Torrance Refining Company

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VIA E-MAIL: pfine@aqmd.gov
VIA OVERNIGHT DELIVERY

December 12, 2017

Philip Fine, Ph.D.
Deputy Executive Officer
Planning and Rules
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Torrance Refining Company LLC's Response to Torrance Refinery Action Alliance's June 15, 2017 Presentation to the Proposed Rule 1410 Working Group #3

Dear Dr. Fine,

I am writing on behalf of the Torrance Refining Company ("TORC") regarding the presentation, "*MHF and HF Alkylation Unit Dangers are Equivalent*," given by Sally Hayati on behalf of the Torrance Refinery Action Alliance ("TRAA") Science Advisory Panel ("SAP") to members of the Proposed Rule 1410, Hydrogen Fluoride Storage and Use at Petroleum Refineries ("PR 1410") Working Group #3 on June 15, 2017. This presentation is further evidence that members of the TRAA SAP continue to present material and commentary as part of the PR 1410 rulemaking process that is organized to sensationalize and scare the public about perceived and unsupported dangers of the use of modified hydrogen fluoride ("MHF"). They continually offer false information, make unsubstantiated scientific claims, and misuse EPA's Risk Management Plan ("RMP") regulations, specifically the Worst-Case Scenario ("WCS"), in an effort to paint a potentially catastrophic picture of a theoretical MHF release.

We respectfully request that District staff hold the TRAA SAP to the same scientific and technical standards to which the District aims to hold itself, TORC, Valero, and other stakeholders during this rulemaking process. In line with this reasoning, we request that the District recognize that the TRAA SAP has not supported their claims in this presentation and any other(s) they have touted for these proceedings.

According to TRAA's website, some members of the TRAA SAP have Ph.D.'s in aerospace-related disciplines and computer engineering, as well as other non-refining fields. We note for the record they have no educational, experiential, or logical basis for presenting themselves as experts in alkylation or refining.

Cover Slide: Title Page

The cover slide for this presentation features four examples of incidents related to anhydrous hydrofluoric acid ("AHF"), which has markedly different release characteristics than MHF, as noted in the voluminous tests and models TORC has provided the District, as well as in permits issued by the District for both the Torrance and Wilmington Refineries, which respectively phased out the use of Hydrofluoric Acid ("HF") Alkylation in 1997 and 2007 with District cooperation and approval.

Ms. Hayati's oral comments on the four images on her cover slide were presented as scare tactics to alarm Working Group members, the public, and District staff, without differentiating MHF from AHF. In the interest of brevity, background information is provided on two of those images.

TORC Comments

- The title of TRAA SAP's presentation, "*MHF and HF Alkylation Unit Dangers are Equivalent*," contradicts the fact that the MHF technology has been thoroughly analyzed, reviewed, and determined to be as safe as or safer than Sulfuric Acid for a similarly sized alkylation unit at the Torrance Refinery by an independent Court-appointed Safety Advisor and a well-respected and experienced Los Angeles Superior Court Judge under the City of Torrance Consent Decree.

- The title also contradicts the District's determinations in the 1990's and 2003 when they approved permits for Torrance Refinery and Valero to use MHF, touting the switch from HF to MHF in 2003 as an "environmental justice initiative" that would virtually eliminate "... the potential for a catastrophic accidental release of this compound in our region ..."

Cover Slide - Image: Honeywell Hydrofluoric Acid Delivery Truck Rollover - Pennsylvania

TORC Comments

- This incident occurred in 2009; the tank containing unmodified HF (AHF) was not breached.

- A minor leak of residual AHF from a small vent pipe was contained and removed.

- Following protocol, police ordered a precautionary evacuation in response to this incident.

- Honeywell is using this incident to train emergency responders in how to appropriately manage a transportation incident involving HF or MHF.

- The two MHF and AHF vendors in the U.S. now supply acid in stainless steel tankers that provide an additional layer of protection.

Cover Slide - Image: Hube Global Chemical Incident - Gumi, South Korea

TORC Comments

- This AHF incident has nothing in common with the procedures, training, equipment, and mitigation used to offload and utilize MHF as an alkylation catalyst at the Torrance Refinery.

- The oral presentation failed to note the workers responsible for offloading the AHF in this incident were not wearing any personal protective equipment (PPE).
- The oral presentation also failed to note there were no safety mitigation systems in place at the unloading facility.
  - The workers were clearly using substandard and inadequate offloading equipment to transfer AHF from the tanker into the facility, which also went unmentioned.

- The plant reportedly supplied base materials to electronics, chemicals, cosmetics, pharmaceuticals and biotech industries - no nexus to refining petroleum products.

Slide 2: Hydrofluoric Acid (HF) Goldfish Release Tests - Nevada Desert 1986

TORC Questions

- What was the concentration and duration of exposure that resulted in alleged "4 times the potentially lethal concentration?"
- How does the exposure time associated with the Goldfish test's peak concentrations correlate to the time-basis for lethal exposure limits?

TORC Comments

- These tests on AHF took place before scientific studies to develop MHF had been initiated.
- Industry performed these tests to characterize AHF behavior involving flash atomization.
- As the extensive MHF testing data and Rainout modeling results show, flash atomization would not occur with MHF at the current operating temperatures and pressures for the Torrance Refinery MHF Alkylation Unit.
- The results of the Goldfish tests led industry to improve both dispersion modeling techniques and release mitigation systems.
- Case in point: the 2004 CEQA document for Valero's MHF ReVAP Project, for which the District used Quest Laboratory's "Momentum Jet Dispersion Model" in the Hazard Analysis to predict the dispersion of jet releases into ambient air in comparing releases of MHF to HF for the project. The model's validation data set included the Goldfish tests. *See* District's "Ultramar Inc. - Valero, Wilmington Refinery, Alkylation Improvement Project, Final EIR," Appendix C, Figure F-1, (SCH #20030536, certified December 16, 2004).

Slide 3: MHF Evaluated Despite "Trade Secret" Rights

TORC Questions

- What is the basis for the concentrations stated in the slide?

- Has the TRAA SAP identified the number of HF molecules that form the hydrogen bond with the Additive, and considered whether there is any relevance to factoring mole percent into determining release characteristics?

TORC Comment

- A mole ratio is not directly indicative of the chemical bonding phenomenon that affects release characteristics / quantities. For example, one molecule of Additive is approximately seven times larger in volume than one molecule of HF, allowing increased attraction. Testing shows multiple HF molecules bond with a single Additive molecule.

TORC Question

- Given the various release mechanisms that exist, how did the TRAA SAP correlate the vapor pressure data to release characteristics and the quantity of HF that becomes airborne, and what does that have in common with MHF?

TORC Comments

- The graph on slide 5 of the TRAA Science Advisory Panel's presentation is from US Patent US564251. The patent's author states that "the object of this invention to provide a novel alkylation catalyst having the desirable property of yielding a highly quality alkylate when utilized in the alkylation of olefins with paraffins but having a lower vapor pressure than that of hydrofluoric acid."

- Additionally, Patent US564251 states: "[t]his novel alkylation catalyst composition solves many of the problems that herebefore have been encountered in typical alkylation processes that use hydrofluoric acid as an alkylation catalyst. For instance, this novel catalyst composition has a significantly lower vapor pressure than that of the standard hydrofluoric and alkylation catalyst. The advantage of using an alkylation catalyst having a much lower vapor pressure than that of hydrofluoric acid is that a lesser amount of the acid catalyst will vaporize and enter into the atmosphere in cases where the catalyst is exposed to the atmosphere."

- Patent US564251 was meant to describe an "... improved alkylation process for the production of an alkylate product ...", and not provide a complete empirical dataset for the correlation of Additive quantities to expected release behaviors.

- The MHF mixture in the Torrance Refinery MHF Alkylation Unit is composed of five key components: HF, Additive, Water, Hydrocarbons, and ASO. The effects of these constituents are not reflected by the vapor pressure graph provided by TRAA SAP.

- ***There is no basis for directly correlating static vapor pressure measurements to the phenomenology associated with a release of MHF from an operating alkylation unit.***

Slide 4: MHF and HF are Equivalent Hazards

TORC Questions

- Were the MHF temperatures noted in the slide derived from actual experiments? If not, how were the temperatures derived?
- The slide states that at 95 degrees Fahrenheit the MHF aerosol will flow around barriers. How did the TRAA SAP determine this?
- What is the basis for the comment "Mobil's MHF & barrier ARF estimates are invalid for many reasons?" Please ask the TRAA SAP to provide the evidence and/or data to support this statement, including testing / modeling, and each of the "many reasons" they cite.

TORC Comments

- The slide title contradicts the District's approval in the 1990's and 2003 of the Torrance Refinery and Valero permits to use MHF, when District staff touted Valero's switch from HF to MHF in 2003 as an "environmental justice initiative" that would virtually eliminate "... the potential for a catastrophic accidental release of this compound in our region ..."
- The District also characterized its approval as an "enforceable agreement" with Valero Wilmington "to phase out the facility's use of the toxic chemical hydrogen fluoride by 2006."
- Voluminous MHF testing and Rainout Modeling data TORC provided to the District illustrate that in the event of a MHF release from our Alkylation unit, flash atomization of HF will not occur, while significant Rainout will occur under unit operating conditions; i.e., temperatures, pressures, typical HF concentrations, Additive, water, ASO, and hydrocarbons.
- The District characterized the change from HF to MHF at Wilmington in 2003 as: "Switching to modified HF will minimize the possibility of a catastrophic accidental release ..."

Slide 5: Misleading Arguments for MHF Safety Continue

TORC Comments

- To eliminate further intentional misuse and misinterpretation of the diagram labeled "Alkylation Unit," please note the diagram does not represent an Alkylation Unit and the process flow shown by the arrows is incorrect.
- Water is present in some amount in all AHF and MHF alkylation units. Similar to the Additive, water also forms hydrogen bonds with HF, contributing to Rainout as much or more than the Additive.
- Please note both the Rainout Model and ARF correlations accurately accommodate both water and Additive concentrations. The TRAA SAP should provide supporting facts and/or data to explain why they consider water to be a contaminant in the MHF mixture.

- Whether characterizing the amount of Additive by weight % or mole %, the important parameter for worker and community safety is the "airborne reduction factor" or "ARF," which predicts the HF percentage that will Rainout as a liquid during a release, as a function of acid, Additive, and water concentration.

Slide 6: Misleading Arguments for MHF Safety Continue

TORC Request

- Have the TRAA SAP explain their claim that "… 1 [Additive] molecule can't form H bonds with 60-70 HF molecules" and also provide supporting facts, and/or data to support this claim, including tests/models.

TORC Comment

- The same graph is incorrectly used on this slide and slide 3. As previously noted, Patent US564251 states: "… the object of this invention to provide a novel alkylation catalyst having the desirable property of yielding a highly quality alkylate when utilized in the alkylation of olefins with paraffins (sic) but having a lower vapor pressure than that of hydrofluoric acid."

Slide 7: MHF and HF are Equivalent Hazards

TORC Questions

- The TRAA SAP should explain and provide supporting facts and/or data for the differences between the temperatures for "boiling point, flash atomization and aerosol" on Slide 7 as compared to Slide 4.

- What is the basis for the statement: "Mobil's MHF & barrier ARF estimates are invalid for many reasons?" The TRAA SAP should provide supporting data or references to support their claim, including tests/models, as well as each of the "many reasons" to which they refer.

TORC Comment

- In 2003, the District directly addressed the combination of MHF and barriers: "To further minimize public exposure to potential HF releases, the [Wilmington] refinery is proposing to use modified HF in the alkylation process and upgrade its mitigation system to include deflector barriers for HF pumps and flanges. This proposed change meets the intent of the former Rule 1410 and will significantly reduce the potential for public exposure to this hazardous chemical in the event of an emergency release."

  See District's February 7, 2003, Governing Board Letter, Agenda No. 25. (Emphasis added)

Slide 8: Misleading Arguments for MHF Safety Continue

TORC Comment

- TORC does not use pressure to change the ARF. As previously discussed with the District, the ARF calculations performed and reported each shift at the Torrance Refinery for the MHF

Alkylation Unit are based on a polynomial equation that was derived from Rainout Model data at constant unit operating pressure.

Slide 9: Misleading Arguments for MHF Safety Continue

TORC Comments

This detailed commentary compares the chart TRAA presents in slide 9 (below, left) with the original chart and a related excerpt (below, right) from the applicable patent, which TRAA directly references in their presentation as [1] Mobil, Containment of an Aerosolable liquid jet, US5286456, 1992.

HF/Additive Tests		Pressure: 140 psig	
Additive wt %	Temperature °F.	Impact Plate & Pad Yes/No	Rainout wt %
50	110	N	64
50	110	Y	99
34	90	N	53

Large scale field tests of HF/Additive were conducted in a longer flow chamber. The flow chamber was long enough to allow full trajectories for the liquid released from an orifice at the front end of the chamber. As shown in Tests 34 and 33 of the following Table, the increased time of flight substantially decreased rainout and increased aerosol formation. However, as shown by Tests 36 and 37 of the Table, installation of an impact plate covered with steel mesh demistor pads at approximately 3 feet the orifice increased rainout by about 35-40%.

HF/Additive Tests

Test No	HF concentration wt %	Pressure psig	Temperature °F.	Impact Plate & Pad Yes/No	Rainout wt %
34	50	140	110	N	64
36	50	140	110	Y	99
33	66	140	90	N	53
37	69	140	90	Y	94

Based on these tests data the advantages of truncation of liquid jets of HF and HF/Additives in accordance with the present invention is evident. Applying the concept to an alkylation unit or any liquid container of high HF concentration requires some adaptation to the site specific design details of the equipment that might produce an accidental HF leak.

The data in blue boxes is missing from the TRAA chart

- The first, second, and third columns in the original patent table (right), labeled "Test No." "HF concentration wt %," and "Pressure psig" are missing from the TRAA SAP chart (above).
- TRAA substitutes a column with new data: "Additive wt %," in its chart for the missing third column, "Pressure psig," using a font type that mimics the original patent.
- The original chart's entire bottom row, labeled "Test No. 37," is missing from TRAA's chart.
- The patent's author references the deleted data featured in Test No. 37: "Tests 36 and 37 of the Table, installation of an impact plate covered with steel mesh demister pads at approximately 3 feet the orifice increased rainout by about 35-40%."
- The patent's author also states: "Based on these tests data the advantages of truncation of liquid jets of HF and HF/Additives in accordance with the present invention is evident."

Quotes and chart: US Patent Number 5,286,456, Column 4, HF/Additive Tests:

- A "question and answer" session followed the TRAA SAP presentation. When TORC's representative to the District's Working Group, Adam Webb, questioned Ms. Hayati about the TRAA SAP chart's deviations from the original, she replied: "That doesn't matter…it's not important."

- Manipulating data related to a patent to purposefully mislead an audience that includes regulatory officials, conducting a rulemaking, is unethical. TRAA SAP has previously used this altered chart in other presentations, a recurring intent to mislead the public, Working Group members, District staff, and government officials at every level.

- The TRAA SAP's presentation also states "20% [Additive] credited with 32% ARF at 90°F/50 psig. Described as 'fuming'." However, the referenced European Patent Application EP0796657B1 *Phillips, Alky catalyst containing hydrofluoric acid & a sulfone, 1992, <h\p://bit.ly/2hPLiNr>,* that TRAA SAP cites for this claim is actually indeterminate as to whether the HF catalyst or the alkylate product is fuming.

- Moreover, a "fuming" catalyst would not be indicative of flash atomization nor is any statement in the patent made as to whether this physical observation is unsafe or unexpected. Accordingly, the TRAA SAP is misrepresenting and taking out of context the reference to "fuming" in this patent application.

Slide 10: Overlapping RMP Circles

TORC Request

- The TRAA SAP again states that MHF risks are equivalent to HF risks. The TRAA SAP should provide both (1) an explanation of how they know this is the case and (2) their research; i.e., facts, evidence, and data, including tests/models that supports their claims and conclusions.

- The District should be concerned that TRAA SAP members once again appear to be purposefully confusing the facts by misrepresenting the MHF Alkylation catalyst technology used at the Torrance and Wilmington refineries. The District should also request that the TRAA SAP provide the source data used to create these circles.

TORC Comments

- In its "Final EIR" certified on December 16, 2004 for the Wilmington Refinery, the District states that "[t]he modified HF catalyst reduces acid vapor pressure sufficiently to suppress the usual flash atomization process of hydrofluoric acid, causing most of the acid to fall to the ground as an easily controlled liquid and reduces the potential for off-site consequences of an accidental HF release."

Slide 11: HF Alkylation - Rejected Years Ago in So CA

TORC Request

- How did the TRAA SAP calculate the circles shown in the graph? They should provide the source data they used to create the circles shown in the graph and explain how their circles conform to EPA guidelines for determining planning circles.

- The TRAA SAP should provide the technical reference or supporting evidence for their characterization that EPA's RMP regulations provide a "Lowball Official EPA MHF RMP Worst Case Scenario (WCS)".

TORC Comments

- Rather than a "low ball estimate," according to the EPA the RMP WCS analysis purposefully overestimates the potential hazard to create an ultra-conservative, unrealistic scenario. *See* EPA's "Evaluating Chemical Hazards in the Community: Using an RMP's Offsite Consequence Analysis" (550-B-99-015 Risk Management, May 1999).

- According to the EPA, the RMP WCS analysis is an emergency response planning tool, not a predictor of an event or incident.

- EPA also states that "[l]ocal emergency planning organizations can use RMPs to prepare response plans and allocate resources. *See* EPA's "Evaluating Chemical Hazards in the Community: Using an RMP's Offsite Consequence Analysis" (550-B-99-015 Risk Management, May 1999), p. 9.

- EPA cautions that "[c]haracterizing data using only worst-case scenarios can be misleading and unnecessarily alarming." *See Id.*, p. 7. Moreover, EPA has further cautioned that "[t]hey are not intended to represent a 'public danger zone' ". *Id.*, (emphasis added.)

- EPA RMP guidelines acknowledge that the WCS uses unrealistic modeling parameters and is an ultra-conservative, unrealistic scenario:

  > "Because the assumptions required for the worst-case analysis are very conservative, the results likely will also be very conservative ... The distance to the endpoint estimated under worst-case conditions should not be considered a zone in which the public would likely be in danger, instead it is intended to provide an estimate of the maximum possible area that might be affected in the unlikely event of catastrophic conditions."

- In determining the WCS, no active safety measures; i.e., automatic shutdown systems, firewater monitors, deluge systems, etc. or emergency response actions can be considered and weather conditions are purposefully deemed unfavorable.

- The WCS is modeled to a threshold of ERPG 2, which means there would be no irreversible or other serious health effects or symptoms that could impair an individual's ability to take protective action after one hour of exposure, but the RMP regulations require the release to occur over just 10 minutes. These factors add another level of conservatism to the WCS analysis, further skewing the consequences.

- Using a circular impact zone for the endpoint distance as the radius of potential impact or exposure is also inappropriate and incorrect, according to EPA. The actual potential impact or exposure would fall within more of an elliptical impact zone with a much smaller potential impact on the public. In this context, relying on the circular impact zone to determine the

number of people potentially impacted or exposed to an already ultra-conservative, unrealistic scenario provides an extreme overestimation of potential impact.

- In 1993, prior to the development of MHF, EPA conducted extensive research and created a summary report on the use of HF in the U.S., which at the time was more than 200,000 tons per year in over 500 facilities. In its Executive Summary , EPA states:

  > "The EPA does not recommend legislative action from the Congress at this time to reduce the hazards associated with HF. The Agency believes that the legislative authorities already in place provide a solid framework for the prevention of accidental chemical releases and preparedness in the event that they occur."

  See EPA's "Hydrogen Fluoride Study Final Report, Report to Congress, Section 112(n)(6) Clean Air Act" as amended (1993).

- In line with EPA' findings, the Torrance Refinery Alkylation Unit has never had any offsite release of HF from start-up in 1966 through conversion to MHF in 1997. Since then there has been no offsite release of MHF. Valero has stated in Working Group meetings that their unit has never had an offsite release of M/HF either.

- While remaining silent on the long-term performance records of the MHF alkylation units operating in the District, the TRAA SAP exaggerates the Worst Case Scenario and makes graphic references to unrelated incidents involving a different substance in other countries.

Slide 12 - Deny MHF Flashing; Invent H2SO4

TORC Question

- What is the basis for the statement that MHF flashing was denied and H2SO4 invented?

TORC Comments

- MHF testing and modeling data provided to the District by TORC illustrates that hydrodynamic shearing, not flash atomization, is the predominant release characteristic driving droplet formation, and rainout will occur in the event of a MHF release at the Torrance Refinery MHF Alkylation Unit current operating ranges; i.e., temperatures, pressures, and concentrations of HF, additive, water, ASO, and hydrocarbons.

- Sulfuric acid alkylation unit releases were identified in a 1991 District report as resulting in at least a 7% airborne percentage for sulfuric acid in contact with hydrocarbon. When compared using the DEGADIS model looking at dispersion of potential releases, the MHF process was shown to be as safe or safer than sulfuric acid alkylation, which was also referenced by the Court in the Torrance MHF Alkylation Consent Decree.

Slide 13 - MHF Failure as Alkylation Catalyst was Predictable & Predicted

TORC Question

- Is the data the TRAA SAP provided associated with an AHF unit or an MHF alkylation unit? TRAA should clarify their claim; identify the "predictor" and what was "predicted:" provide data supporting their claim of "MHF failure," including tests/models; and provide a specific example(s) of "MHF failure."

TORC Comments

- Current MHF Alkylation Unit concentrations are maintained at a significant safe operating margin. In the Torrance Refinery MHF Alkylation Unit, acid concentration is monitored continuously via an online MHF analyzer to ensure stable unit operations and laboratory-tested twice daily.

- In a 2004 letter to the District Governing Board, District staff wrote: "The unique physical properties of the additive substantially reduce the volatility of the acid at ambient conditions. This reduction in volatility proportionately reduces the amount of HF that can vaporize and subsequently disperse off-site from a given liquid release quantity."

Slide 14 - MHF: Nothing But Failures & Broken Promises

TORC Questions

- What is the basis for the Additive/HF concentrations identified in the barrels at the top of the page?

- The TRAA SAP should explain the basis for and provide testing results that support their claim that MHF is "100% airborne upon release."

TORC Comments

- The TRAA SAP alleges that the Additive concentration that was approved in 1999 for use in the Torrance Refinery MHF Alkylation Unit was a secret. Consistent with the Court-ordered Consent Decree process, this concentration was reviewed, vetted, and approved by the Torrance Fire Department ("TFD"), TFD's independent third-party consultant, a respected and experienced Superior Court judge, and an independent Safety Advisor appointed by the Court. The City Council and the refinery's prior owner subsequently entered into a Consent Decree, which is still in effect today.

- The TRAA SAP continues misrepresenting the Additive concentrations associated with the Torrance Refinery MHF Alkylation Unit. The percentages in the barrels at the top of this slide are incorrect. The actual percentages at each stage of the MHF conversion process can be found in the un-redacted Safety Advisor report (*see* Document 3, "Evaluation of Modified HF Alkylation Catalyst", p. 9, (October 1999), which TORC disclosed to the District on May 4, 2017 under Trade Secrets/Confidential Business) shown below. The 50% Additive was never considered an option.

{TABLE ES.1

SUMMARY OF SELECT OPERATIONAL PARAMETERS

(Ref. 4, 825.01, 5)

PARAMETER	COURT-APPROVED (1995)	PROPOSED INTERIM CONFIGURATION (March-May 1998)	PROPOSED FINAL CONFIGURATION (> May 1998)
HF in Process	70 wt%	76 wt%	81 wt%
Additive in Process	~19 wt%	~13 wt%	~8 wt%
HC+ASO+Water in Process	~11 wt%	~11 wt%	~11 wt%
HF in HF/Additive Mixture	~78.6 wt%	~85.4 wt%	~91.0 wt%
Additive in HF/Additive Mixture	~21.4 wt%	~14.6 wt%	~9.0 wt%
Airborne Reduction Factor (ARF)	~65%	~59% (unbarriered) ~91% (barriered)	~50% (unbarriered) ~89% (barriered)

}

- All the patents the TRAA SAP references indicate that 50% Additive does not work and alkylate quality would be significantly reduced. Barrier effectiveness was proven in the early to mid-1990's as indicated in the referenced patents and MHF testing documents TORC has previously provided to the District.

- The MHF Additive is the most advanced, proven alkylation catalyst technology currently in-use on a commercial scale globally. The Additive in MHF alkylation has been tested, modeled, reviewed, and approved by a respected and experienced Superior Court judge, the independent Court-appointed Safety Advisor, the TFD and its consultants, and has been permitted by the District. The record shows that the Torrance Refinery MHF Alkylation Unit has a proven 20+ year record of running safely and reliably without any release impacting the community. Throughout this period, the unit has been making high quality alkylate, a necessary component for CARB gasoline, helping to keep California's air cleaner, while allowing Californians the freedom to travel to their chosen destinations every day.

- In its February 7, 2003, Governing Board Letter, Agenda No. 25, regarding the request that the Board "Authorize Executive Office to Execute MOU between AQMD and Valero Wilmington Refinery to Replace the Use of Concentrated Hydrogen Fluoride with Modified Hydrogen Fluoride", the District Executive Officer stated the following about the MHF technology and barriers:

  "To further minimize public exposure to potential HF releases, the refinery is proposing to use modified HF in the alkylation process and upgrade its mitigation system to include

deflector barriers for HF pumps and flanges. This proposed change meets the intent of the former Rule 1410 and will significantly reduce the potential for public exposure to this hazardous chemical in the event of an emergency release."

- Torrance continues to use several types of barriers and conducts annual tests with the TFD.

* * *

In closing, TORC trusts District staff finds our detailed response to TRAA SAP's June 15th presentation to be respectful, enlightening, and of value to the proceedings associated with the PR 1410 rulemaking. We recognize the data supporting the efficacy, safety, and reliability of MHF alkylation can be difficult to analyze correctly without comprehensive knowledge of and experience with the processes, designs, and operations of alkylation units. Thorough examination and analysis requires access to and understanding of relevant technical information and broad experience in refining and alkylation, which Ms. Hayati and other members of the TRAA SAP lack.

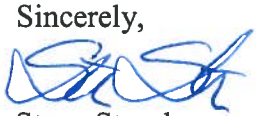
Frankly, we view the gross misrepresentations in this presentation as yet another example in a long line of the TRAA SAP's attempts to discredit MHF technology by presenting myths camouflaged as facts. Similarly, they have continuously attempted to discredit the court-appointed Safety Advisor, Superior Court judge who oversaw the Consent Decree process, Torrance City Council members and Fire Department, and anyone else associated with this issue, while we note again that SAP members have no experience in or education related to refining or alkylation.

We note for the record and as an indicator of our cooperative, collaborative intent that we have previously provided the District with MHF test results, modeling, and other research and interpretative data, as well as explanatory letters and responses to District presentations, all of which support the efficacy of MHF, including historic District documents. We see this response as another step in setting the record straight regarding MHF and welcome District staff's comments, feedback, and/or questions on this and/or any other materials we have submitted to the District, as well as responses to the questions and requests tendered in this document.

We plan to continue working collaboratively and openly with the District to conclude a rulemaking based on sound science and technology, including the current state of Alkylation technologies, API-RP 751, and the established permit history involving both refineries' MHF alkylation units.

Please note that in submitting this letter, TORC reserves the right to supplement its responses and comments as it deems necessary, especially if additional or different information is made available to the public regarding the PR 1410 rulemaking process.

Sincerely,



Steve Steach
Refinery Manager

cc: Wayne Nastri, via e-mail
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Mike Krause, via e-mail
Dr. William A. Burke – Governing Board Chairman, via overnight mail
Ben Benoit – Governing Board Vice-Chairman, via overnight mail
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