



Chemical Safety and Hazard Investigation Board

OFFICE OF GENERAL COUNSEL

Memorandum

To: Board Members

From: Richard C. Loeb *RCL*

Cc: Leadership Team
Christina Morgan
Mark Kaszniak

Subject: Board Action Report – Notation Item 2013-54

Date: October 21, 2013

On September 30, 2013, the Board approved Notation Item 2013-54, thereby designating Recommendation 2009-03-I-VA-R6, to Allied Terminals, Inc. (from the Allied Terminals Investigation), with the status of Closed – Acceptable Action.

Voting Summary – Notation Item 2013-54

Disposition: APPROVED

Disposition date: September 30, 2013

	Approve	Disapprove	Calendar	Not Participating	Date
R. Moure-Eraso	X				9/23/2013
M. Griffon	X				9/30/2013
B. Rosenberg	X				9/30/2013



Recommendation Response Evaluation
U.S. Chemical Safety and Hazard Investigation Board
Office of Recommendations

Report:	Allied Terminals Fertilizer Tank Collapse
Recommendation Number(s):	2009-3-I-VA-R6
Date Issued:	May 18, 2009 (Released May 27, 2009)
Recipient:	Kinder-Morgan Liquid Terminals, LLC (K-M) formerly Allied Terminals, Inc. (ATI)
Date(s) of Response(s):	July 10, 2009; February 1, 2010; May 16, 2013; June 10, 2013; and August 1, 2013
Status recommendation to the Board:	R6: Closed – Acceptable Action

Background:

On November 12, 2008 a two-million-gallon liquid fertilizer storage tank collapsed at the Allied Terminal, Inc. (ATI) distribution facility in Chesapeake, VA. The incident critically injured two contract workers, who were hospitalized. Two members of the public who tried to aid the injured men required treatment, likely due to exposure to ammonia vapor from the released fertilizer. The fertilizer overtopped a containment dike and flooded sections of a nearby residential neighborhood. At least 200,000 gallons of spilled fertilizer could not be accounted for, and some reached the nearby Elizabeth River, which flows into the Chesapeake Bay.

As a number of different contractors had been involved in the inspection and repair of the aboveground storage tanks at the ATI Chesapeake and Norfolk terminals over the years, the CSB recommended that ATI hire a qualified independent reviewer to evaluate all tank inspection data in order to verify that the maximum liquid fill levels had been calculated in accordance with the requirements of the American Petroleum Institute Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*.

Recommendation:

Hire a qualified independent reviewer to verify that maximum liquid levels for all tanks at Allied's Norfolk and Chesapeake terminals meet the requirements of American Petroleum Institute Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction. At a minimum, the review should verify that all requirements for welding, inspection of welds, and In-Service and Out-of-Service tank inspections are met. Make the complete review report for both terminals available to the Cities of Norfolk, Chesapeake, and Portsmouth, Virginia, as well as the Virginia Department of Environmental Quality.

Response Summary:

June 17, 2009 An initial notification letter was sent to ATI by the Chair.

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July 10, 2009	Mr. Michael E. Law, President of Allied Terminals, Inc., provides a preliminary response
January 12, 2010	CSB Recommendations staff request an update on actions taken pursuant to the CSB's recommendation
February 1, 2010	Response received from Mr. Law stating that ATI retained ATS Corporation to review the tanks at both terminals and indicating that the report would be made available to all named parties in recommendation.
April 13, 2013	CSB Recommendations staff request an update.
May 16, 2013	Response received from W. Bruce Law at ATI indicating report was provided to City of Chesapeake, but not to other named parties in recommendation
June 4, 2013	CSB Recommendations staff request verification that the City of Chesapeake received the report.
June 10, 2013	CSB receives verification of report receipt from City of Chesapeake Fire Department.
June 11, 2013	Kinder-Morgan Liquid Terminals, LLC takes effective control of ATI facilities in Chesapeake and Norfolk, VA
July 18, 2013	Earl Crochet, Director EH&S, Kinder-Morgan Terminals, calls CSB Recommendations staff to discuss open Allied recommendations and what he can do to help close them.
August 1, 2013	Mr. Crochet provides documentation that report was shared with other named parties in the recommendation.

Evaluation of Recipient Action(s):

In his July 10, 2009 response (see **Attachment 1**), Mr. Michael E. Law, President of Allied Terminals, Inc., stated that ATI hired ATS Corporation, a certified API 653 inspection firm, to review and validate the safe fill calculations previously conducted on tanks and to conduct new safe fill calculations when needed as tanks receive their scheduled API 653 inspections. Mr. Law also stated that: "ATS used its own equipment, personnel, procedures and criterion in performing these inspections, which validated the earlier safe fill on these tanks" and that the "reports have been signed by a registered professional engineer." He explained that: "ATI will continue with its normal rotation of tank inspections so as to spread out costs and minimize disruption to its customers." He also stated that "ATI will be happy to share its API 653 Inspection Reports with the Virginia DEQ and for each city concerning the tanks within its boundaries if an agreement can be made with these entities respecting these reports as confidential business information of ATI, including protecting all information contained within from release to third parties."

On February 1, 2010, Mr. Michael Law responded (see **Attachment 2**) that ATS had been hired to review the API 653 inspection reports for all tanks at both terminals and that the final report would be provided to all the named parties in the recommendation when it was completed.

On April 23, 2010, ATS completed its "Engineering Report for Safe Fill Verification" for the tanks at ATI's Chesapeake and Norfolk terminals. Past API 653 inspection reports were reviewed to gather the data necessary for the safe fill calculations. The report contains a table comparing the safe fill heights originally calculated versus those

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calculated by ATS, In all cases, the safe fill heights calculated by ATS are equal or greater than those previously established for the tanks. The report was prepared by an API 653 certified inspector and reviewed by Senior Consulting Engineer, who is both an API 653 certified inspector and a registered professional engineer.

On May 16, 2013, W. Bruce Law from ATI responded (see **Attachment 3**) that the Safe Fill calculations report had been shared with the City of Chesapeake, but not with the other named parties in the recommendation. No additional documentation was provided.

On June 10, 2013, the City of Chesapeake Fire Department verified that they had a copy of the safe fill calculations report (see **Attachment 4**). They also mentioned that Kinder-Morgan was in the process of acquiring the ATI terminals.

On August 1, 2013, Earl Crochet, Director EH&S, Kinder-Morgan Terminals provided documentation (see **Attachment 5**) to CSB showing that the Safe Fill Calculations report has been shared with other named parties in the recommendation.

As Allied Terminals hired a qualified independent reviewer to verify the safe liquid fill levels for its tanks at its Chesapeake and Norfolk terminals and copies of this report have been provided by the new owner Kinder-Morgan to the named parties listed in the recommendation, the status of this recommendation should be changed to: "Closed – Acceptable Action."

Evaluator: Mark Kaszniak Date: 8-5-2013

Approved



Manuel Gomez, Dr PH, MS, CIH
Director, Office of Recommendations