U.S. Chemical Safety and Hazard Investigation Board

OFFICE OF GENERAL COUNSEL

Memorandum

To: Board Members

From: Steven Messer
Acting General Counsel

STEVEN MESSER Digitally signed by STEVEN MESSER Date: 2026.01.20 15:12:09 -05'00'

Cc: Charles Barbee
Adam Henson
Leadership Team

Subject: Board Action Report – Notation Item 2026-11 | Recommendation to American Petroleum Institute (API) (2021-05-I-TX-R5) from the LyondellBasell La Porte Fatal Chemical Release investigation (2021-05-I-TX)

Date: January 20, 2026

On January 20, 2026, the Board approved Notation Item 2026-11, thereby designating Recommendation 2021-05-I-TX-R5 to American Petroleum Institute (API) from the LyondellBasell La Porte Fatal Chemical Release investigation (2021-05-I-TX) with the status of Closed – Acceptable Alternative Action.

Voting Summary – Notation Item 2026-11

Disposition: APPROVED

Disposition date: January 20, 2026

	Approve	Disapprove	Calendar	Not Participating	Date
S. Johnson	**X**				1/20/2026
S. Owens	**X**				1/20/2026

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

Report:	LyondellBasell La Porte Fatal Chemical Release
Recommendation Number:	2021-05-I-TX-R5
Date Issued:	May 17, 2023
Recipient:	American Petroleum Institute (API)
New Status:	Closed – Acceptable Alternative Action
Date of Status Change:	January 20, 2026

Recommendation Text:

Revise API Standard 599 Metal Plug Valves—Flanged, Threaded, and Welding Ends as follows:

a. *State that there have been multiple incidents in which workers have inadvertently removed pressure-retaining components from plug valves while workers were attempting to remove the valve's actuator or gearbox.*
b. *Recommend that facilities using plug valves establish written procedures detailing the correct way to remove the plug valve actuator or gearbox for each specific plug valve design at the facility.*
c. *For existing plug valves, require facilities to clearly mark all pressure-retaining components (for example, with paint, accompanying warning signs, etc.). Work with ASME and VMA to ensure a consistent methodology is specified across both API and ASME standards.*
d. *Require that new plug valves be designed, consistent with Prevention through Design principles, to prevent the inadvertent removal of pressure-retaining components when removing the actuator or gearbox. Evaluate past plug valve incidents, and the associated plug valve designs involved in those incidents, when formulating a new plug valve design. Work with ASME and VMA to ensure a consistent methodology is specified across both API and ASME standards.*

Board Status Change Decision:

A. Rationale for Recommendation

On July 27, 2021, three contract workers at the LyondellBasell La Porte Complex in La Porte, Texas were removing an actuator from a plug valve in the site's acetic acid unit. While attempting to remove the actuator, the pressure retaining components of the valve were inadvertently removed causing the eventual ejection of the plug from the valve body and a release of acetic acid.

Approximately 164,000 pounds of acetic acid mixture was released from the unit. All three contract workers were sprayed with the acetic acid mixture fatally injuring two of the workers and seriously injuring the third. An additional twenty-nine personnel were transported to offsite medical facilities for evaluation and treatment.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including a lack of procedures, hazard awareness, training, as well as the potential for improvement related to plug valve design. As a result of these findings, the CSB issued one recommendation to the American Petroleum Institute (API). This status change summary addresses CSB Recommendation No. 2021-05-I-TX-R5.

B. Response to the Recommendation

API published the 9th Edition of API Standard 599 *Metal Plug Valves – Flanged, Threaded, and Welding Ends (API STD 599)* during October of 2025[1]. This revision addresses the majority of the recommendation's requirements including a new warning statement addressing the incidents that have occurred due to the inadvertent removal of pressure retaining components of plug valves; a new requirement addressing the labelling of pressure retaining fasteners on plug valves; and an updated requirement addressing the prevention of the inadvertent removal of pressure retaining components while removing the actuator or gearbox of plug valves.

The recommendation requirements specifically addressing existing plug valves in subparagraphs b and c were not addressed in the revised edition of API STD 599. As explained by API's Subcommittee on Piping and Valves (SCOPV)[2], this information is not appropriate for inclusion in this document because API STD 599 is a design and manufacture standard for new valves and does not address existing valves.

C. Board Analysis and Decision

The CSB appreciates the work of the API and, specifically, SCOPV in making these important updates to the standard. CSB Board Order 022, Recommendations Program, states that when a recipient has successfully completed actions that meet the objectives, or a majority of the objectives, envisioned by the Board a status of "Closed – Acceptable Alternative Action" may be assigned. Based upon the information above, the Board voted to change CSB Recommendation No. 2021-05-I-TX-R5 to: "Closed – Acceptable Alternative Action."

[1] https://www.apiwebstore.org/standards/599
[2] SCOPV is a subcommittee of API's Committee on Refinery Equipment (CRE). They are responsible for the technical content of API STD 599.