

BOARD MEETING DATE: September 6, 2019

AGENDA NO. 17

REPORT: Refinery Committee

SYNOPSIS: At the February 1, 2019 Board meeting, staff presented hazards, and key issues related to the use of hydrogen fluoride. The Board directed staff to work with both the community and industry over the next 90 days to reach resolution, present proposals to the Refinery Committee for review, with the Committee making recommendations to the full Board. Staff provided an update to the Refinery Committee on Saturday, June 22, 2019. This item includes a summary of the meeting and recommendations from the Refinery Committee. Subsequent to the meeting, both affected refineries sent letters stating their willingness to install additional mitigation measures that are designed to provide additional protection relating to the use of hydrogen fluoride, without the need for rulemaking or a memorandum of understanding. Copies of these letters are attached. The Board may take action on, and provide direction to staff, concerning these issues.

RECOMMENDED ACTIONS:

1. Receive and file this report; and
2. Discuss and possibly take action in response to the letters from the affected refineries.

Larry McCallon, Chair
Refinery Committee

PF:SN:HF:MK

Committee Members

Present: Mayor Pro Tem Larry McCallon/Chair
Mayor Judith Mitchell/Vice Chair
Supervisor Lisa Bartlett
Council Member Ben Benoit
Supervisor Janice Hahn.

Call to Order

Chair McCallon called the meeting to order at 10:03 a.m.

At the February 1, 2019 Board meeting, staff presented hazards and key issues related to the use of hydrogen fluoride at refineries. The Board directed staff to work with both the community and industry over the next 90 days to reach resolution and present proposals to the Refinery Committee for review, with the Committee making recommendations to the full Board. Staff held 19 meetings with the community, unions, and refineries discussing both an MOU and a rule approach focusing on a performance standard. As directed by the Board, staff presented a status update of these meetings to the Refinery Committee on Saturday June 22, 2019. Subsequent to the meeting, both affected refineries sent letters stating their willingness to install additional mitigation measures that are designed to provide additional protection relating to the use of hydrogen fluoride, without the need for rulemaking or a memorandum of understanding. Copies of these letters are included as Attachments B and C. The following is a summary of the meeting.

Welcome/Opening Remarks

Chair McCallon thanked the audience for attending the Refinery Committee (Committee) meeting on a Saturday and outlined the meeting agenda. Supervisor Hahn questioned the longer presentation time provided to the refineries and union representatives that did not equal the time allotted to the community organizations.

Overview

Executive Officer Wayne Nastri informed the Committee that since the February Board meeting, staff has been working with Torrance Refining Company (TORC) and Valero Refinery (Valero), as well as community organizations on the development of a performance standard that would include a health protective threshold and mitigation measures demonstrated to protect the public from a consequential release. Mr. Nastri also highlighted some recent accidents at refineries using hydrogen fluoride (HF): Torrance – Exxon-Mobil Refinery in 2015; Wisconsin – Husky Refinery in 2018; and Philadelphia – Philadelphia Energy Solutions Refinery on June 21, 2019. Mr. Nastri reminded the Committee that staff was seeking specific guidance as to an acceptable threshold, receptor location, and allowable mitigation.

Susan Nakamura, Assistant Deputy Executive Officer/Planning, Rule Development and Area Sources, provided a summary of the discussions with refineries and community organizations regarding the performance standard, and highlighted the areas of agreement for key elements of the standard such as the threshold, release scenarios, mitigation and demonstration. Ms. Nakamura concluded her presentation by noting additional staff work on the amount of credit for mitigation, modeling details, and implementation timeframe.

Following Ms. Nakamura's presentation, Mr. Adam Webb, Senior Engineer at TORC, presented the position of the refinery that supports the continued use of modified HF (MHF). He asserted that to phase out its use is not justified, citing a safe operating

history. In addition to existing mitigation systems and mechanical integrity programs, TORC proposed an enhanced mitigation measure of a steel structure similar to a dome over the settler tanks with automated water systems and laser detection capability. TORC viewed the demonstration of the standard to be conservative but requested the receptor location be a permanent residence and threshold be a time-averaged 10-minute exposure of a level three of the U.S. EPA's acute exposure guideline levels (AEGL). Finally, TORC is ready to install the additional enhancements in accordance with an MOU.

Mayor Mitchell inquired as to the change in the percent additive from the original consent decree and Mr. Webb noted the original formulation of MHF was approximately 19 percent additive, but could be lowered once water and barrier mitigation were installed and considered beneficial. Mayor Mitchell expressed concern as to whether all possible scenarios would be demonstrated to have a safe outcome. Mr. Webb responded that is how their hazardous risk assessment is conducted and the performance standard is not a statistical risk-based approach but rather a consequential impact approach. Mr. Webb confirmed that their facility does have supplies of calcium gluconate but was not certain as to local hospital inventory. Mr. Webb reminded the Committee that every five years they conduct a hierarchical control analysis, which requires a review of new technology to determine if it is inherently safer and viable. TORC will continue to explore new alkylation technologies but, at this time, it is not economical or technically proven to replace MHF. He cited the technology licensee, UOP's, opinion that it would require 5-6 years of new technology operation before adopting new technology on a full scale. Ionic liquid technology is currently being installed at a Chevron refinery in Salt Lake City with an estimated start-up in 2020. Alkylate production at TORC is approximately 25,000 barrels per day.

Supervisor Hahn noted the positive contributions from the refinery to the community and that no HF offsite release so far is due to good management and mitigation practices. However, she inquired as to how the refinery plans to mitigate major explosions like the one experienced on June 21, 2019 in Philadelphia. Mr. Webb highlighted that none of the accidents at refineries using HF resulted in a release of HF, which means that the mitigation measures, such as the acid evacuation system, function as designed. He believes there are always ways to make a facility safer but the new technology has not proven itself to be safer when viewing the system holistically. He also stated the refinery has not informed the workers that their jobs were at risk from the proposed project.

Mr. Richard Walsh, Senior Vice President and Deputy General Counsel for Valero, recapped that there already is an MOU between Valero and South Coast AQMD, and they have been operating the alkylation unit safely for 33 years. He provided an overview of all the existing mitigation measures and proposed new additional mitigation. He listed those areas of agreement and also areas where there is not

agreement between Valero and South Coast AQMD staff. Valero supports the use of AEGL-3 to the nearest permanent residence, commits to installing enhanced mitigation, and is ready to sign an addendum to the existing MOU.

Chair McCallon questioned the supply of the antidote in light of the Philadelphia refinery fire, to which Mr. Walsh believed calcium gluconate is widely available and easy to prepare. He added that the HF mitigation systems were activated at the Philadelphia refinery and resulted in no HF release. Supervisor Bartlett asked about the difference in truck trips due to the use of HF or sulfuric acid, and Mr. Walsh explained how, unlike HF, sulfuric acid needs to be regenerated so approximately 400 truck trips per month would transport spent acid offsite if a regeneration plant is not onsite. She also inquired about the use of barriers and their effectiveness similar to TORC. Mr. Walsh noted that the refineries have different configurations of their settler(s) so the barrier technology will be different but the effectiveness results are the same. Mayor Mitchell inquired about the analysis approach and Mr. Walsh replied that the consequential analysis is being applied and not the probability for release. Mayor Mitchell also asked about the CDAIky® advanced sulfuric acid technology being used at another Valero refinery in Louisiana. Mr. Walsh viewed new technology as only proven when operating successfully in full scale and would not recommend changing if it may not work. He provided examples of how new technology in the past had trade-offs that proved not viable for continued use.

Supervisor Hahn complimented Mr. Walsh for saying it would be devastating to have a release of MHF. Mr. Walsh confirmed that Valero would support safer technology if feasible. Supervisor Bartlett inquired as to the process the refinery would have to take to switch from HF to sulfuric acid. Mr. Walsh pointed out they are different systems with different equipment, but sulfuric acid is less efficient, not as safe, requires more space, and no refinery has ever converted from HF to sulfuric acid.

Ron Miller, Executive Secretary for the Los Angeles/Orange Counties Building and Construction Trades Council, stressed the importance of safety and believes that the mitigation will assist in reducing injury similar to the benefits from seatbelts during car accidents.

John Hanna, Southwest Regional Council of Carpenters, highlighted the inherent risk in operating a refinery, and the importance to have skilled workers and a safe workplace. He supported the MOU approach with enhanced mitigation, and no phase out of HF. He also was not told that the refineries would close as a result of this issue.

Supervisor Hahn asked if the unions would support a safer technology if viable. Mr. Hanna emphasized the importance of safety to workers but understood that new technology might be too costly. He added it will be critical to ensure the industry does what they say will be done.

Three speakers represented community groups.

Cliff Heiss from the Torrance Refinery Action Alliance spoke about a performance standard that actually protects the community and requested larger hole sizes from a major release and only passive mitigation similar to U.S. EPA's worst case scenario parameter under their risk management program. A video was subsequently shown highlighting points made by South Coast AQMD staff at the February Board meeting regarding an HF release and impact to the body. It also provided examples of incidents when the mitigation systems failed, and how the mitigation can reduce but not eliminate the risk from a major accident.

Alicia Rivera, community organizer for Communities for a Better Environment, spoke about the urgent need to phase out HF in four years and build new systems that would generate jobs. Her organization would not support an MOU or a performance standard.

Dr. Sally Hayati of Ban Toxic HF noted that no performance standard would be acceptable even with multiple layers of redundant systems and that being exposed to 95 ppm for 10 minutes could kill people. She reminded the Committee of the 1984 Union Carbide Bhopal accident for which the plant was designed to be failsafe, with multiple layers of mitigation (e.g., water curtain, storage underground, etc.). All the mitigation failed and as a result, 30,000 people died and 500,000 people were permanently injured. She provided modeling results from catastrophic releases from both refineries even with mitigation, and that an evacuation is not feasible and sheltering in place is not adequate. Dr. Hayati believes MHF replacement will create approximately 400 jobs at each refinery and they would not shut down. She did not believe all possible disaster scenarios could be foreseen and thus refineries would be unable to design a failsafe system.

Supervisor Hahn questioned how the community will react if an increased number of trucks result from conversion to sulfuric acid. Dr. Hayati was more concerned about HF trucks, thinks the number of sulfuric acid trucks is exaggerated and is less than one percent of the daily truck trips in the area already. When asked about what scenario concerns her most, Dr. Hayati responded a six-inch hole size and the acid evacuation pipe that would interfere with the ability to remove the HF to a safe location.

Mayor Mitchell asked questions regarding HF vapor, aerosolization, wind effects and location of schools in the area. Dr. Hayati described how HF "flashes;" how wind speed can help dispersion and that still conditions are more dangerous; 22 schools in the affected areas including nine pre-schools; and vapors can still seep into a home if exposed for long periods of time.

Public Comment

Seventy speakers, including the general public, refinery workers, union members, and residents that live around the refineries, provided testimony. Key comments included:

- There are other science-based health protective standards that are as low as 1-3 ppm concentration;
- The only failsafe solution is to phase out the use of HF, but 8 years is too long;
- Phase out HF in four years, and no performance standard;
- A 10-minute exposure time cannot be supported, longer exposure durations should be evaluated;
- Accidents do happen so cannot rely on mitigation;
- Support for alternative new technology;
- Concern about lack of local supplies of the antidote if there is an accident;
- Disabled people would not be able to evacuate;
- Not phasing out MHF supports environmental racism;
- Existing truck traffic counted 1,359 per day, so 25 more trucks per day is negligible;
- Sulfuric acid is not as dangerous as HF;
- Support enhanced mitigation measures;
- Support the MOU approach and oppose a rule;
- MOU would mean no job loss and no gasoline price spikes for consumers;
- Refineries contribute to helpful programs in the community and for the youth;
- Advantage of the MOU is the ability to design for each unique refinery;
- Increasing safety measures will generate jobs and keep refineries operating;
- Safety is a priority;
- 50 years of operation at Torrance with no offsite release of HF; and
- Would not work at the refinery if concerned about safety.

Below is the list of 70 speakers who provided public comments (names and organizations are listed based on information provided on the submitted speaker card at the meeting).

1. Maribel Alejandra – Non-Profit
2. Jane Alfonso – Redondo Beach resident
3. Fernando Altamirano – Resident of Wilmington
4. Isabel Alverenga – CBE
5. Matt Anderson – San Pedro Resident, Valero Employee
6. Carlos Barajas – Employee of Valero and Wilmington Resident
7. Monique Barajas – United Wilmington Youth & Wilmington Resident
8. Linda Bassett – Teacher in Wilmington
9. Doug Bender – Torrance Resident
10. Alicia Berhow – OC Biz Council
11. Julie Bofinger – Torrance Employee
12. Christine Bos – LB Area Chamber of Commerce
13. Caroline Brady – Friends of Cabrillo Marine Aquarium
14. Tim Brewer – TRAA
15. Katie Butler – L.A. County Public Health
16. David Campbell – United Steel Workers
17. Beatriz Carrillow – Wilmington Resident
18. Kathy Clay – TRAA
19. Charlie Clendor – Torrance Resident
20. Anna Christensen – Long Beach, Sierra Club
21. Alex Constant – South Bay Resident
22. Steve Dillow – Torrance Resident
23. Scott Easley – Intl Brotherhood of Electrical Workers
24. Harvey Eder – Solar Power Coalition
25. Editha – Valero Employee
26. Genghum Eng – Torrance Resident
27. Jim Eninger – TRAA Science Advisory
28. Laura Espinoza – Wilmington Resident, Mothers of Wilmington
29. Tommy Faavae – IBEW, Local Union 11
30. Melissa Fimbres – Valero Employee
31. Armando Flores – VICA & Long Beach Chamber of Commerce
32. Yolanda Fuentes – San Fernando Valley Resident
33. Gina – Lives near Refinery
34. Bianca Garcia – Energy Pathway Program
35. Jan Gardner – Retired Physician, Palos Verdes Resident
36. Florence Gharibian – Del Amo Action Committee
37. Joseph Goldblatt – Valero Wilmington Employee
38. Steve Goldsmith – TRAA
39. Amelia Gonzalez – Resident of Wilmington
40. Jose Gonzalez – Resident of Wilmington
41. Laura Gracia – CBE
42. Amy Grat – Wilmington Chamber of Commerce
43. Donna Heise – Torrance Resident
44. Ashley Hernandez – Wilmington Resident
45. Katherine Hoff – CBE
46. Margie Hoyt – South Bay Resident
47. Joyce Karel – TRAA
48. George Kivett – South Bay Assoc of Chamber of Commerce
49. William Knopf – Sacramento, CA Asphalt Pavement Association, Sacramento
50. Katherine Luciano – Scientist & Torrance Resident
51. Minh Luu – Boys and Girls Club
52. Jesse N. Marquez – Coalition for a Safe Environment
53. Bridget McCann – WSPA
54. Jasmin Mena – Boys and Girls Club, Los Angeles Harbor
55. Esmeralda Mendez – Valero Wilmington Employee & Wilmington Employee
56. Dorothy Moore, MD – Torrance Resident
57. David Poster – TRAA
58. Bill Reynolds – Wilmington Resident
59. Christopher Rodriguez – Father works at Valero
60. Amalia Sanchez – City of Wilmington Resident
61. Al Sattler – Sierra Club, South Bay
62. Carrie Scoville – San Pedro Democratic Party
63. Steven Steach – TORC Employee & Torrance Resident
64. Connie Sullivan – TRAA
65. Elise Swanson – San Pedro Chamber of Commerce & Torrance Resident
66. Donna Tarr – Nearby Refinery Resident
67. Sarah Wiltfong – Bizfed
68. Mike Wolf – 1st Choice Services
69. Carolyn Yoshida – Torrance Resident
70. Frank Zambrano – South Coast Region Carpenters

Public testimony was followed by comments from the Refinery Committee members.

Supervisor Hahn wanted a solution that supports jobs and reduces risk, and believed a safer alternative to HF would not lead to a loss of jobs but would protect workers from this dangerous chemical. She expressed the need to ban HF with a deadline now with interim measures taken to protect the community.

Mayor Mitchell also believed phasing out HF should not cost jobs and was concerned about analyzing all possible scenarios including those events that never happened before citing examples of the Philadelphia refinery fire/explosions, the 2015 Exxon Mobil explosion, and the Chernobyl nuclear accident. She highlighted that the risk is avoidable, albeit a burden on the refineries, and supports near term mitigation and long-term phase out especially when recognizing how quickly new technology can be adapted.

Council Member Benoit supported safer technology but acknowledged it is not commercially proven now, so recommended MOUs as soon as possible. Supervisor Bartlett stressed the need for public safety and innovative alternatives; however, supported MOUs with mitigation and when technology is proven, then require it in the long term.

Chair McCallon reminded the Committee that refineries are required to review their equipment every five years and determine if there is better technology to install and operate. He supported the additional state of the art mitigation measures by the refineries and viewed the one-inch hole as a credible scenario. Chair McCallon introduced the following motion:

DIRECT AQMD STAFF TO CONTINUE TO WORK TO DEVELOP SEPARATE MOUS WITH THE TORRANCE AND WILMINGTON REFINERIES WITH THE GOAL OF BRINGING THEM TO THE FULL GOVERNING BOARD FOR APPROVAL AT THE NOVEMBER 2019 MEETING. THE MOUS SHALL INCLUDE: A DEMONSTRATION OF MEETING A HEALTH PROTECTIVE PERFORMANCE STANDARD OF AN AVERAGE EXPOSURE CONCENTRATION OF 95 PPM, OVER 10 MINUTES, AS MEASURED AT THE NEAREST PERMANENT RESIDENTIAL RECEPTOR, A DEMONSTRATION BASED ON CREDIBLE RELEASE SCENARIOS SPECIFIC TO EACH REFINERY'S MHF ALKYLATION UNIT USING A 1 INCH RELEASE HOLE SIZE, AND IDENTIFICATION OF AND CREDIT OF ALL EXISTING AND PASSIVE MITIGATION MEASURES

AS WELL AS NEW PASSIVE AND ACTIVE
MITIGATION ENHANCEMENTS PROPOSED IN THE
DEMONSTRATION OF MEETING THE
PERFORMANCE STANDARD.

Mr. Nastri reminded the Committee that an average exposure concentration of 95 ppm over 10 minutes could result in a one-minute exposure of 950 ppm.

Supervisor Hahn stated the need to eliminate, and not just reduce, the risk from an HF release. She reminded the Committee that all the Los Angeles County Supervisors support a ban of HF as well as the L.A. County Department of Public Health. She would allow the refineries to decide on the alternative technology but what needs to be determined is how long they would have to transition.

Mayor Mitchell reiterated support of a rule to ban MHF and in the interim have mitigation that could be implemented through an MOU. She would not support one to two-inch hole size but rather the scenario of the whole inventory being released. She would support all passive and active mitigation, but the receptor location should be the fenceline. Threshold preference would be AEGL-1 and AEGL-3 is not acceptable. She emphasized that a rule with timelines provides certainty for industry.

Supervisor Bartlett maintained support for an MOU with a rule at a later date and highlighted that mitigation will reduce the risk from a release of MHF.

Supervisor Hahn requested a pivot to phase out if the performance standard is not met, but the Chair McCallon did not think it was necessary to include a phase out in an MOU. He added that if the refineries cannot meet the performance standard with all additional mitigation then we would revert to a rule.

At the conclusion of the discussion, the motion was moved by Chair McCallon and seconded by Council Member Benoit. The motion passed by the following vote:

AYES: Barlett, Benoit, McCallon
NOES: Hahn, Mitchell
ABSENT: None

Other Public Comments

Harvey Eder from the Public Solar Power Coalition encouraged immediate total solar power conversion and listed past plans supporting solar. Anna Christensen from the Sierra Club asked that South Coast AQMD support the lawsuit on the Los Cerritos Wetlands project that is generating high amounts of greenhouse gas emissions. Torrance resident Dr. Genghmun Eng inquired about the MOU process and public

participation to which he was assured the public would be given the opportunity to participate in the final product.

The meeting was adjourned at approximately 2:49 p.m.

Attachments

- A. Presentations for the Refinery Committee have been posted online and can be accessed from the following webpage: <http://www.aqmd.gov/nav/about/groups-committees/refinery-committee>.
- B. Torrance Refining Company Proffer Letter
- C. Ultramar Proffer Letter



Torrance Refining Company LLC
3700 W. West 190th Street
Torrance, CA 90504
www.torrancerefinery.com

VIA OVERNIGHT MAIL

August 30, 2019

Honorable Mayor Larry McCallon
Refinery Committee Chair
Governing Board Member
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Subject: Torrance Refining Company LLC Voluntary Modified Hydrofluoric Acid Alkylation Unit Safety Enhancement Commitments

Dear Mayor McCallon,

As you are aware, Torrance Refining Company LLC (“TORC”) has been working with the South Coast Air Quality Management District (“District”) in connection with the rulemaking process for “Proposed Rule 1410, Hydrogen Fluoride Storage and Use at Petroleum Refineries” (“PR 1410”), which impacts TORC’s Torrance Refinery. This process has been focused upon enhancing the safety of the Modified Hydrofluoric Acid (“MHF”) alkylation catalyst technology utilized at the Torrance Refinery. Through the very rigorous PR 1410 public process, which has included the participation of various stakeholders at public Refinery Committee meetings as well as Working Group meetings with District staff, we have demonstrated that MHF continues to be safe to use at the Torrance Refinery’s current operating conditions. The existing safety systems are multi-layered and redundant in order to contain and prevent any offsite release of HF and protect Refinery personnel and the community while allowing TORC to reliably produce alkylate, which is a critically important blending component that is necessary for the production of compliant California reformulated gasoline.

Based on the June 22, 2019 Refinery Committee meeting, the PR 1410 process currently involves the negotiation of a Memorandum of Understanding (“MOU”) and/or rulemaking for the implementation of safety enhancements. The implementation of additional state-of-the-art safety enhancements at the MHF Alkylation Unit have been part of the ongoing discussions with the District. Continuation of the PR 1410 process will delay critical decision-making by TORC regarding the implementation of these further enhancements. Additionally, it is clear that a safer and viable alternative technology for HF and MHF currently does not exist. As communicated throughout the PR 1410 public process, even though the MHF Alkylation Unit’s existing safety systems already have been successful and proven in protecting Refinery personnel and the community, TORC has devoted significant time and resources to identifying additional technological enhancements that will ensure the safest possible use of HF and MHF in the Unit. TORC has reached a critical juncture in terms of its ability to timely implement the proposed safety enhancements as currently proposed by the next scheduled unit turnaround anticipated to take place in early 2021.

In order to obviate the need for further rulemaking with respect to the use of HF and MHF at the Torrance Refinery, TORC proffers to implement the safety system enhancements set forth on **Exhibit A** beginning

Honorable Mayor McCallon, Refinery Committee Chair,
South Coast Air Quality Management District
August 30, 2019
Page 2

in 2020 with anticipated completion in 2021 (the “Voluntary Safety Enhancements”), in accordance with the terms and conditions hereof and thereof. Acceptance of this proffer by the District Governing Board will be the most expeditious means of implementing the safety enhancements at the Torrance Refinery and is in the best interest of all stakeholders. It is our understanding that acceptance of this proffer by the District Governing Board will require an affirmative vote and appropriate Board direction to staff. In the event of delays in completing the implementation of the Voluntary Safety Enhancements due to circumstances that are beyond TORC’s reasonable control, TORC will notify the District as soon as it is aware of possible delays.

Of course, if the District Governing Board elects not to accept this proffer on the terms and conditions hereunder, TORC will continue to participate in negotiation of an MOU under the PR 1410 process and will defer the implementation of the Voluntary Safety Enhancements until a full and complete resolution of the PR 1410 process.

* * *

TORC makes this proffer in good faith as a means of expediting the implementation of safety enhancements. As required by existing law¹, upon the successful implementation of the Voluntary Safety Enhancements, TORC commits to continue to explore the feasibility of inherent safety measures, including alternative alkylation catalyst technology, every five years. We hope that the Governing Board will favorably consider this proffer to provide additional near-term protection to Refinery personnel and the community.

In submitting this letter, TORC reserves the right to supplement this letter and its prior responses and comments as it deems necessary, especially if additional or different information is made available to the public for the PR 1410 process.

Please note that nothing contained in this letter is intended or should be construed as an admission or a waiver of TORC’s rights and remedies, whether legal or equitable, all of which are expressly reserved.

Sincerely,



Paul Davis
President Western Region

Enclosure (1)

cc: Trecia Canty, Senior Vice President & General Counsel
Steve Steach, Refinery Manager

¹ See Title 8 Cal. Code of Regs. § 5189.1(l); Title 19 Cal. Code of Regs. §2762.13.

EXHIBIT A

Voluntary Safety Enhancements

To further enhance the existing safety systems currently employed in the Torrance Refinery's MHF Alkylation Unit, TORC will implement the following Voluntary Safety Enhancements on the MHF Alkylation Unit, to further mitigate the likelihood and potential impact of any HF/MHF release from the MHF Alkylation Unit:

- 1) **Settler Area Protective Steel Structure** – TORC will install, maintain, and operate a protective steel structure around and over the MHF Alkylation Unit's acid settler area as additional passive mitigation to the existing settler pans, and as such, the structure will be:
 - a) Designed to protect the settlers from external impacts.
 - b) Designed to provide an additional barrier and promote an HF/MHF-water mixing environment to further increase MHF rainout in the event of a HF/MHF release from the settler area.
 - c) The south side of the structure facing the interior of the MHF Alkylation Unit will be designed to serve as a barrier and allow for natural light in order for unit operators and maintenance personnel to see into the structure's interior.
 - d) For the bottom of the structure, designed to be open to allow operators and maintenance personnel safe access to the settler area and reduce the potential of creating a flammable environment.
 - e) Designed to automatically deploy upon detection necessary volumes of water within the structure to mitigate a potential HF/MHF release from the settlers.
 - f) Designed and installed in accordance with industry and TORC's engineering standards, manufacturer specifications and guarantees, and pursuant to process safety hazard analysis, and operated consistent with, the City of Torrance Consent Decree ("Torrance Consent Decree")², American Petroleum Institute's Recommended Practice-751 ("API RP-751"), California Process Safety Management Program ("CalPSM")³, and California Accidental Release Prevention Program 4 ("CalARP")⁴ requirements, as applied by the Torrance Fire Department ("TFD"), Los Angeles County Fire Department ("LACFD"), the California Department of the Industrial Relations ("CalOSHA"), and California Offices of Emergency Management ("CalOES"), respectively.
 - g) Designed to prevent the creation of a confined space, to avoid interference with existing MHF Alkylation Unit mitigation systems, to minimize the confinement of flammable vapors, and to continue to provide for free ingress and egress from the unit within the safety and structural and foundation limitations of the unit.

- 2) **Settler Area Water Mitigation Dome and Curtain** – TORC will install, maintain, and operate a water mitigation dome and curtain over and around the MHF Alkylation Unit's acid settlers, and such dome and curtain, as additional active mitigation, and as such, the water mitigation system will:

² See Los Angeles County Superior Court, Case No. C 719 9530.

³ See Title 8 Cal. Code Regs. §5189.1.

⁴ See Title 19 Cal. Code Regs. § 2762.0.1 *et seq.*

- a) Include a new high volume water mitigation system around and over the acid settlers to promote mixing of water to contain a HF/MHF release in the settler area, while also creating a water curtain at the base of the structure, and will specifically consist of:
 - i) Two additional layers of water mitigation:
 - (1) Four overhead water monitors to form an umbrella dome inside the structure (Stage One).
 - (2) Spray curtain around the base of the structure (Stage Two).
 - b) Augment the MHF Alkylation Unit's existing water mitigation systems to provide a three-stage water response (Stage Three) in the settler area.
 - c) Automate upon HF/MHF detection in the acid settler area to allow a rapid and focused water mitigation response, specifically:
 - i) Automation of the new water mitigation system will allow water application and contact with any HF/MHF release after detection.
 - ii) The MHF Alkylation Unit's existing water monitors in the settler area can then be activated manually as needed to provide a third layer of targeted water mitigation (Stage Three).
 - d) Optimize the existing water mitigation monitors to ensure sufficient water mitigation coverage for the structure and acid settler area.
 - e) Be designed, installed and operated in accordance with industry and TORC's engineering standards, manufacturer specifications and guarantees, and pursuant to process safety hazard analysis, and operated consistent with the Torrance Consent Decree, API RP-751, CalPSM, and CalARP requirements as applied by TFD, LACFD, CalOSHA, and CalOES, respectively.
 - f) Ensure that the combination of the new monitors (Stage One) in the interior of the structure, spray curtains around the structure base (Stage Two), and the existing elevated monitors (Stage Three), can contain any credible HF/MHF release within the structure by the layered water mitigation systems.
- 3) **Settler Area Enhanced HF/MHF Detection System** – TORC will install, maintain, and operate an enhanced HF/MHF detection system in and around the MHF Alkylation Unit's acid settlers area, and as such, the detection system will:
- a) Include new open path laser detectors to monitor the acid settler area, and inside the structure.
 - i) These laser detectors will help identify any potential HF/MHF release and will automatically deploy the new water mitigation system within the structure upon detection.
 - ii) These laser detectors will allow Refinery operators to rapidly track and pinpoint the location of a HF/MHF release in the acid settler area.
 - b) Include new point source detectors to enhance the unit's existing detection system.
 - c) Include a new camera installed within the structure with video replay capability to provide visual monitoring of the settler area inside the structure.
 - d) Be placed, designed and installed in accordance with industry and TORC's engineering standards, manufacturer specifications and guarantees, and pursuant to process safety hazard analysis, and operated consistent with the Torrance Consent Decree, API RP-751, CalPSM, and CalARP requirements as applied by TFD, LACFD, CalOSHA, and CalOES, respectively.

- 4) **Northern Water Mitigation Monitors** – TORC will upgrade, maintain, and operate the northern water mitigation monitors, as enhanced active mitigation, and as such, the water mitigation system will:
 - a) Automate upon targeted HF/MHF detection to allow a rapid and focused water mitigation response, specifically:
 - i) Automation of the water mitigation system will allow proactive water application and contact with an HF/MHF release after detection.
 - ii) These water mitigation monitors can also be activated manually as needed to provide targeted water mitigation.
 - b) Optimize the water mitigation monitors to ensure sufficient water mitigation coverage.
 - c) Be designed, installed and operated in accordance with industry and TORC’s engineering standards, manufacturer specifications and guarantees, and operated consistent with the Torrance Consent Decree, API RP-751, CalPSM, and CalARP requirements as applied by TFD, LACFD, CalOSHA, and CalOES, respectively.

- 5) **Fluidized Catalytic Cracking Unit (“FCCU”) Electrostatic Precipitator (“ESP”) over-pressure mitigation** – TORC will install and maintain FCCU ESP over-pressure mitigation which will be:
 - a) Designed to minimize the potential for a large section of the FCCU ESP to detach during an over-pressurization incident by providing an anchoring system for the ESP intake ducting.
 - b) Placed, designed and installed done in accordance with industry and TORC’s engineering standards, manufacturer specifications and guarantees, and pursuant to process safety hazard analysis, and operated consistent with the CalPSM and CalARP requirements as applied by TFD, LACFD, CalOSHA, and CalOES, respectively requirements.



August 30, 2019

The Honorable Larry McCallon
South Coast Air Quality Management District
Chairman, Refinery Committee
21865 Copley Drive
Diamond Bar, CA 91765

Dear Mayor McCallon,

On behalf of Ultramar Inc., owner and operator of the Wilmington Refinery (Ultramar), I am pleased to proffer Ultramar's commitment to enhance our state-of-the-art hydrofluoric alkylation mitigation systems with unprecedented additional layers of protection.

As we have maintained throughout the District's consideration of Proposed Rule 1410, Ultramar has served as an industry leader in developing and implementing state-of-the-art approaches to minimize the likelihood that a release of hydrogen fluoride (HF) could occur and to provide for rapid detection and response in the unlikely event that a release were to occur. In addition to the systems currently in place, Ultramar, working with the District and other stakeholders, has identified additional measures that we believe will support and complement our existing systems and will provide additional measures of safety.

In lieu of further rulemaking or the need for a new or modified memorandum of understanding, Ultramar will commit to implement the following:

1. ***Open Path Perimeter HF Sensors.*** In addition to the open path monitors to be installed at the fenceline of the Wilmington Refinery pursuant to Rule 1180, Ultramar will install open path perimeter HF sensors around the Alky ReVAP Unit to further facilitate early detection and prompt response to any potential release of HF. Placement, design, and installation of the sensors will be done in accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. These sensors will be installed within one year of the District accepting this proposal.
2. ***Flange Guards.*** Ultramar shall install guards on each flange in the Alky ReVAP Unit in main acid service greater than 2 inches diameter. This measure is expected to improve rain out and subsequent capture of any acid released at a flange by the water mitigation system, and thus is expected to eliminate the potential for flange leaks to result in an offsite release. Design and installation of the flange guards will be done in

- accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. Absent issues that necessitate delay that are identified at the design phase, the flange guards will be installed no later than the completion of the next scheduled Alky ReVAP turnaround; however, if issues are identified in the design and engineering phase that preclude installation of the flange guards during the next scheduled Alky ReVAP turnaround, the flange guards will be installed no later than completion of the subsequent Alky ReVAP turnaround.
3. ***Automation of Water Curtain System.*** Ultramar will complete installation of a system to automate operation of the existing water curtain system in the Alky ReVAP Unit to expedite the activation of the water curtain systems. Design, installation and operation of the curtain automation system will be done in accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. Absent issues that necessitate delay that are identified at the design phase, the water curtain automation will be installed no later than the completion of the next scheduled Alky ReVAP turnaround; however, if issues are identified in the design and engineering phase that preclude installation of the automation during the next scheduled Alky ReVAP turnaround, the automation shall be installed no later than completion of the subsequent Alky ReVAP turnaround.
 4. ***Additional Point Source Detectors.*** Ultramar will install additional point source detectors at locations optimized to further facilitate precise, rapid detection and response to any potential release of MHF. This measure is expected to facilitate rapid and accurately targeted activation of the water mitigation and acid dump systems, whether these are activated automatically or manually. Placement, design and installation of the detectors will be done in accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. These additional point source detectors will be installed by the completion of the next scheduled Alky ReVAP turnaround.
 5. ***Acid Settler Debris Grid.*** In order to reduce the potential for a release resulting from penetration of the acid unit settler by a projectile, Ultramar will evaluate and design a debris grid to mitigate impacts to the elevated section of the acid settler. The debris grid placement, design and installation will be done in accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. This debris grid will be designed to prevent the creation of a confined space, to avoid interference with existing HF mitigation systems, to minimize the confinement of flammable vapors, and to continue to provide for free ingress and egress from the unit within the safety and structural limitations of the unit. Within 180 days of the District's acceptance of this proffer, Ultramar shall develop a preliminary engineering design for the debris grid. Absent issues that necessitate delay that are identified at the design phase, the debris

grid will be installed no later than the completion of the next scheduled Alky ReVAP turnaround; however, if issues are identified in the design and engineering phase that preclude installation of the grid during the next scheduled Alky ReVAP turnaround, the grid will be installed no later than completion of the subsequent Alky ReVAP turnaround.

6. ***Acid Settler Riser/Leg Rain Out Barrier/Shroud.*** Ultramar will design, engineer, and install Rain Out Barrier/Shroud systems for the Acid Settler Risers and Legs and the Depropanizer Acid Boots to reduce the momentum of any potential release from these systems and redirect the material downward, thus enhancing rain out and capture by the water mitigation systems. These shroud systems will be similar to that already employed on the Acid Coolers within the unit. Additional barriers or shrouding will be installed on the elevated acid piping that feeds the Settler. This mitigation measure reduces the potential for an offsite release resulting from a compromise to the settler system piping by improving rainout and subsequent capture of any released material by the water mitigation systems. The Rain Out Barrier/Shroud placement, design, and installation will be done in accordance with Ultramar's engineering standards and pursuant to process safety hazard analysis. Preliminary design of the Acid Settler Riser/Leg Rain Out Barrier/Shroud and Depropanizer Acid Boot Rain Out Barrier/Shroud systems will be completed within 180 days of the District's acceptance of this proffer. Absent issues that necessitate delay that are identified at the design and engineering phase, the Acid Settler Riser/Leg Rain Out Barrier/Shroud and Depropanizer Acid Boot Rain Out Barrier/Shroud will be installed no later than the completion of the next scheduled Alky ReVAP turnaround; however, if issues are identified in the design and engineering phase that preclude installation of one or both barrier/shroud systems during the next scheduled Alky ReVAP turnaround, the Acid Settler Riser/Leg Rain Out/Barrier System and/or Depropanizer Acid Boot Rain Out Barrier/Shroud shall be installed no later than completion of the subsequent Alky ReVAP turnaround.

It is important to note that the District and Ultramar already have an existing Memorandum of Understanding from 2003 (Agreement), under which the District agreed to refrain from further regulation of HF. Nothing in this letter from Ultramar, nor the District's acceptance or rejection of this proffer, shall supersede or alter the existing Agreement. However, by accepting this proffer, the District and Ultramar will avoid the potential for litigation arising out of the Agreement.

District, Ultramar and other stakeholders have expended almost three years in considering mitigation measures and alternatives. This has taxed the resources of all those involved and resulted in no viable alternatives beyond enhanced mitigation measures described in this letter. We believe there is limited benefit from continuing on this course. Ultramar has a long history of safely operating the Wilmington HF alkylation unit and has remained in compliance with the Agreement.

The Honorable Larry McCallon
South Coast Air Quality Management District
Page 4

We have already installed the best mitigation systems available and continuously work to improve them. Now, we stand ready to facilitate the closure of this process by committing publicly to implement even more safety improvements.

Thank you for your consideration of our proposal.

Sincerely,



Mark Phair
VP & General Manager
Ultramar Inc.

cc: Richard Walsh, VP & Deputy General Counsel
Elizabeth Bourbon, Sr. Managing Counsel
Scott Folwarkow, Executive Director Governmental Affairs