



September 18, 2017

Ms. Susan Nakamura
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Ms. Nakamura,

In response to the August 23 SCAQMD PR 1410 Working Group meeting, Valero submits the following comments.

The presentation made by DuPont/STRATCO outlining their ConvEX™ approach to coupling refinery expansion projects with conversion from HF alkylation to sulfuric acid alkylation confirms that this concept remains at the desktop-exercise stage; like the alternative alkylation technologies discussed in the August 2 Working Group meeting, the ConvEX™ approach has not been demonstrated as effective in practice. As noted in the DuPont/STRATCO presentation, there are numerous significant caveats and qualifications associated with their conceptual approach, the cumulative effect of which is that this approach is not a feasible option for the Valero Wilmington Refinery. Of particular note, available plot space adjacent to the existing HF alkylation unit was identified as a key criteria for success; as the District is well aware, such plot space does not exist at the Wilmington Refinery. DuPont/STRATCO also specifically made the following points that bear emphasis:

1. According to DuPont/STRATCO, the industry's leading provider of sulfuric acid alkylation technology, there has *never* previously been a conversion of an existing HF Alkylation unit to sulfuric alkylation. This squarely contradicts the statements previously made by Glyn Jenkins alleging a conversion had been accomplished at an undisclosed UK location, but aligns well with Valero's independent research, as described in previous correspondence.
2. The \$120MM grass roots cost estimate for a sulfuric acid alkylation unit that DuPont provided to Norton Engineering, which was subsequently reported in Norton's 2016 whitepaper presented to the SCAQMD Board, significantly understated the capital costs for such an installation. When pressed for an opinion about a more realistic estimate, the DuPont/STRATCO representative could not respond with any precision, but suggested that capital costs would more likely be somewhere between \$120 and \$600 million.



3. The acid consumption for a sulfuric acid alkylation unit (and therefore acid regeneration requirements) provided to Norton Engineering were also significantly understated for the Southern California refineries.

Regarding the District's evident determination to proceed with a ban of modified HF alkylation at petroleum refineries, Valero reiterates that the District has yet to establish a need for any action at all, much less a complete ban on the use of the very technology that the District aggressively sought to implement fewer than fifteen years ago. Notwithstanding the data exchange that apparently is occurring between the District and Torrance Refining Company, the District has not consulted with Valero on the safety and effectiveness of its system in the context of the current rulemaking.

The staff presentation suggests their rationale for pursuing a ban is based on worst-case scenario offsite consequence modeling conducted for the Torrance Refinery as required by EPA's Risk Management Plan regulation and the California Accidental Release Program (Cal-ARP) regulations. This is an insufficient basis for several reasons. First, there is nothing new about the Wilmington Refinery's offsite consequence modeling; we suspect the same is probably true for the Torrance Refinery. It is completely arbitrary for the District to conclude in 2004 that the Alky ReVAP project to be installed at the Wilmington Refinery met the District's objectives for protection of human health and safety, only to reach a different conclusion in 2017 on the basis of the same information. Further, as TORC correctly notes, this determination belies a fundamental misunderstanding by District staff of the nature, purpose, and significance of offsite consequence modeling. As explained in EPA's Risk Management Program guidance:¹

...The worst-case analysis is carried out using very conservative assumptions about weather and release conditions. 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... EPA intends the estimated distances to provide a basis for a discussion among the regulated community, emergency planners and responders, and the public, rather than a basis for any specific predictions or actions.

Similarly, as explained in guidance for the California Accidental Release Program (Cal-ARP):

The Worst Case Scenarios (WCS) is carried out using extremely conservative assumptions about meteorological and release conditions and artificial assumptions. Further, for

¹ See Chapter 4 of EPA's "General RMP Guidance," available at <https://www.epa.gov/sites/production/files/2013-11/documents/chap-04-final.pdf>.



purposes of this type of modeling, it is assumed that all active forms of mitigation fail...*The distance to the endpoint estimated under worst-case should not be considered a zone in which the public would be in danger; instead, it is intended to provide an estimate of the maximum possible area that might be affected under extreme, unlikely, catastrophic conditions. It is the intention of CalARP regulations that the estimated distances provide a basis for a discussion among the regulated community, emergency responders and the public, rather than a basis for any specific actions.*

Moreover, any determination to ban the use of a chemical on the basis that WCS modeling reflects a hypothetical potential to result in offsite consequences is plainly arbitrary. Based on publicly available information, Valero has identified at least 64 industry sites within the District that use anhydrous ammonia—which, like unmodified HF, has the potential to form vapor clouds upon release—and 60 facilities that use chlorine. If the District’s objective truly were to prevent potential release of toxic materials for which worst-case scenario modeling suggests potential offsite consequences, it makes no sense for the District to single out two specific users of one toxic chemical who already have adopted extensive and effective mitigation measures while ignoring entirely the relatively greater impacts associated with users of other chemicals, many of whom are less highly regulated and far less mature and sophisticated in their safety systems than the two refineries affected by the proposed MHF ban. Finally, the District’s determination to proceed with the proposed MHF ban overlooks completely the role of the California Accidental Release Prevention program and the newly revised Cal-ARP regulations.

In the District’s meeting presentation and closing comments it was noted that the District continues to gather and review data, yet meanwhile is proceeding to develop a timeline for phase out notwithstanding its failure to identify the need for such a phaseout. The District also has made closing statements at the last two Working Group meetings that its CEQA analysis will address the socioeconomic impacts of potential rule making, yet District representatives have remarked that it would be “premature” to have information about these socioeconomic impacts presented to the Group when such presentations are requested. Notwithstanding the District’s apparent reluctance to address this topic, we understand the District finally has acquiesced with the request of Working Group members by arranging for a representative of the California Energy Commission to present at the next Working Group Meeting. This will be valuable to give the group and the public members in attendance a chance to directly hear this information and ask follow up questions. As noted by the District, a similar presentation of the Stillwater study could provide additional information that the District and Working Group are seeking on impacts.

We again urge the District to consider all relevant information and not rush headlong into an action that is unnecessary and may have significant adverse consequences.



Sincerely,

A handwritten signature in blue ink, appearing to read 'Mark Phair', with a small arrow pointing to the right at the end of the signature.

Mark Phair
Vice President and General Manager

cc: Dr. Philip Fine, Deputy Executive Officer
Mr. Mike Krause, Planning & Rule Manager