



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATIONS STATUS CHANGE

SUMMARY

Report:	ExxonMobil Torrance Refinery Explosion
Recommendation Number:	2015-02-I-CA-R1
Date Issued:	May 3, 2017
Recipient:	ExxonMobil Corporation
New Status:	Open – Acceptable Response or Alternative Response
Date of Status Change:	April 15, 2019

Recommendation Text:

A Variance to a safety policy or procedure requires robust analysis of the proposed safeguards prior to its approval and implementation. To ensure the proposed methodology described in the Variance is safe and the proposed safeguards are sufficiently robust, revise corporate and U.S. refinery standard(s) to require that a multidisciplinary team reviews the Variance before it is routed to management for their approval. Include knowledgeable personnel on the Variance multidisciplinary team such as:

- (1) the developer of the Variance;*
- (2) a technical process representative (e.g. process engineer for the applicable unit);*
- (3) an hourly operations representative (e.g. experienced operator in the applicable unit); and*
- (4) a health and safety representative.*

The role of the multidisciplinary team is to formally meet to review, discuss, and analyze the proposed Variance, and adjust the safety measures as needed to ensure a safe operation. In the event the expert team members do not come to a consensus that the Variance measures can result in a safe operation, require the proposed work to be routed to a higher management level for final approval.

Board Status Change Decision:

A. Rationale for Recommendation

On February 18, 2015, an explosion occurred in the ExxonMobil Torrance, California refinery's Electrostatic Precipitator (ESP); a pollution control device in the fluid catalytic cracking (FCC) unit that removes catalyst particles using charged plates that produce sparks during normal operation. The incident occurred when ExxonMobil was attempting to isolate equipment for maintenance while the unit was in an idle mode of operation. Preparations for the maintenance activity caused a pressure deviation that allowed hydrocarbons to backflow through the process and ignite in the ESP.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) found that this incident occurred due to weaknesses in the ExxonMobil Torrance refinery's process safety management (PSM) system. These weaknesses led to operation of the FCC unit without pre-established safe operating limits and criteria for unit shutdown, reliance on safeguards that could not be verified, the degradation of a safety-critical safeguard, and the re-use of a previous procedure deviation without a sufficient hazard analysis to confirm that the assumed process conditions were still valid.

As a result, the CSB made five recommendations to ExxonMobil Corporation regarding their PSM system. This status change summary is specific to Recommendation No. 2015-02-I-CA-R1.

B. Response to the Recommendation

EM has been very responsive to our recommendations and kept the CSB regularly apprised of implementation progress. They formed an internal multidisciplinary task force to address each recommendation. The task force has been working with each of EM's Upstream and Downstream business lines to identify the appropriate documentation required to be modified to incorporate the recommendation. The changes will undergo business line management review and approval processes. EM estimates that the document revisions will be completed by the end of calendar year 2019 with implementation commencing thereafter.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change **Recommendation No. 2015-02-I-CA-R1** to: **“Open – Acceptable Response or Alternate Response.”**