



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATION STATUS CHANGE SUMMARY

Report:	Remote Isolation of Process Equipment
Recommendation Number:	2024-01-H-R1
Date Issued:	July 25, 2024
Recipient:	American Petroleum Institute (API)
New Status:	Closed – Acceptable Action
Date of Status Change:	July 10, 2026

Recommendation Text:

Develop a new publication or revise an existing publication or publications that should be applicable to various facility types such as refineries, chemical and petrochemical facilities, terminals, etc. with major process equipment and atmospheric storage tanks, that details conditions that necessitate the installation of remote isolation devices [use “shall” instead of “should” language] that may be automatically activated or remotely activated from a safe location, particularly during an emergency. When establishing these conditions refer to the guidance published by CCPS entitled Guidelines for Fire Protection in Chemical, Petrochemical, and Hydrocarbon Processing Facilities, Sections 8.1.10 and 8.1.11. At a minimum, the conditions should address major process equipment and atmospheric storage tanks, material volumes/weight as well as flammability, corrosivity, and toxicity.

Board Status Change Decision:

A. Rationale for Recommendation

On The U.S. Chemical Safety and Hazard Investigation Board (CSB) has reviewed and investigated numerous incidents where the consequences escalated following a loss of containment due to the lack of effective remote isolation equipment. These incidents resulted in serious injuries, fatalities, environmental contamination, and severe damage to facilities.

Following the 2019 incident at the TPC Group chemical plant in Port Neches, TX, the CSB concluded that improved requirements for remote isolation are necessary. The CSB initiated this Safety Study to review the incidents investigated by the CSB and determine the action needed to address deficiencies in both industry guidance and federal regulations.

The CSB found that although guidance has been available for many years, it has not been consistently followed. The CSB concluded that stronger remote isolation requirements are needed. 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. 2024-01-H-R1.

B. Response to the Recommendation

API Published the 3rd Edition of API Recommended Practice 553 *Refinery Valves and Accessories for Control and Safety Instrumented Systems* (API RP 553) during May 2026¹. This revision addresses the recommendation's requirements through new text and revision of existing text. Revisions to API RP 553 include relocating information on emergency block valves (EBV) from Chapter 3 Terms, Definitions, Acronyms and Abbreviations to Chapter 8 Emergency Block Valves and changing "should" to "shall" in several clauses of Chapter 8 addressing general installation guidelines, actuator selection, fireproofing, and control stations. New text added to API RP 553 includes new requirements for EBVs for storage vessels containing flammable liquids and guidelines for conducting hazard analysis including a reference to API RP 2001 *Fire Protection in Refineries*.

C. Board Analysis and Decision

API revised API RP 553 to include new requirements and strengthen existing requirements for EBVs as envisioned by the Board in issuing this recommendation. These requirements are broadly applicable to industry, in keeping with the guidance provided by CCPS's *Fire Protection in Chemical, Petrochemical, and Hydrocarbon Processing Facilities*, and specify the equipment and conditions for which such valves are necessary.

The CSB appreciates the work of the API, and its Subcommittee on Instruments and Controls (SOICS)², in revising this critical industry standard. Based upon the information above, the Board voted to change CSB Recommendation No. 2024-01-H-R1 to: "Closed – Acceptable Action."

¹ <https://www.apiwebstore.org/standards/553>

² SOICS is a subcommittee of API's Committee on Refinery Equipment (CRE). They are responsible for the technical content of API RP 553.