PR 1410 Working Group Meeting #5

AUGUST 23, 2017

SCAQMD Headquarters

Diamond Bar, California

Summary of Last Working Group Meeting #4

- Alkylation technology presentations from Chevron (ionic liquid catalyst) and CB&I (solid acid and innovative sulfuric acid catalysts):
  - Specific technical, performance, applicability questions were answered
- Cal OSHA presentation outlined their Process Safety Management regulation for petroleum refineries effective October 1, 2017
- An API representative briefly described API Recommended Practice for petroleum refineries:
  - Advocacy group established standards starting in 1924, adopted nationally and internationally
  - API 751 was used for 25 years (updated every 5 years)
  - 50 participants attended and 38 parties called in on a conference line
- Staff not able to give presentation – will present today

TORC Comment Letter on Working Group Meeting #4 Presentation (Received 8/2/17)

- MHF technology is backed with voluminous testing and modeling data
- Safe operation of MHF in the alkylation unit and no offsite impact since 1997
- TORC is still in the process of providing the District with requested information related to MHF testing data
- New grassroots sulfuric acid alkylation is cost prohibitive (~$900MM incl. spent acid regeneration) and environmentally not safer
- Alternative alkylation catalyst technologies need two four-year turnaround cycles to be considered commercially *viable*
- PR 1410 conceptual rulemaking framework is a premature determination and additional time is necessary for the rulemaking process

SCAQMD Activities Regarding MHF

- Ongoing meetings between SCAQMD staff and TORC to discuss confidential MFH information
- Subsequent meeting was held on August 17, 2017 to discuss more supplemental information
  - TORC provided rainout model data points used to create the ARF correlation, all testing data with associated operating parameters including measured and predicted HF rainout
  - TORC to provide additional new information that staff will evaluate

SCAQMD Staff Assessment of MHF Alkylation Technology

- Mobil conducted experiments (small- and large-scale) and comparative modeling from which ARF was calculated
- Issues with information provided by TORC
  - Ensuring experimental data provided based on all current operating conditions including pressure, temperature and weight % HF
  - Reliance on functioning MHF vapor barriers (e.g., flange shrouds, settler pans, pump seals)
  - Based on information received to date, insufficient evidence that a dense vapor cloud does not form (assumption in modeling and ARF calculation)

Evaluating Impacts from MHF Technology

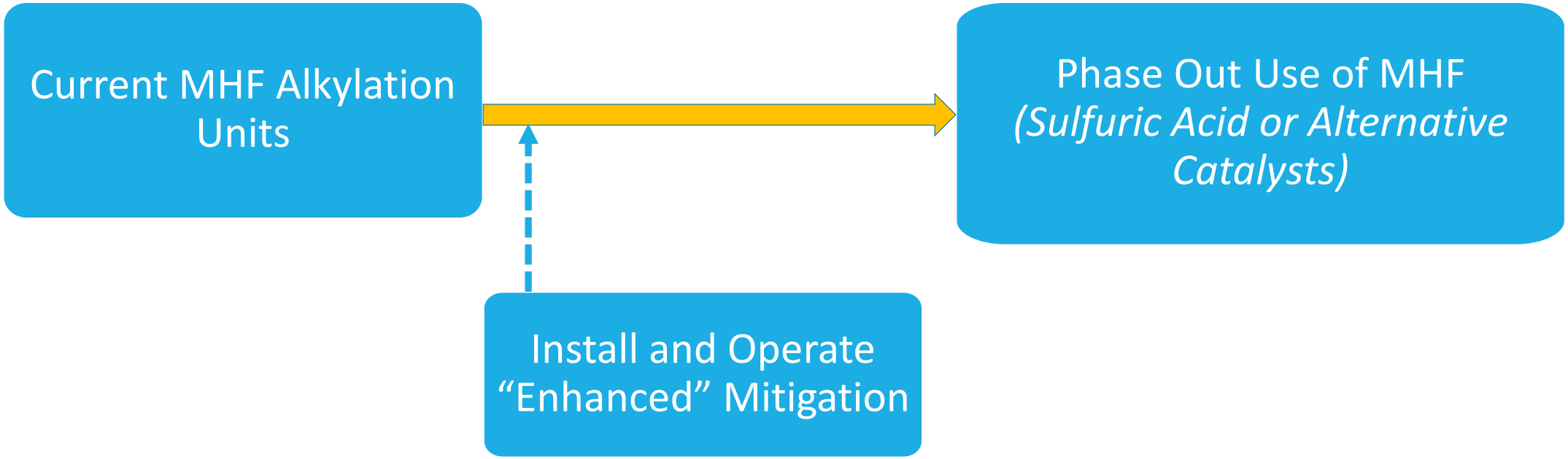
- Concern that existing mitigations would not provide adequate protection in the unplanned event such as a major accident or earthquake causing equipment failure
  - Barrier breach
  - Loss of power
  - Lack of water or water pressure
- Even at 89% ARF, a release of MHF has the potential to cause health risks to a significant number of persons (according to current RMP)
- Implementing enhanced mitigation in the interim prior to a phase-out can minimize potential health risks caused by a release of MHF
- SCAQMD staff will continue to evaluate information provided to assist in formulating the rule proposal

Risk Management Plan (RMP) Worst Case Scenario Evaluation by TORC

- EPA's RMP*Comp™ evaluated 5,200 pounds (≈520 gallons) of MHF release that would impact 255,524 within a 3.2 miles distance
  - Settler tank at 4,700 gallons MHF
  - Assumed rainout at 89% (with vapor barriers)
- If the quantity of MHF increases in RMP, the number of population impacted will increase
- TORC plans to conduct new modeling

Initial Rule Concept and Framework for Discussion

(*Seeking input on timeframe*)



Implementation Timeframe

- Seeking input on implementation timeframe for enhanced mitigation measures and phase-out of MHF
- Enhanced Mitigation Measures
  - Implementation time period is dependent on type of mitigation measure
  - Some measures may take longer to implement
- Phase-out of MHF
  - Considerations needed for engineering, design, permitting/CEQA, logistics, removal, construction, delivery, installation, and performance testing
  - Maturation of alternative emerging technologies needs to be a consideration

Enhanced Interim Control Measures

- Enhanced interim control measures would be required when using MHF until transitioned to alternative catalyst or “another process”
- Purpose of interim control measures is to:
  - Seek enhanced safety improvements in the use of MHF
  - Ensure all safety measures in place
  - Minimize off-site impacts from a potential release of MHF
- Incorporating interim control measures in PR 1410 ensures facilities adhere to API recommended practices and additional PR 1410 requirements

Proposed Enhanced Mitigation

- Enhance current mitigation efforts
  - HF Detection Systems
  - Water Mitigation Systems
  - Physical Mechanisms
  - Uninterruptible power and water supply
  - Procedures/Training
  - Inventory Control
  - Inspections/Safety Audits
- More automatic activation – *make "active" mitigation more "passive"*
  - Water Mitigation Systems
  - Emergency Block Valves
  - Acid Transfer/Evacuation System

Upcoming SCAQMD Activities

- Soliciting feedback to generate preliminary draft rule language
- Begin preparing preliminary draft staff report
- Arrange meetings between alternative alkylation technology manufacturers and refineries to discuss commercial feasibility, transition time and costs
- Obtain any other available detailed conversion cost data
- Working on CEQA and Socioeconomic Analysis
- Next working group meeting in September 20, 2017 (at Torrance Toyota Center at 5:30 p.m.)

Schedule

Activity	Current Target Date
PR 1410 Working Group Meeting #6 (Torrance)	September 20, 2017
Release of CEQA Notice of Preparation/Initial Study	September 2017
Public Workshops/CEQA Scoping Meeting	October 2017
SCAQMD Refinery Committee Meeting	October/November 2017
Release of CEQA Draft EIR	November/December 2017
Governing Board consideration of PR 1410	TBD

NOTE: Additional Working Group meetings as needed

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