Safety Audit Summary
Shell Oil Products U.S.
Martinez Refinery
3485 Pacheco Blvd., Martinez

Introduction
Contra Costa Health Services Hazardous Materials Program (CCHSHMP) conducted a comprehensive audit/inspection of the safety programs, policies, and procedures developed by Shell Oil Products U.S. Martinez Refinery (SMR) located at 3485 Pacheco Blvd., Martinez. This safety audit, conducted in the spring of 2018, was performed to assess compliance with the California Accidental Release Prevention (CalARP) Program and the Contra Costa County’s Industrial Safety Ordinance (ISO) Safety Program. The prevention programs address maintenance, operating procedures, contractor safety, personnel training, incident investigations and understanding hazards at the plant. The inspection also examines the adequacy of the management systems in place to implement these programs and the plant’s emergency response program to verify the plant ability and preparedness to respond to a hazardous chemical emergency.

The audit verified that SMR has addressed State and County specific requirements for managing additional safety programs beyond those already required under Federal regulations. These additional safety programs include:

• Effectively managing organizational changes at the plant so there is minimal impact to emergency response and operations;

• Conducting detailed incident investigations to correct safety programs or management system that contributed to the incident instead of assigning blame to an employee in order to prevent similar incidents from occurring in the future;

• Reviewing the plant’s operations and physical layouts for signs of hidden problems that could lead to possible significant incidents. Identifying these signs and correcting them are the primary purposes of any Human Factors Program;

• Assessing ways to improve new and existing equipment/processes to make them safer to run and to reduce the impact of the hazards in case of an incident.

During a comprehensive safety audit, CCHSHMP reviews safety programs through answering up to 444 questions. The CCHSHMP 2018 safety audit at SMR resulted in 33 corrective actions for SMR to implement and 52 other items that are not required but may assist in accident prevention. Identified below is a summary of some of the issues found, both good and bad, within the various safety programs. For ease of presentation, the safety programs have been grouped into two broad topics: management systems and process/equipment issues.
Management System

• Overall: Numerous policies and procedures are in place to manage safety, including effectively managing changes to process and procedures. SMR needs to update many of their safety programs to consistently address the new CalARP Program 4 regulatory requirements.

• Training: Training is generally well documented for the operational staff. However, additional documentation is needed associated with maintenance personnel training.

• Compliance Audit: The refinery has performed a number of self-audits in compliance with the regulation.

• Contractor Safety: SMR needs to expand their evaluation of all contractors that work on or near the covered processes and develop a process to assess contract employee fatigue.

• Emergency Response: An emergency response program was developed and implemented to protect workers, the public, and the environment from harm due to refinery emergencies.

• Safety Culture: Additional documentation is needed for assessments performed to date and scope expansion to meet regulatory requirements. Human Factors: SMR needs to improve training and documentation of their human factors evaluations.

• Organizational Changes: SMR has effective programs in place to manage organizational/staffing changes.

Process/Equipment Issues

• Mechanical Integrity: Preventive maintenance inspection and testing is routinely performed as scheduled and is well documented.

• Operating Procedures: The refinery has developed a complete set of operating procedures to ensure consistency for refinery operations. CCHSHMP field verified some of these procedures with operating personnel and found them to be very accurate.

• Process/Equipment Safety Information: The refinery has compiled, and made available electronically, process and equipment information to personnel as necessary. CCHSHMP field verified some process drawings with operating personnel and found several situations where drawings did not reflect actual process equipment so improvement is needed.

• Inherent Safety: SMR has programs in place to evaluate how to make existing processes, as well as new processes, safer although additional documentation is needed.

• Incident Investigations: SMR has a process in place to investigate incidents although improvement is necessary to comply with new CalARP Program 4 regulatory requirements.

Next Steps

The results of the entire safety audit are available for review at the Martinez library and at the Hazardous Materials Program Office. (See information below).

Additional Information

For more information, logon to the Hazardous Materials Programs website: http://www.cchealth.org/groups/hazmat/. The complete safety audit report is at the Martinez Public Library at 740 Court St., Martinez or call 925-335-3200 for an appointment to view the report at CCHSHMP’s offices.

July 2019