

From: katiebaad1@gmail.com on behalf of Katie Baad <katie@cwhowe.com>
Monday, January 22, 2018 1:46 PM

Subject: Community Member Feedback Concerning Rule 1410: Hydrogen Fluoride in Refineries

Dear SCAQMD Refinery Committee Board Members and Rule 1410 AQMD Staff Members,

I am writing to express my deep appreciation (and some concern) regarding rule 1410 and the use of HF in the Torrance and Wilmington Refineries.

I am a practicing Civil Engineer, working in the construction industry engineering structures to the latest Building & Safety codes. My family and I live in Torrance and my children attend elementary school in Torrance. I have been following this issue, and the rule-making process, since the 2015 Torrance Refinery explosion. I have spent hundreds of hours reading through Safety Adviser Reports, Science Journals, the Consent Decree, Stipulations, literature from Exxon Mobil, PBF, Honeywell, Dupont/STRATCO, Chevron, attending City Council meetings, HOA meetings, AQMD meetings, EPA meetings, etc.

I have looked at available data and research with a critical eye, as have your AQMD staff, and I wholeheartedly agree that MHF (with mitigation and barriers) is not reliably safe enough for this densely populated community. Additional mitigation, though it helps to a limited degree, does not eliminate the threat. This threat is so high risk that it cannot be accepted in our community any longer. We have been through so much debate over the past 3 decades, I cannot thank you enough for addressing this and ask you to **please finalize the debate by eliminating the threat.**

Over these past 3 years it seems the debate has boiled down to "**Is safety worth the cost?**"

For the tens of thousands in our community the answer is **yes.**

It is understandable that PBF and Valero do not want to voluntarily invest this type of money on safety improvements when their Return on Investment will be relatively low. It is in the Refinery's best interest to inflate the price and complications of a catalyst transition and to threaten the workers with

job loss. I implore you to take a very critical look at the Refinery's arguments. I provide the following as food for thought:

- This would be a planned conversion, not an abrupt shortage with economic impact such as when the ESP exploded in Torrance or Hurricane Harvey hit Texas. As presented in the AQMD working group, much of the construction and implementation of the new alky unit can be done while production is still in process which limits the amount of down-time for either refinery. Much like planned turn-arounds which the market absorbs with little fluctuation on an annual basis.
- The Tax Cut and Jobs Act has cut corporate taxes from 35% to 21% and for five years allows a 100% first-year deduction on capital investments. This 5 year timeframe is ideal to implement additional safety by switching catalysts and being able to take advantage of this tax break.
- PBF owns 5 refineries, Torrance is only 1 and has the lowest BPD production out of the 5. It is also the most complex out of the 5 with a nelson index of 14.9. Capital expenditures may come from profits made under other PBF holdings. Capital expenditures projected for the assets under PBF is estimated at \$625-\$650M for 2017 alone. This conversation would be done over several years with a cost spread. (<http://investors.pbfenergy.com/~media/Files/P/PBF-Energy-IR-V2/calender-docs/20170103-pbf-january-presentation-vf.pdf>).
- Other refineries in CA could increase production to make up for the temporary shortfall. Washington, US gulf coast, Eastern Canada produce CA grade gasoline and can import.
- PBF commissioned a report which says a conversion would cost \$600M - \$900M yet when ExxonMobil owned the refinery their estimate for conversion was \$250M. Norton Engineering quote was in the \$120M range. Delek/Alon's new sulfuric acid alkylation unit (with adjustments made for Torrance Alkylation BPD and CA costs) is about \$315M.
- PBF commissioned Burns McDonnell report states, "\$85/hr all-in labor rate is more reflective of a gulf coast region labor rate and would be significantly higher for the Torrance area." The Burns McDonnell report uses excessive contingency costs and labor rates in its cost analysis. The Bureau of Labor Statistic shows estimates for structural iron and steel workers with 90th percentile highest rate being \$44/hour. Broken down for CA, the maximum hourly rate was \$40/hr. <https://www.bls.gov/oes/current/oes472221.htm>

Therefore a conservative all-in CA steelworker labor rate estimate by The Bureau of Labor Statistics:

\$44/hr (CA = \$40/hr)

30% increase for benefits = \$13.20

Employer tax rate (Medicare / SS / FUTA) of 7.65% on wages = \$3.37

Worker's comp ~ 2% = \$0.88

Misc. to determine "all-in" labor cost 10% = \$4.40

All-in CA labor cost = \$65.85

This cost basis differs widely from the cost basis used by Burns McDonnell.

- **Sulfuric Acid is not the only option available** and the cost basis the refineries are using do not take into account the technological improvements that Sulfuric Acid alkylation has taken. DuPont's clean technology presentation stated that the ConvEx Techonology is ~40% - 60% the cost of a newly built Sulfuric Acid Alky unit. CB&I's CDAlky technology used 30% - 50% less sulfuric acid consumption. The ILA unit in Chevron's Salt Lake City plant should be running by 2020 and could be another option. Chevron did not wait to convert, they took it upon themselves to blaze a

new trail. AQMD has a history of encouraging technological advances for the improvement of the region's air quality. **With incentive, such as rule 1410, innovation will emerge on a faster time horizon.**

From 2004 to 2013, over 2,200 chemical accidents were reported in the US, over 1,500 of which caused harm. 58 people were killed and more than 17,000 injured, hospitalized, or sought medical care. Over \$2 billion in property damage was caused.

You truly are our last line of defense against this chemical. The majority of the Torrance City Council turns a blind eye and AB1645 was cut off at the knees.

I formally request that the Tier III Mitigation be to remove MHF/HF from the refining process and that this be completed no later than 4 years after rule adoption. It is also of great importance that **milestones be written into the rule** so that the refineries stay on task to complete the transition. For instance; 2 years after rule adoption to finalize a decision on which alternate catalyst will be used in alkylation, within 3 years from rule adoption showing a completed design and permitting for the units along with a construction and completion schedule.

Thank you for the important work you all do and many thanks for your thoughtful consideration.

Sincerely,

Katie Baad, P.E.

Civil Engineer

Torrance Resident