performance indicators.** Measurements of the refinery's activities and events that are used to evaluate the performance of process safety systems.
- **Lagging indicators.** Retrospective metrics of equipment, written procedures, training, employee collaboration, or other practices identified as requiring corrective action.
- **Leading indicators.** Predictive metrics of equipment, written procedures, training, employee collaboration, or other best practices used to identify potential and recurring deficiencies.

Though a majority of the recommendation has been satisfied, WA L&I has not provided documentation demonstrating how process safety performance indicators are reviewed by their PSM team as well as some examples of what has been provided by the employers to satisfy these requirements. Once such information is provided, the recommendation can be evaluated for closure.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2010-8-I-WA-R7 to: “Open – Acceptable Response or Alternate Response.”

¹ See Washington's Safety Standards for Process Safety Management of Highly Hazardous Chemicals at <https://app.leg.wa.gov/wac/default.aspx?cite=296-67>.