SCAQMD Activities Since Last Working Group Meeting

• SCAQMD staff met with TORC on June 7 and 28, 2017 to further discuss confidential MHF information
  - TORC explained derivation of Airborne Reduction Factor (ARF), important parameters for ARF, etc.
  - Staff requested supplemental information

• Staff met with TORC on July 25, 2017 regarding costs data for conversion to sulfuric acid catalyst technology
  - ~$600 MM (BMcD estimate) for 30,000 BPD alkylate, specific to TORC
  - New grassroots alkylation unit (DuPont’s SA alkylation technology)
  - Regeneration plant cost is extra
Today’s Working Group Meeting

• Working Group Meetings #2 and #3 presentations (on the PR 1410 website) covered:
  - Background
  - API 751 recommendations
  - Initial concepts for active and passive mitigations, inspections and audits

• Presentation today will focus on:
  - Proposed Rule Concept
  - Proposed Interim Control Measures (“Enhanced” Mitigation)

• Staff is soliciting comments on proposed rule concept and interim control measures
Findings from MHF Alkylation Technology

• Mobil conducted experiments (small- and large-scale) and comparative modeling from which ARF was calculated

• Based on information from TORC, ARF is a measure of “rainout” MHF in the event of a MHF leak
  - 50% ARF when combined with MHF chemistry
  - Vapor barriers provide an 89% ARF when combined with MHF chemistry

• Staff concerned with information provided by TORC
  - Could not locate an experiment based on all current operating conditions (pressure, temperature, weight % HF)
  - Reliance on MHF vapor barriers (e.g., flange shrouds, settler pans, pump seals) functioning
  - Based on information received to date, insufficient evidence that a dense vapor cloud does not form
Necessity of Phase Out MHF Technology

• Staff initial conclusion is that the testing/modeling information provided by TORC did not sufficiently demonstrate MHF would not flash atomize and form dense HF cloud

• Even existing mitigations do not guarantee 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

• A release of MHF has the potential to cause health risks to a significant number of persons

• A phase out of the use of HF is a preemptive measure to prevent an air pollution episode

• Implementing enhanced mitigation in the interim prior to a phase-out can minimize potential health risks caused by a release of MHF
SCAQMD’s Regulatory Authority to Regulate Hydrogen Fluoride (HF)

- “[L]ocal and regional authorities have the primary responsibility for control of air pollution from all sources, other than emissions from motor vehicles.” California Health and Safety Code § 40000.

- “[R]ules and regulations may . . . provide for the prevention and abatement of air pollution episodes which, at intervals, cause discomfort or health risks to, or damage to property of, a significant number of persons or class of persons.” California Health and Safety Code § 40001(b).

- SCAQMD has the authority to adopt a rule to phase out the use of MHF. *Ultramar, Inc. v. South Coast Air Quality Management District*, 17 Cal. App. 4th 706-12 (1993). “[T]he Legislature clearly intended to vest AQMD with the authority to adopt preemptive measures designed to prevent air pollution episodes . . ..” *Id.* at 707.
Initial Concept for PR 1410

(Seeking input on timeframe)

Current MHF Alkylation Units

Install and Operate “Enhanced” Mitigation

Phase Out Use of MHF (Sulfuric Acid or Alternative Catalysts)
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 technologies may be a consideration
Enhanced Interim Control Measures

• Enhanced interim control measures would be required when using MHF until transitioned to alternative catalyst

• 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

• Beyond the 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

• Release preliminary draft rule language before next Working Group Meeting to solicit feedback
• Prepare 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
• Next working group meeting in September 2017
## Schedule

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<tr>
<th>Activity</th>
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<tr>
<td>PR 1410 Working Group Meeting #4 (SCAQMD)</td>
<td>August 2, 2017</td>
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<tr>
<td>PR 1410 Working Group Meeting #5 (Torrance)</td>
<td>September 2017</td>
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<tr>
<td>Release of CEQA Notice of Preparation/Initial Study</td>
<td>September 2017</td>
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<tr>
<td>Public Workshops/CEQA Scoping Meeting</td>
<td>September 2017</td>
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<tr>
<td>Release of CEQA Draft EIR</td>
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<tr>
<td>SCAQMD Refinery Committee Meeting</td>
<td>October/November 2017</td>
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<tr>
<td>Governing Board consideration of PR 1410</td>
<td>December 2017</td>
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*NOTE: Additional Working Group meetings as needed*
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