



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

Report:	Williams Olefins Case Study
Recommendation Number:	2013-03-I-LA-R1
Date Issued:	October 19, 2016
Recipient:	Williams Geismar Olefins Facility (Williams)
New Status:	Closed – Acceptable Action
Date of Status Change:	June 8, 2017

Recommendation Text:

Implement a continual improvement program to improve the process safety culture at the Williams Geismar Olefins Plant. Ensure oversight of this program by a committee of Williams personnel (“committee”) that, at a minimum, includes safety and health representative(s), Williams management representative(s), and operations and maintenance workforce representative(s). Ensure the continual improvement program contains the following elements:

- a) *Process Safety Culture Assessments. Engage a process safety culture subject-matter expert, who is selected by the committee and is independent of the Geismar site, to administer a periodic process safety culture assessment that includes surveys of personnel, interviews with personnel, and document analysis. Consider the process safety culture audit guidance provided in Chapter 4 of the CCPS book Guidelines for Auditing Process Safety Management Systems as a starting point. Communicate the results of the Process Safety Culture Assessment in a report; and*
- b) *Workforce Involvement. Engage the committee to (1) review and comment on the expert report developed from the Process Safety Culture Assessments, and (2) oversee the development and effective implementation of action items to address process safety culture issues identified in the Process Safety Culture Assessment report.*

As a component of the process safety culture continual improvement program, include a focus on the facility’s ability to comply with its internal process safety management program requirements. Make the periodic process safety culture report available to the plant workforce. Conduct the process safety culture assessments at least once every five years.

Board Status Change Decision:

A. Rationale for Recommendation

On June 13, 2013, a fire and explosion occurred at the Williams Olefins, Inc. (Williams), Plant located in Geismar, Louisiana, when a reboiler, which supplied heat to a propylene fractionator column, ruptured due to an overpressurization event while it was isolated from its pressure relief device. Two Williams employees were killed and 167 employees were injured. The 167 injured employees consisted of three Williams employees and 164 contractor employees.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) examined the plant’s process safety management program as well as the plant’s process safety culture. The CSB found significant weaknesses in the Williams process safety culture that were

demonstrated by a series of deficiencies in implementing the plant's process safety management programs as well as weaknesses in the written programs themselves. These deficiencies included: (1) poorly conducted Management of Change and Pre-Startup Safety Reviews; (2) ineffective safeguard selections, insufficient safeguard evaluation requirements, and poor implementation of action items in Process Hazard Analyses; (3) inadequate focus on development and maintenance of operating procedures; and (4) uncontrolled field equipment manipulations without a hazards assessment prior to the development of a procedure.

To address these areas, the CSB issued three recommendations aimed at improving the plant's process safety management program and process safety culture. This status change summary only addresses the recommendation to improve the plant's process safety culture (e.g., 2013-3-I-LA-R1).

B. Response to the Recommendation

- In October of 2016, the Williams Olefins Geismar facility conducted a Process safety Culture Survey that met the requirements listed in the CSB recommendation.
- The survey generated seven action items which are being used to further improve the process safety culture at the plant.
- The results of the survey were shared with Williams Geismar plant personnel via both e-mail (December 2016) and via discussions during monthly safety meetings (February 2017).
- A new procedure entitled "Process Safety Culture Assessments" dated March 31, 2017, was implemented to ensure that the process safety culture surveys will be repeated at least once every five years at the plant.

C. Board Analysis and Decision

Based on the above actions taken by the Williams Geismar plant, the Board voted to change the status of CSB Recommendation No. 2013-3-I-LA-R1 to: "**Closed –Acceptable Action.**"