



## 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-R2
<b>Date Issued:</b>	May 3, 2017
<b>Recipient:</b>	ExxonMobil Corporation
<b>New Status:</b>	Open – Acceptable Response or Alternative Response
<b>Date of Status Change:</b>	April 15, 2019

### Recommendation Text:

*ExxonMobil did not have an operating procedure for operating the FCC unit in its Safe Park mode of operation. At all ExxonMobil U.S. refineries, develop a program to ensure operating procedures are written and available for each mode of operation—such as unit standby—for all ExxonMobil U.S. refinery FCC units. Specify in the program that ExxonMobil U.S. refineries develop and train operators on any new procedure.*

### 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-R2.

#### 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 five U.S. EM refineries which operate seven FCC units are strengthening their FCC emergency shutdown and unit standby procedures and are implementing safe park procedures with full implementation of the recommendation targeted for completion by the end of calendar year 2019.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change **Recommendation No. 2015-02-I-CA-R2** to: **“Open – Acceptable Response or Alternate Response.”**