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

Report:	ExxonMobil Torrance Refinery Explosion
Recommendation Number:	2015-02-I-CA-R9
Date Issued:	May 3, 2017
Recipient:	Torrance Refining Company, LLC
New Status:	Closed – Acceptable Action
Date of Status Change:	March 30, 2023

Recommendation Text:

Electrostatic precipitators create potential ignition sources during normal operation, and have historically caused explosions within the refining industry. At the Torrance refinery, require a siting risk analysis be performed of the FCC unit electrostatic precipitator and implement appropriate safeguards to minimize the consequences of an electrostatic precipitator explosion.

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 unit (FCCU) 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.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) identified several process safety design weaknesses in the Torrance refinery FCCU at the time of the incident. As a result, the CSB made four recommendations to Torrance Refining Company LLC. This recommendation is specific to requiring a siting risk analysis be performed of all ESPs and the implementation of appropriate safeguards.

B. Response to the Recommendation

Torrance Refining Company LLC (TORC) informed the CSB and provided supporting documentation that they completed the siting risk analysis of their fluid catalytic cracking unit electrostatic precipitator in 2018. Following the completion of the analysis, TORC worked with a third-party engineering firm to design a system of restraints intended to retain potential projectiles in the event of an explosion in the electrostatic precipitator. Installation of the restraint system was completed in 2021. TORC provided supporting documentation regarding the system function, design, and installation.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2015-02-I-CA-R9 to: **"Closed – Acceptable Action."**