



# U. S. Chemical Safety and Hazard Investigation Board

## RECOMMENDATIONS STATUS CHANGE

### SUMMARY

<b>Report:</b>	<b>Valero McKee Refinery Propane Fire</b>
<b>Recommendation Number:</b>	<b>2007-5-I-TX-R1</b>
<b>Date Issued:</b>	<b>March 20, 2007</b>
<b>Recipient:</b>	<b>American Petroleum Institute (API)</b>
<b>New Status:</b>	<b>Closed- Acceptable Action</b>
<b>Date of Status Change:</b>	<b>November 7, 2012</b>

#### Recommendation Text:

*Issue API-recommended practices for freeze protection in oil refinery process units that include, as a minimum:*

- the establishment of a written program;*
- periodic inspections to identify freeze hazards in dead-legs or infrequently used piping and equipment where water could collect;*
- specific approaches to eliminate or protect against such freeze hazards; and*
- identification of infrequently used piping or equipment subject to freezing as a trigger for Management of Change (MOC) review.*

#### Board Status Change Decision:

##### A. Rationale for Recommendation

This recommendation was issued following the propane fire at the Valero McKee refinery near Sun Ray, TX. The CSB's investigation concluded that the propane release was likely caused by the freeze-related failure of high pressure piping at a control station that had been out of service for approximately 15 years. The CSB reviewed available publications by the American Petroleum Institute (API), a trade association that publishes voluntary standards, and found no detailed guidance for refineries on establishing effective freeze protection programs. CSB therefore issued a recommendation to API to develop such guidance.

##### B. Response to the Recommendation

In November 2008, the Board designated this recommendation with the status "Open-Acceptable Response" after API indicated it planned to implement the CSB's recommendation. In May 2012, the API indicated that it had revised its Recommended Practice No. 2001: *Fire Protection in Refineries* to provide guidance for freeze protection programs at refineries.

##### C. Board Analysis and Decision

The Board reviewed the revised RP 2001 (2012 edition) and found that the document was modified to incorporate language regarding the establishment and operation of written freeze protection programs at refineries. The revised document calls for identification and periodic inspections of vulnerable areas and describes specific approaches for eliminating or

protecting against freeze hazards. The document also highlights the importance of identifying (or eliminating) dead legs and infrequently used piping subject to freeze hazards and applying Management of Change (MOC) principles as appropriate.

Because API's actions are consistent with the intent of the CSB's recommendation, the Board voted to designate this recommendation with the status "Closed- Acceptable Action."