



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

<b>Report:</b>	ExxonMobil Torrance Refinery Explosion
<b>Recommendation Number:</b>	2015-02-I-CA-R4
<b>Date Issued:</b>	May 3, 2017
<b>Recipient:</b>	ExxonMobil Corporation
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	January 20, 2021

### Recommendation Text:

*ExxonMobil extended the maintenance interval of the spent catalyst slide valve and the inspection interval of the pumparound heat exchanger without analyzing whether the extended operation lowered their availability (by operating them beyond their predicted safe operating life) and could result in negative safety consequences. In the event safety-critical equipment is operated beyond its inspection and/or maintenance interval (e.g. extended turnaround interval), require all ExxonMobil U.S. refineries to perform a risk evaluation (e.g. MOC or risk assessment) to identify the safety consequences of the extended operation. Require that each mode of operation, including but not limited to normal operation, start up, shut down, and “Safe Park” modes of operation is evaluated during the risk evaluation.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On February 18, 2015, an explosion occurred in the ExxonMobil (EM) 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 EM 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 the investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) found that this incident occurred due to weaknesses in the EM Torrance refinery’s process safety management (PSM) system. These weaknesses led to the 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 issued five recommendations to EM Corporation regarding their PSM system. This status change summary is specific to Recommendation No. 2015-02-I-CA-R4.

B. Response to the Recommendation

EM formed an internal multidisciplinary task force to address each recommendation. The task force worked to update and implement their Global Manufacturing OIMS Practice *6.3 Critical Equipment* which contains updated requirements for the operation and maintenance of safety critical devices and their risk assessments as stated in the recommendation.

Board Analysis and Decision

Based upon EM's actions to implement the recommendation, the Board voted to change **Recommendation No. 2015-02-I-CA-R4 to: "Closed-Acceptable Action."**