



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

<b>Report:</b>	Williams Olefins Case Study
<b>Recommendation Number:</b>	2013-3-I-LA-R1
<b>Date Issued:</b>	October 19, 2016
<b>Recipient:</b>	Williams Geismar Olefins Facility (Williams)
<b>New Status:</b>	Open – Acceptable Response or Alternative Response
<b>Date of Status Change:</b>	March 1, 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, consisting of three Williams employees and 164 contractor employees.

As a part of its investigation, the CSB examined the facility's process safety management program as well as the facility’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 site's process safety management programs as well as weaknesses in the written programs themselves. These deficiencies include: (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 developing and maintaining operating procedures; and (4) allowing uncontrolled field equipment manipulations without first assessing the hazards and developing a procedure. To address these areas, the CSB Board issued three recommendations aimed at improving the facility's process safety management program and process safety culture. This status change summary addresses the recommendation to improve the facility's process safety culture (2013-3-I-LA-R1).

#### B. Response to the Recommendation

In a November 2016 response, Williams advised the CSB that it:

- Established an employee-lead Safety Committee. The committee is comprised of management and employee representatives from the Safety, Operations, Technical, Environmental, Lab, and Maintenance departments of the facility.
- Initiated a Process Safety Culture Survey using guidance published by the Center for Chemical Process Safety. This survey is being facilitated by our corporate office in conjunction with a dedicated Process Safety Mindset Team. The team is comprised field employees and management from all of the operating areas and is led by a Manager and includes a Subject Matter Expert who are not based at the Geismar plant.
- Is planning to share the results of the survey with all employees and provide it to the Safety Committee for review and development of continuous improvement action items
- Intends to repeat the Process Safety Culture Survey every five years

Williams estimated that the current survey process would likely be completed by April 30, 2017.

#### C. Board Analysis and Decision

As the actions currently being undertaken by Williams appear to be consistent with the intent of the CSB Recommendation and provide both a timeframe and some indication of the supporting documentation that will be provided for future evaluation, the Board voted to change the status of CSB Recommendation No. 2013-3-I-LA-R1 to: **“Open—Acceptable Response or Alternative Response.”**