

ATTACHMENT B

Comments
on
Recirculated Final Environmental Impact Report
for the
Phillips 66
Propane Recovery Project

Rodeo, California

Prepared
for
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Table of Contents

Introduction	1
Fox/Pless Comment II. The Project Is Piecemealed	2
Fox/Pless Comment III. Project Operational Emissions Are Underestimated.....	3
Comment B11-11: Emissions Estimating Methodology Is Unsupported	3
Comment B11-12: The Project’s Increase in Locomotive Emissions Are Underestimated	4
Comment B11-13: The Baseline for Locomotive Emissions Is Inflated.....	4
Comment B11-14: Annual Average Locomotive Emissions Are Underestimated	5
Comment B11-15: The NOx Emission Reductions for Heater B-401 Are Invalid	7
Comment B11-16: Emissions from Other Sources	9
Comment B11-17: Failure to Identify and Reduce the Project’s Significant Greenhouse Gas Emissions Impacts.....	11
Fox/Pless Comment IV: Cumulative Impacts.....	13
Comment B11-19: Cumulative Impacts Legal Framework	13
Comment B11-20: Cumulative Project List Is Incomplete	13
Comment B11-21: Cumulative Air Quality Impacts	17
Comment B11-22: Cumulative GHG Impacts	18
Comment B11-23: Cumulative Hazard Impacts	19
Fox/Pless Comment V: Health Risk Impacts Are Underestimated and Significant	21

Introduction

Our comments on the Recirculated Draft Environmental Impact Report (“RDEIR”) for the Propane Recovery Project (“Project”) at the Phillips 66 Rodeo refinery (“Refinery”) are included in Attachment 1 to Comment Letter B11 from Adams Broadwell Joseph and Cardozo (“ABJC”), representing Safe Fuel and Energy Resources California (“SAFER”). We wrote 47 pages of very detailed technical comments, supported by 13 exhibits, 61 references and calculations, two figures, and eight tables. None of our comments are addressed in the Recirculated Final Environmental Impact Report (“RFEIR”). Rather, the RFEIR categorizes them all, in one lump sum, as Comment B11-25, asserting: “This comment summarizes issues raised in previous comments. See Master Responses 2.2, 2.4 and 2.6 and Responses B11-1 through B11-23.” RFEIR, p. 3.2-253. This is incorrect.

In fact, the reverse is true. Our comments on the RDEIR were **summarized** in other comment letters, principally those submitted by our client, Adams, Broadwell, Joseph and Cardozo, on behalf of SAFER California (Comments B11-1 to B11-24). We also shared our comments with others, including Communities for a Better Environment (“CBE”) (Comment Letter B10) and Shute Mihaly Weinberger (“SMW”) (Comment Letter B6). The RFEIR’s responses to comments summarily dismisses all of our (Fox/Pless) comments, pointing to its responses to summaries of our comments made by others. This is a major error, which has resulted in a total failure to respond to our comments.

Our comments, dismissed in Response to Comment (“RTC”) B11-25, contain the detailed technical analysis and support for the summary comments in Comment Letters B6, B10, and B11. Because the RFEIR responded only to summaries of our comments in a general way, rather than our actual comments, it has failed to provide meaningful responses. Thus, we re-assert almost all of our original comments. Our comments are not directly or adequately addressed in the RFEIR, either in responses to the summary letters or in the master responses.

The following comments respond to the RFEIR’s response to comments on SAFER’s letter, B11, which is a summary of our (Fox/Pless) much more detailed letter dismissed in RTC B11-25 by referring back to Master Responses 2.2, 2.4 and 2.6 and RTC B11-1 through B11-23. The following sections are organized as in our original letter, which is found in the RFEIR as Attachment 1 to Comment Letter B11.

Fox/Pless Comment II. The Project Is Piecemealed

We explained the Project is one of five inter-related projects whose goal is to incorporate cost-advantaged crudes into the refinery crude slate based on the following: (1) current crude supply is in decline; (2) widely reported plans by Phillips 66 to import cost-advantaged crudes; (3) five closely related Phillips 66 projects; (4) the RDEIR's asserted vapor pressure constraints are invalid; and (5) inadequate propane/butane content in current crude slate.

The RFEIR does not respond to our comments, but rather only to SAFER's summary of our comments at RTC B11-6 and B11-7. The response to summary comments B11-6 and B11-7, in turn, refers to Master Response 2.4, which discusses recoverable propane and butane, and Master Responses 2.2 and 2.4, which discusses piecemealing and crude feedstocks. These master responses are just summaries of the unsupported discussion in the DEIR, RDEIR and RFEIR and add nothing new. These summaries do not respond to any of the issues that we raise in our Comment II.

We demonstrated in our Comment II.E, pp. 9-13 (RFEIR pp. 3.2-199/203), that baseline fuel gas did not contain sufficient propane and butane to support the stated Project recovery goals. The RFEIR does not respond to any of our comments on this issue, but rather points to Master Response 2.4, which regurgitates the information in the RDEIR that we rebutted in our comments. There is no response to our rebuttal.

We further note that a major capital project, such as this one would not be designed based on the single August 2011 sample, which is presented as the baseline. It is much more likely that the Refinery conducted a detailed study, involving many tests, including testing a range of cost-advantaged crudes that would replace its existing declining crude slate. The August 2011 sample is likely just one of many, chosen to support the otherwise unsupported claim as to the amount of propane and butane in baseline fuel gas.

The August 2011 sample, for example, may have been collected when the Refinery was running a test using Bakken crude or a tar sands DilBit, both of which are rich in propane and butane. Master Response 2.4 asserts without support that "... between the 2011 design basis and the 2013 data, no change to crude feedstocks... has been made." This statement is entirely unsupported.

The record does not disclose the crude slate that was run during any of the tests used to support the claim that the baseline crude slate could produce 14,500 barrels per day ("bbl/day") of propane/butane or that no change in crude slate occurred between 2011 and 2013. Based on my experience working in the refining industry (Fox), a company typically runs sample crude slates that it is considering when designing a project such as proposed here. As the existing crude slate is in long-term decline, it would have been irresponsible to design the Project without conducting tests on crudes

that were being considered as replacements. The replacement crudes have been widely reported by Phillips 66 in investor presentations which we cited in our comments. The RFEIR is silent on these public disclosures. Thus, the RFEIR's assertions as to the amount of recoverable propane and butane, without disclosing the crude slate run during each test, do not confirm the RFEIR's claim that the stated amount of butane and propane can be recovered without changes in crude slate.

The RFEIR is totally silent on the impact of the well-documented crude slate decline on future changes in crude slate composition as well as our rebuttal of the RDEIR's asserted artificial vapor pressure constraint used in the RDEIR as evidence that Phillips 66 Santa Maria Refinery ("SMR") and Rodeo were not linked. We demonstrated the RDEIR's asserted vapor pressure constraint is false.

Fox/Pless Comment III. Project Operational Emissions Are Underestimated

We demonstrated in 23 pages of text, supported by independent calculations in four tables and numerous footnotes that the RDEIR: (1) used the wrong emission estimating methodology; (2) underestimated locomotive emissions; (3) underestimated nitrogen oxide ("NOx") emissions by relying on NOx reductions that do not exist; (4) underestimated greenhouse gas ("GHG") emissions by excluding emissions outside of the Bay Area Air Quality Management District ("BAAQMD") and excluding emissions from the use of propane and butane; and (5) excluded other emission sources. We proved based on both the record and calculations that the Project would result in significant NOx and GHG impacts when the RDEIR's errors are corrected. The RFEIR does not respond to any of our comments. Rather, the RFEIR responds to SAFER's summaries of these comments in summary fashion in RTC B11-3 (missing data), RTC B11-11 (emission estimating methodology), RTC B11-12/14 (locomotive emissions), RTC B11-15 (heater B-401), RTC B11-16 (other emission sources), and RTC B11-17 (GHG emissions). The technical issues that we raised in our original comments are not addressed.

Comment B11-11: Emissions Estimating Methodology Is Unsupported

SAFER summarized our Comment III.A at RFEIR 3.2-164 (Comment B11-11). We commented that the RDEIR did not explain how it calculated emission increases and did not disclose assumed baseline emissions, which must be calculated a particular way under the requirements of the California Environmental Quality Act ("CEQA"). RFEIR, pp. 3.2-203/205. The RFEIR responds to SAFER's summary of our comment (B11-11) by ignoring our comment and asserting: "This procedure has been reviewed and approved by the BAAQMD as the correct approach, as it shows the resulting change in emissions that would result from the proposed project." RFEIR, p. 3.2-246.

The BAAQMD's method of calculating emission increases, pursuant to its regulations implementing the Clean Air Act, is irrelevant for CEQA purposes, which requires the use of "actual" emissions to establish the baseline, rather than permitted emissions. Further, the major source of NOx emissions, locomotives, is not even regulated by the BAAQMD. This response further fails to identify any record evidence of the BAAQMD's comment on this matter. Finally, our comment noted that the RDEIR failed as an informational document as it does not disclose how it calculated net emission increases, *i.e.*, the RDEIR failed to tabulate the assumed baseline and future Refinery emissions. The RFEIR continues to exclude this critical information.

Comment B11-12: The Project's Increase in Locomotive Emissions Are Underestimated

SAFER summarized our Comment III.B in Comment B11-12. The RDEIR assumed the number of rail cars would increase from 8 per day to 20 per day, resulting in an increase in NOx emissions of 10.18 tons per year ("tons/year"). RFEIR, p. 3.2-165. Our comments demonstrated, based on substantial information in the record, that the Project would increase the number of rail cars from an annual average of 4 per day to a maximum of 24 per day, resulting in an increase in NOx emissions of 13.85 tons/year. RFEIR, pp. 3.2-205/212 and 3.2-238/239. RTC B11-12 to SAFER's summary of our comment simply re-asserts the information in the RDEIR, stating we are wrong, without explaining why or addressing any of our voluminous evidence to the contrary. Further, the RFEIR misunderstands the difference between "average annual daily rail cars" (12) and "maximum daily rail cars" (16), which must be used for estimating daily emissions and impacts on ozone formation.

Comment B11-13: The Baseline for Locomotive Emissions Is Inflated

SAFER summarized our Comment III.B.1 in Comment B11-13. The RDEIR estimated baseline locomotive emissions, assuming 8 rail cars per day. RFEIR, p. 3.2-166. We demonstrated through substantial evidence in our Comment III.B.1 that the average number of rail cars loaded with butane and propane in the baseline is 4 per day. RFEIR, pp. 3.2-205/206. The baseline must be based on the average, not the maximum.

In response only to SAFER's summary of our comments (B11-13), the RFEIR dodges completely the key baseline issue of 4 versus 8 rail cars per day and simply restates the RDEIR's unsupported claim that the Project would increase the number of rail cars "by up to 12 per day on an annual average, with a maximum increase of up to 20 on any given day" without even mentioning the baseline, which is the heart of our comment. Response B11-13, p. 3.2-246. The RDEIR's response fails to address any of the evidence we present that demonstrates the assumed baseline of 8 rail cars per day, used to calculate the increase of 20 rail cars per day, is wrong.

Comment B11-14: Annual Average Locomotive Emissions Are Underestimated

SAFER continued its summary of our Comment III.B.1 in Comment B11-14. In Comment III.B.1, we revised the RDEIR's estimate of annual average locomotive emissions, correcting errors including: (1) increase in amount of propane/butane that could be loaded in the future; (2) increase in number of rail cars per day (12 to 16); and (3) increase in on-site locomotive idling time.

The RFEIR's response to this comment continues to assert the Project would only increase the number of rail cars per day by 16, failing to address substantial evidence to the contrary in the record that the actual increase is 20 per day. See our Comment III.B.1 in the RFEIR at 3.2-205/206 and 3.2-238/239. This response also fails to address the fact that the proposed permit limit would allow more propane and butane to be loaded than could be contained in the assumed increase in rail cars. RFEIR, p. 3.2-208.

The RFEIR concedes it underestimated idling time for the switch locomotive, and doubled it from 1 hour in the baseline to 2 hours, assuming an increase of 12 additional rail cars. However, as demonstrated in our Comment III.B.1, the Project would increase the daily number of rail cars from 4 to 20, or by 16 additional rail cars per day, not 12 as incorrectly assumed in the RFEIR. Thus, the increase in idling time for the switch locomotive should be 3 hours ($16/12 \times 2 = 2.7$). This would increase emissions of all pollutants from locomotives by 4.3% ($3.2\% \times 2.7/2 = 4.3$) based on the RFEIR's calculations at p. 3.2-246. (This calculation only accounts for increased idling of the switch locomotive but not increased idling of the haul locomotives at the site due to the increased number of rail cars that would be connected to each train, a fact the RFEIR denies. RFEIR, p. 3.2-250.)

SAFER further summarized our Comment III.B.4, which revised locomotive emissions to include emissions outside of the BAAQMD and along different routes within the BAAQMD. RFEIR, pp. 3.2-213/216. The RFEIR's response in RTC B11-14 argues that the destination of the propane and butane is unknown and thus additional emissions from other routes are speculative and need not be considered. RFEIR, pp. 3.2-246/247. However, the routes are not speculative, but rather undisclosed by the applicant.

The RFEIR's claim ignores our comment at p. 3.2-222 that explains "Phillips 66 has a long history of recovering and selling butane and thus has an established market... Thus, it is reasonable to assume that Phillips 66 would continue to sell into this market, which is known." In spite of this obvious fact, the RFEIR continues to exclude this important known information and instead argues the destination of its propane and butane is speculative.

The routes are not "speculative" under CEQA. First, based on our experience in the refining industry (Fox), it is not believable that a major capital project would be built

without the proponent having thoroughly researched the market and/or without partnering with a customer. The applicant has simply failed to disclose its marketing plan. Second, Phillips 66 has an existing market for its butane, which has not been disclosed and is material to locomotive emissions. Third, we note that the RFEIR knew the train routes well enough to estimate GHG emissions outside of the BAAQMD (RFEIR, p. 3.2-213) and transportation energy use outside of the BAAQMD (RDEIR, p. 4.3-9 through 4.3-11). Fourth, even assuming, *arguendo*, that there is uncertainty in the exact routes, it is standard practice in emission estimating to bound the range by estimating emissions for both the shortest likely travel distance and the longest and reporting the upper bound. If the RFEIR wishes to exclude the upper bound (as it results in a significant unmitigated impact, the RFEIR should be modified to include a condition that limits sales to within the BAAQMD. However, the RFEIR currently allows out-of-state sales without mitigating the resulting highly significant NOx and ROG impacts. RFEIR, p. 3.2-213/215.

Locomotive emissions within the BAAQMD were estimated assuming the trains would travel to the eastern boundary half of the time and to the southern boundary the other half of the time. However, there is nothing in the RFEIR that would preclude all of the trains from traveling south out of the District, which would increase NOx emissions enough to exceed the daily NOx significance threshold. This is not “speculative” as there are only two routes and each is known.

The southern route is a plausible scenario, as the largest potential market lies to the south of the BAAQMD. In this situation, it is standard practice to bound the emission range by estimating emissions assuming 100% of the trains exit to the east and 100% to south and evaluating the impacts for the maximum emission case. The maximum emissions occur when all trains exit to the south, increasing NOx emissions enough to exceed the BAAQMD’s daily CEQA significance threshold for NOx. Thus, the RFEIR must either mitigate these significant emissions or impose limits on routes that may be used.

The RFEIR used this approach in the Health Risk Assessment (“HRA”) to estimate diesel particulate emissions from locomotives. The RFEIR estimated health impacts from diesel particulate emissions assuming that 100% of the locomotives would take the southern route and 100% would take the northern route and reported the worst case. RFEIR, Response B11-18, p. 3.2-250. This is the correct method of addressing uncertainty. It is not speculative to bound impacts when the range is obvious. The RFEIR should have followed the same procedure for criteria pollutant emissions. As we note at RFEIR p. 3.2-215, the southern route would result in NOx emissions of 57 pounds per day (“lbs/day”), which exceeds the BAAQMD’s significance threshold of 54 lbs/day. Thus, using the same approach the RFEIR itself uses to evaluate health risks, the Project results in a significant unmitigated daily NOx impact.

Finally, the RFEIR in Response B11-14 correctly notes that we compared out-of-BAAQMD emissions to BAAQMD CEQA significance thresholds. RFEIR, p. 3.2-247. Thus, we here revise our analysis. Adjusting the proportion of the total NOx emissions reported in our Table 5 (RFEIR, p. 3.2-214) using the air district mileage estimates from the SMR Rail Spur RDEIR, p. B-9, the daily NOx emission increases along the southern route from the Project’s locomotives exceed the daily significance thresholds for NOx of all air districts through which trains pass and are, thus, significant. Further, annual increases in NOx emissions from the Project’s locomotives travelling through the Santa Barbara County Air Pollution Control District (“SBCAPCD”) are also significant. These are new significant impacts that are not disclosed in the RFEIR and are not mitigated.

Table 1
Revised Daily NOx Emissions by Air District
Based on Southern Route

District	Miles	Emissions (lbs/day)	Significance Threshold	Exceeds Significance Threshold?
BAAQMD	90	71	54	YES
SBCAPCD	216	171	55	YES
SLOAPCD	134	106	25	YES
VCAPCD	116	92	25	YES
SCAQMD	176	139	55	YES
Total	732	579		

Table 2
Revised Annual NOx Emissions by Air District
Based on Southern Route

District	Miles	Emissions (lbs/day)	Significance Threshold	Exceeds Significance Threshold?
BAAQMD	90	9	10	no
SBCAPCD	216	22	10	YES
SLOAPCD	134	14	25	no
VCAPCD	116	12	-	
SCAQMD	176	18	-	
Total	732	75		

Comment B11-15: The NOx Emission Reductions for Heater B-401 Are Invalid

SAFER summarized our Comment III.C (RFEIR pp. 3.2-216/220) in Comment B11-15. RFEIR pp. 3.2-170/172. In our comments on Heater B-401 emission reductions, we demonstrate through detailed analysis of the underlying BAAQMD permitting documents and *de novo* emission calculations that the annual and daily NOx emission reductions from the shutdown of heater B-401 are imaginary and do not exist. The RFEIR does not address any of our analysis, but rather only the summary presented in SAFER Comment 11-15.

First, we note in our Comment III.C that the heater shutdown occurred in 2011, during the CEQA baseline, and thus the reductions are part of the baseline. As such, they are not available to offset emission increases. RFEIR, p. 3.2-217. The RFEIR does not respond to this comment.

Second, we note in our Comment III.C that the emissions from the shutdown of the heater were replaced by increased NO_x emissions from a similar new heater at the adjacent hydrogen plant which would supply the Refinery. RFEIR, p. 3.2-217. In response, the RFEIR asserts that “even if the off-site location releases NO_x... it does not change the fact that Phillips 66 still has the option of using its remaining NO_x credits...” RFEIR p. 3.2-247, Response B11-15. While this may be true under the BAAQMD’s permitting regulations, it is not valid under CEQA as the net effect of shutting down one heater and starting up another adjacent heater is a net change of zero. The shutdown of heater B-401 does not reduce NO_x emissions and thus does not mitigate the impact.

The response further asserts that NO_x emissions from the new adjacent heater are “stringently limited by that permit.” RFEIR p. 3.2-247, Response B11-15. However, the response does not disclose the actual permitted NO_x limit of the new Hydrogen Plant heater. The permitted limit would only be material if it were stringent enough to result in a NO_x reduction credit from the shutdown of Heater B-401.

Third, the RFEIR uses 10.8 tons/year of NO_x reductions to offset significant annual NO_x emission increases from the Project. We demonstrated using BAAQMD permitting documents that the 10.8 tons/year of NO_x reductions do not exist. RFEIR pp. 217/220. Our analysis demonstrates these NO_x reduction were created by changing the original Heater B-401 NO_x baseline from March 4, 2009 to March 3, 2012 to July 25, 2009 to July 24, 2014. Thus, annual NO_x emissions are significant and unmitigated. The supporting data used in the RFEIR to calculate the heater shutdown NO_x reductions using a new baseline period was never produced, despite several requests. RFEIR, pp. 3.2-217/218. Master Response 2-1, which addresses supporting data issues, also fails to address this missing data, as does RTC B11-3. The missing data were specifically requested in public records act requests (“PRAs”) dated December 1, 2014 and December 3, 2014.

The only response to our detailed analysis of this issue at RFEIR pp. 3.2-217/220 is the unsupported assertion: “There was no shifting of baseline dates or double counting used...” This fails to address the substantial evidence rebutting this presumption in our Comment III.C.1 at RFEIR pp. 3.2-217/220.

Fourth, we pointed out the RFEIR failed to adjust the NO_x reductions for Reasonably Available Control Technology (“RACT”) before applying them, which is

required under BAAQMD regulations. RFEIR, p. 3.2-218. Assuming, *arguendo*, that emission reduction credits are valid CEQA mitigation, RACT-adjustment would have reduced the available NOx reductions available below the threshold required to offset significant impacts. The responses to comments are silent on RACT adjustment.

Fifth, the RDEIR used 62.3 lbs/day of daily NOx reductions from the shutdown of Heater B-401 to offset significant daily NOx emissions from the Project. We demonstrated that 100% of the daily NOx reductions during the baseline years were used to offset daily NOx emission increases from the applicant's Marine Terminal project. RFEIR, p. 3.2-220. Thus, no daily NOx emissions remain to offset Project daily NOx emission increases, and daily NOx impacts are significant and unmitigated. We also noted that the data relied on to estimate daily NOx reductions were not produced, despite several requests. RFEIR, p. 3.2-220. The master response to comments, Master Response 2-1, also fails to address these missing data and fails to even mention our PRAs dated December 1 and 3, 2014 in which they were specifically requested.

The only response to our detailed analysis of this issue at RFEIR pp. 3.2-217/220 is the unsupported assertion: "There was no shifting of baseline dates or double counting used..." This fails to address the substantial evidence rebutting this presumption in our Comment III.C.2 at RFEIR pp. 3.2-220.

Finally, emission reduction credits are not valid CEQA mitigation as they occur at different locations and times than the emission increase that must be mitigated.

Comment B11-16: Emissions from Other Sources

We commented in our Comment III.E that the Project would increase emissions from the Sulfur Recovery Unit and the Hydrogen Plant. RFEIR, pp. 3.2-224/225. SAFER summarized our Comment III.E in Comment B11-16. RFEIR, pp. 3.2-172/173. The RFEIR response does not address either SAFER's summary or our more detailed underlying comment, but rather refutes itself.

The RDEIR admits emissions from the Sulfur Recovery Unit will increase, but asserts without support that they "will not be discernible" and would be "speculative." RFEIR, p. 3.2-224. We commented that even small increases are important here, as emissions are close to the significance threshold, *e.g.*, ROG emissions are 8.4 tons/year compared to the significance threshold of 10 tons/year. RFEIR, p. 3.2-224/225. The RFEIR does not respond to this, but rather asserts without support: "This comment has been previously raised and addressed in the RDEIR." RFEIR, p. 3.2-248. However, the RFEIR does not cite a page. Obviously, if the comment was re-raised, explaining that small increases are important, the issue has not been addressed. The RFEIR does concede that the increase would be about 0.2% of total sulfur production, but fails to convert this increase into criteria pollutant emission increases.

In an unrelated response, the RDEIR admits that ancillary equipment required to increase sulfur recovery and operate the new hydrotreater would increase electrical demand by 1.28 MW. RTC B11-22. Supplying this demand would increase criteria pollutant emissions, which were omitted from the RFEIR.

Using default emission factors for consumption of electricity developed by the South Coast Air Quality Management District (“SCAQMD”),¹ the generation of 1.28 MW of electricity would emit 6.4 tons/year and 35 lbs/day of NOx.² This would increase Project annual NOx emissions from 3.1 tons/year (RDEIR, Table 4.1-10) to 9.5 tons/year, which is just 0.5 tons/year shy of the BAAQMD’s significance threshold of 10 tons/year. Similarly, this omitted emission source would increase Project daily NOx emissions from 35.1 lbs/day (RDEIR, Table 4.1-9) to 70 lbs/day, which exceeds the BAAQMD’s significance threshold of 54 lbs/day. Thus, this late admission of an increase demand of 1.28 MW of electricity in the RFEIR to support the Sulfur Recovery Unit and the new hydrotreater, uncovers a new significant impact when it is converted into emissions. This impact was not previously identified and is unmitigated, even including the invalid NOx offsets.

We also commented that the Project would increase emissions from the off-site Hydrogen Plant that the County previously admitted in responses to BAAQMD comments, but which it failed to include in the RDEIR. The County’s prior admission included an increase in emissions of an unidentified criteria pollutant of 1.7 tons/year. We commented that if this unidentified pollutant were NOx, this would be enough to result in a significant NOx impact, when the offset error is corrected. RFEIR, p. 3.2-225.

The RFEIR’s response to Comment B11-16, rather than identifying the pollutant associated with the 1.7 tons/year, asserts, based on the original DEIR, that “[t]here is no relationship between the proposed Project and the hydrogen plant”. This is contrary to the County’s responses to BAAQMD comments and the design of the Project. RDEIR, p. 3.2-224, footnote 50. The Air Liquid Hydrogen Plant will supply hydrogen to the new hydrotreater. See also our response to RTC B11-22.

Thus, the Project will cause an increase in emissions at the Hydrogen Plant. The County estimated the increase in responses to comments made by the BAAQMD, but

¹ SCAQMD, CEQA Air Quality Handbook April 1993, Table A9-11.

² NOx emissions from generating 1.28 MW of electricity: $(1.15 \text{ lb/MWh})(1.28 \text{ MW})(8,760 \text{ hours/year}) / (2000 \text{ lbs/ton}) = \mathbf{6.45 \text{ tons/year}}$. (See RDEIR, Table 4.3-3, which assumes operation 24 hours/day and 365 days/year.)

The increase in daily NOx emissions: $(6.45)(2000 \text{ lbs/ton}) / (365 \text{ days/year}) = \mathbf{35 \text{ lbs/day}}$. (See RDEIR, Table 4.3-3, which assumes operation 24 hours/day and 365 days/year.)

failed to include them in the RDEIR or identify them in its RTC B11-25. Thus, our comment as to the increase in Hydrogen Plant emissions has not been addressed.

Comment B11-17: Failure to Identify and Reduce the Project's Significant Greenhouse Gas Emissions Impacts

We demonstrated in our Comment III.D that the Project would increase greenhouse emissions from the use of the recovered propane and butane. RFEIR, pp. 3.2-220/224. SAFER summarized our comment in Comment B11-17. RFEIR, pp. 3.2-173/175. The RFEIR asserts it responds in RTC B6-10 (which refers to Master Response 2.4, which does not discuss greenhouse gases!), RTC B6-11, and RTC B11-17. However, the response to these comments fail to address either SAFER's summary or our more detailed underlying comment.

The RFEIR's responses argue that the end use of the propane and butane are "speculative" and thus need not be analyzed under CEQA. We explained in detail why the end use is not speculative in our Comment III.D and explain below why the RFEIR has failed to address our comments.

The RFEIR's responses argue that the end use of recovered propane and butane is "speculative", making the same arguments the RFEIR made with respect to train travel outside of the BAAQMD in RTC B11-14. The speculative argument is also not creditable here for the same reasons we explain in response to RTC B11-14.

First, we commented that "Phillips 66 has a long history of recovering and selling butane and thus has an established market... Thus, it is reasonable to assume that Phillips 66 would continue to sell into this market, which is known." RFEIR, p. 3.2-222. In spite of this obvious fact, the RFEIR continues to exclude this important known information and instead argues the destination of its propane and butane is "speculative". The only response is that the Refinery currently does not recover butane, ignoring the obvious fact that the Refinery must know or could discover how its propane is currently being used. RFEIR, p. 3.2-249. As it will recover more propane, it is reasonable to assume that it will be used similarly.

Second, we commented, based on our experience in the refining industry (Fox), that it is not believable that a major capital project would be built without the proponent having thoroughly researched the market and/or without partnering with a customer. The applicant has simply failed to disclose the uses. The RFEIR does not respond to this obvious fact.

Third, we commented that the RFEIR knew the train routes well enough to estimate GHG emissions and transportation energy use outside of the BAAQMD. RFEIR, p. 3.2-213. The RDEIR, for example, estimated the increase in fuel consumption

for the trains to travel to the California-Arizona border. RDEIR, p. 4.3-9. Thus, it is inconceivable that the RFEIR cannot estimate emissions from the use of propane and butane itself. The design basis of the Project itself bounds the universe of uses.

Fourth, even assuming, *arguendo*, that there is uncertainty in some potential uses, others are likely well known. It is standard practice in emission estimating to bound the range by estimating emissions based on reasonably anticipated uses. This is not “speculation” but a standard method for dealing with uncertainty. If the RFEIR wishes to exclude all uses of its propane and butane that would release greenhouse gases, most of which would result in significant unmitigated impacts, the RFEIR should be modified to include a condition that limits sales to uses that do not release greenhouse gases. However, the RFEIR currently allows any use, most of which emit greenhouse gases. RFEIR, p. 3.2-220/224.

Fifth, we commented that the liquefied petroleum gas (“LPG”) facility is being designed to produce commercial-grade propane and butane. RFEIR, p. 3.2-22. The primary use of commercial-grade LPG is as a fuel. The RFEIR did not respond to this comment. Based on this un rebutted fact, we conservatively estimated the increase in GHG emissions from combusting only 1,000 bbl/day of propane in boilers in California. This is only 7% of the design daily production of 14,500 bbl/day and represents a very conservative lower bound of GHG emissions from the end use of propane and butane. The RDEIR states that this estimate “is based on purely speculative assumptions...” RFEIR, p. 3.2-249. However, this fails to address the fact that the Project is being designed to produce commercial grade LPG, whose primary use is as a fuel. Assuming that a mere 7% of the total production would be used as a fuel is a very conservative lower bound, based on the RFEIR’s own admission of the design-basis of its facility. Thus, it is not speculation.

Sixth, the potential uses, including chemical blending, chemical feedstock, gasoline blending, and gasoline feedstock (RFEIR, p. 3.2-249), result in GHG emissions when they are processed (chemical blending, chemical feedstock) or when they are combusted (gasoline). We are not aware of any common use for propane and butane that would not ultimately generate GHG emissions and the RFEIR has not disclosed any.

Finally, we commented that the County estimated the increase in greenhouse gas emissions from supplying hydrogen to the new Hydrotreater at 43,000 metric tons per year (“MT/year”). RFEIR, p. 3.2-225. The increase in greenhouse gas emissions from this source alone is nearly big enough to offset the claimed decrease in greenhouse gas emissions (43,000 vs. 43,606 MT/year³). If other omitted sources of GHGs are included,

³ RDEIR, Table 4.5-3.

such as the 4,000 MT/year from using 1.28 MW of additional electricity at the Sulfur Recovery Unit and new Hydrotreater, GHG emissions would exceed the significance threshold, without assuming any additional GHG emissions from use of the produced propane and butane. The RFEIR does not respond to this issue.

Fox/Pless Comment IV: Cumulative Impacts

The RDEIR prepared a cumulative analysis for health impacts, but did not include a cumulative analysis for other impacts, instead arguing that none was required as Project impacts are not significant. However, as explained in ABJC's legal analysis on behalf of SAFER, Comment B11-19, this is the wrong test. Thus, we prepared cumulative air quality, GHG, and hazard impact analyses to supplement the RFEIR's inadequate analysis.

Comment B11-19: Cumulative Impacts Legal Framework

Several parties laid out the legal basis for assessing cumulative impacts, including ABJC on behalf of SAFER (Comment B11-19) and SMW (Comments B6-12/14) on behalf of the Rodeo Citizens Association. The RFEIR's responses to these comments generally refer to master responses addressed elsewhere in responses to comments. The responses to the legal claims are provided in the companion legal responses.

In response to Comment B11-19, the RFEIR reiterates that project impacts that are not individually significant cannot be cumulatively significant, based on BAAQMD CEQA guidance for criteria pollutant emissions. RFEIR, p. 3.2-251. This is wrong for two reasons. First, our comments, which the County did not respond to, demonstrate based on substantial un rebutted evidence, that the Project would result in significant air quality, greenhouse gas, public health, and hazard impacts. Thus, even if the RFEIR were correct on legal framework, the County would still be obligated to analyze cumulative impacts as they are individually significant.

Regardless, the RFEIR's RTC B11-19 is wrong. Local agency guidance does not trump state law, as explained in the companion legal responses by ABJC on behalf of SAFER.

Comment B11-20: Cumulative Project List Is Incomplete

This comment identified 10 projects that were not included in the cumulative impact analyses. RFEIR, pp. 3.2-178/179 and 3.2-226/227. The RFEIR responds in Master Response 2.6. This master response argues there are two types of cumulative projects that were variously identified by commenters as missing: (1) remote projects

that are not spatially related (RFEIR, p. 2-13) and (2) projects whose “nature” differs from the project, *i.e.*, those involving rail transport of crude. RFEIR, p. 2-15.

Master Response 2.6 wrongly argues that neither must be included in cumulative impact analyses as they have no “nexus” for evaluation of the Project’s cumulative impacts. RFEIR, p. 2-13. A cumulative project does not need to have a “nexus” with the project to cumulatively contribute to the project’s impact. The cumulative projects need only add to the incremental increase of the impact from the project under review, as explained in the companion ABJC legal responses on behalf of SAFER.

The remote projects are those at the SMR, which the RFEIR concedes is connected to the Rodeo Refinery by a 200-mile long pipeline. RFEIR, p. 2-12. However, Master Response 2.6 goes on to argue that the two refineries are not related and thus not cumulative. RFEIR, pp. 2-12/13.

However, these two refineries operate as a single refinery. The SMR produces semi-refined products – gas oil and pressure distillate – which are sent to Rodeo for further refining into finished products, such as gasoline. RFEIR, p. 3.2-192. Thus, any change in throughput or feedstock composition at SMR will affect emissions at Rodeo, even though they are 200 miles apart. Some examples follow.

First, if SMR increases its throughput, this will increase the amount of semi-refined products sent by SMR to Rodeo, potentially increasing emissions of ROG and hazardous air pollutants (“HAPs”) from tanks that store the products at Rodeo and processes that convert them into finished products at Rodeo.

Second, if SMR imports Bakken or tar sands crudes, the semi-refined products sent to Rodeo will contain much higher amounts of benzene and other HAPs than the current slate. Higher amounts of benzene and other HAPs will be released from storage tanks and fugitive components at Rodeo, increasing health impacts at Rodeo.

Third, the refining of semi-refined products from tar sand crudes at Rodeo, the stated target of the Santa Maria Crude by Rail project, will generate more GHG at Rodeo than refining of the current slate, as more energy is required to break them down into blendstocks.

Fourth, unit trains carrying tar sands or Bakken crude to Santa Maria will pass through the BAAQMD, close to the Rodeo refinery, using some of the same rail lines used by Project trains. The emissions that these trains release within the BAAQMD and elsewhere along the rail tracks must be included in the cumulative air quality and health risk analysis as they add to the increment from the Project.

Fifth, hazard impacts are not limited “spatially” to the local level, as argued in Master Response 2.3, because the LPG trains use the same tracks as crude and other

trains, regardless of where those tracks are located. An increase in rail traffic due to the SMR and remote rail terminals, for example, will contribute incrementally to the probability of an accident involving the LPG trains, regardless of what they carry or where they are located.

Thus, projects at the SMR, 200 miles from Rodeo and the rail terminal in the Bakersfield area cause emission increases at and near Rodeo. They cannot be eliminated based on distance and must be included in the air quality, GHG, public health, hazard, and other cumulative impact analyses. Further, the increase in trains using the same tracks as the LPG trains, where ever they are, will increase the probability of accidents involving the LPG trains.

The RFEIR attempts to sever this obvious link between SMR and Rodeo. First, it argues: “the proposed Project is not dependent on any aspect of the projects underway at the SMF [Santa Maria Facility].”. Second, it argues that the Project is not linked to nor reliant on crude oil feedstock at either refinery. Third, it argues: “The SMF throughput increase, while representing a future change to the SMF refinery operation, was not considered cumulative as the proposed Project is based on existing RFG [refinery fuel gas] from the Rodeo Refinery alone...” RFEIR, p. 2-13. A cumulative project need only add to the increment from the Project. There is no requirement that a cumulative project have a “nexus” with, be dependent on, or be based on the project itself. More semi-refined products or a change in the composition of semi-refined products from SMR adds to the impacts of recovering additional propane and butane at Rodeo.

Master Response 2.6 argues that these “remote” projects at Santa Maria cannot be both piecemealed and cumulative. RFEIR, p. 2-13. We agree. However, these projects were omitted completely. Their impacts were not included as direct project impacts, assuming piecemealing, nor as cumulative impacts. They must be included in the impact analyses, either as part of the Project or as cumulative projects because the Santa Maria and Rodeo refineries function as a single refinery, known as the San Francisco Refinery. RFEIR, p. 2-12. The RFEIR cannot reject them on both counts.

With respect to hazards, Master Response 2.6 also argues that projects involving transport by rail (Santa Maria Rail Spur and the rail terminals (listed at RFEIR, p. 3.2-227) are not cumulative projects because “they do not involve the transport of LPG by rail” but rather oil, and their “nature” is different. RFEIR, p. 2-15. The CEQA definition of “cumulative” does not require that cumulative projects be identical or contribute to impacts in the same way, only that they add to the increment from the project itself. A locomotive that emits NOx, for example, can cumulatively contribute to an increase in NOx emissions from a refinery heater.

Master Response 2.3 also argues that cumulative projects must have the same “nature” to be considered cumulatively. The RFEIR asserts that with respect to hazards, “given that the type of tank car carrying LPG and crude oil are quite different... evaluation of cumulative hazards between these dissimilar tank cars and... many other commodities carried by rail, cannot be done in any meaningful way.” RFEIR, p. 2-14. This makes absolutely no sense. Any project that increases rail traffic along the rail lines used by the Project’s trains will increase the probability of accidents, regardless of what the other rail cars might be carrying. We listed the projects that would increase rail traffic along the same rail lines used by the Project. They include the Santa Maria Rail Spur project plus the six new rail terminals we list at RFEIR, p. 3.2-227.

Further, locomotives transporting LPG, oil, corn or any other product emit pollutants that contribute to increases of the same pollutants as from the Project. Thus, the RFEIR’s cumulative impact analysis did not but must consider cumulative hazards, air quality, and GHG impacts of all of these projects, including the rail terminal projects, taken together.

The RFEIR also attempts to excuse cumulative analysis of projects involving rail traffic by arguing that the Project “utilizes the same train trips by adding tank cars to existing trains and would not increase the total number of train trips. Therefore, the proposed Project does not make any contribution to potential cumulative impacts associated with increases in numbers of trains from other projects.” RFEIR, p. 2-15. However, there is nothing in the RFEIR that restricts the Project to using the same total number of train trips to export the proposed increase in propane and butane. In fact, the RFEIR does not report daily train traffic data for a typical 365-day period to support this assertion.

Propane recovery and export is cyclical, to meet gasoline blending requirements. Propane must be removed during the summer when temperatures are high, but not in the winter. The Refinery would likely export LPG on fewer days in the baseline than after the Project is built. Thus, it is reasonable to expect that an increase in trips would occur. Further, an increase in LPG train trips is the wrong standard for triggering cumulative analysis, as explained in the companion legal responses.

Even assuming, *arguendo*, that an increase in train trips is required to trigger cumulative analysis, the number of train trips is not the only train-related metric that contributes to impacts that must be considered. The amount of LPG carried by each train would increase. In an accident, the amount of LPG released determines the severity of the consequences. Thus, more trains on the rail line from cumulative projects (and possibly the Propane Recovery Project, as there are no restrictions) increases the probability of accidents and more LPG per train increases the severity of an accident, when it occurs. The RFEIR has failed to analyze the potentially significant

increase in probability and severity of accidents due to the surge in train traffic on the same rails that Project trains would use, from the six new crude rail terminals listed in our comments. RFEIR, p. 3.2-225.

Further, hazards are not the only train-related cumulative impact that must be considered. The increase in the amount LPG carried by the Project's trains increases the emissions of criteria pollutants, GHGs, and HAPs. RFEIR, pp. 3.2-203/216 and 3.2-220/224; RDEIR, Tables 4.1-7 through 4.1-10. The increase in train trips from the cumulative "train" projects identified in our Comments (RFEIR, p. 3.2-227) share the same tracks as Project trains and emit the same pollutants within the BAAQMD as well as statewide. Thus, the incremental increase in emissions from the Project's locomotives must be added to the increases from the cumulative train projects to determine cumulative air quality, GHG, and health impacts.

Master Response 2.6 also argues that if the Santa Maria and Rodeo Marine Terminal projects are piecemealed, they cannot also contribute cumulatively. We agree. They are either piecemealed, or cumulative, not both. However, the impacts of the two Santa Maria projects that we identified are not included anywhere in the RDEIR or RFEIR. The facts in this case demonstrate that they are piecemealed. However, if the court decides against us on this point, they must then be evaluated cumulatively, as they contribute to air quality, GHG, health, and hazard impacts, among others, at Rodeo.

We commented that two Rodeo Marine Terminal Throughput projects (Phases II and III) were also omitted from the RDEIR's analyses. RFEIR, p. 3.2-226. Master Response 2.6 responds that these projects were considered in the RDEIR and cites Section 5.4.2.1 "Other Phillips 66 Refinery Projects". RFEIR, p. 2-15. However, this does not respond to our comment as we acknowledged that these two projects were included in the cumulative analysis of emissions of particulate matter equal to or smaller than 2.5 microns ("PM2.5") and health risk assessment. However, they were not considered in any other cumulative analysis. Thus, we prepared a cumulative analysis for NO_x, ROG, and GHG emissions that does include them. RFEIR, pp. 3.2-226/234. The RFEIR does not respond as to other potential cumulative impacts from these projects, such as impacts to water quality and increases in water demand.

Comment B11-21: Cumulative Air Quality Impacts

This comment notes that the RDEIR did not analyze cumulative air quality impacts and explains why this analysis is required under CEQA. It then summarizes the results of a detailed cumulative air quality analysis that we prepared in our Comment IV.B. RFEIR, p. 3.2-179/180.

The RFEIR's responses in RTC B11-19 and RTC B9-31 attempt to redefine cumulative air quality impact analysis, as conducted under CEQA. They argue, in a nutshell, that cumulative air quality impacts are subsumed in the BAAQMD's CEQA significance thresholds, as the BAAQMD "considered the emission levels for which a project's individual emissions would be cumulatively considerable when combined with emissions of past, present, and future development projects." RFEIR RTC B9-31. Thus, RTC B9-31 and RTC B11-19 reason that if a project does not exceed the BAAQMD significant thresholds, which already include past, present, and future project, it cannot have a cumulatively significant impact.

Assuming, *arguendo*, that this were true, it is irrelevant because none of the subject cumulative projects could have been considered as future "development" projects at the time that the BAAQMD's CEQA thresholds were developed in 2009. They all have arisen as a result of the recent glut of cost-advantaged crudes that are stranded at their source and thus must be imported into California via rail or marine vessel, replacing supplies that formerly arrived by pipeline. Thus, the emissions from all of them are in addition to the baseline scenario alleged to have been used to develop the significance thresholds.

The RFEIR's responses are silent as to our quantitative analysis of cumulative increases in annual and daily NOx and ROG emissions in our Tables 6 and 7, at RFEIR pp. 3.2-228/229. Our analysis demonstrates that cumulative NOx and ROG emissions would result in significant air quality impacts in other air basins, outside of the BAAQMD, from projects involving rail transport of crude through these basins.

Finally we note that Master Response 2.3 asserts that its approach to cumulative air quality impacts was agreed upon by the County and the BAAQMD and that the BAAQMD approved the results in Comment Letter A3. RFEIR, p. 2-14. The BAAQMD's opinion does not trump CEQA, as explained in companion legal responses prepared by ABJC on behalf of SAFER.

Comment B11-22: Cumulative GHG Impacts

The SAFER summary of our Comment IV.C (RFEIR, pp. 3.2-229/231) explains that when errors and omissions in the RFEIR's analysis are corrected, the Project increases GHG emissions, resulting in both a significant Project GHG impact and a significant cumulative GHG impact. We asserted increases in GHG would occur from increased sulfur removal, increased hydrogen production, and end uses of the recovered propane and butane. We also asserted significant cumulative GHG emissions from ten omitted projects. The RFEIR makes arguments in opposition.

First, the RFEIR admits that GHG emissions from the increase in electrical demand (1.28 MW) required to power the increases at the Sulfur Recovery Unit and

the new Hydrotreater were omitted and estimates them at about 2,002 MT/year. RTC B11-21. This estimate is unsupported.

Second, the RFEIR asserts that no additional hydrogen would be required for the new Hydrotreater as hydrogen is already present in the Refinery gas stream being hydrotreated. RTC B11-21. This is misleading. While it is certainly possible that the new hydrotreater could use hydrogen already present in the subject Refinery gas stream, this hydrogen would have been used in the baseline in other processes. The off-site Hydrogen Plant that supplies the Refinery's hydrogen demand would have to increase production to replace the internal hydrogen diverted to the Project's new hydrotreater. Thus, the Project will increase hydrogen production, indirectly, at the off-site Hydrogen Plant.

CEQA requires that all indirect impacts, such as from off-site hydrogen production and electricity generation, be included in Project impacts. Further, the assertion of no increase in hydrogen production contradicts admissions previously made by the County that hydrogen use would increase by 5 mmscd, emitting 43,000 MT/year of GHGs. RFEIR, p. 3.2-225.

Third, the RFEIR agrees that "it is an undisputed fact that the combustion of propane and butane generate GHG emission..." RTC B11-22 at p. 3.2-253. However, it argues that "quantification of such emissions... would require the use of assumptions that would be too speculative." The end uses are not speculative, but rather have not been disclosed by Phillips 66, as we explain in our responses to RTC B11-14. Further, all end uses generate GHG emissions. Thus, the County could have bounded the potential increase in GHG emissions from offsite uses by estimating a range, from the use that emits the lowest amount of GHG to the use that emits the highest amount. Dismissing GHG emissions from off-site use of the recovered propane and butane is indefensible.

Finally, the RFEIR's RTC B11-26 asserts that GHG impacts are "exclusively cumulative impacts" and thus need only be compared to the BAAQMD's significance threshold of 10,000 MT/year. RCT B11-22 at p. 3.2-253. However, as explained for criteria pollutants, even assuming, *arguendo*, that the RFEIR's legal interpretation is correct, the ten omitted projects were not considered when the BAAQMD GHG significance threshold was develop and thus are not subsumed in the significance threshold. See RTC B11-21.

Comment B11-23: Cumulative Hazard Impacts

The SAFER summary of our Comment IV.D (RFEIR, pp. 3.2-231/234) identifies six deficiencies in the hazard analysis, based on detailed analyses in our Comment III.D, RFEIR pp. 3.2-231/234. The RFEIR incorrectly asserts "[t]his comment summarizes issues raised in previous comments." RTC B11-25, p. 3.2-253. The hazard analysis in

the RDEIR was not included in the DEIR and thus previous comments did not address any of the new issues raised in our Comment Letter B11-25, Comment III.D. The RFEIR addresses some of the hazard issues we raised in Master Response 2.5.1, RFEIR, pp. 2-8/11.

First, we commented that the RDEIR underestimated hazards by assuming an increase of only 16 rail cars per day, instead of 24 per day. RFEIR, p. 3.2-231. Master Response 2.5.1(1) asserts “the potential risk from the baseline condition is at its maximum capacity not its average capacity and similarly the proposed Project’s risk is also at its maximum capacity, *i.e.*, 24 tank cars per day.” RFEIR, p. 2-8. This is precisely what we argued. We agree that the greatest risk is at the maximum increase in the number of rail cars. However, the hazard analysis is based on only 16 per day, not 24 rail cars. Thus, Master Response 2.5.1 has conceded that the hazard analysis underestimates hazards by using the incorrect number of rail cars.

Second, we argued that risks were underestimated by including only LPG releases. Master Response 2.5.1(2) argues that “[i]t would not be appropriate or accurate to include frequency data covering derailments, releases, etc. for other types of railcars or other types of materials into the analysis... because the tank car design are different for many types of commodities carried by rail...” RFEIR, p. 2-9.

The LPG would be transported in DOT 105 or 112 tank cars. These tank cars are used for many other hazardous materials, such as chlorine, ammonia, and ethylene oxide. Thus, at a minimum, all accidents involving releases from DOT-105 and 112 tank cars should have been included in the analysis. Further, the design of the tank car is not the only factor that determines the number of accidents that result in a release. The number of accidents depend on many other factors, including track conditions (*e.g.*, crossings, grade); the amount of rail traffic (*i.e.*, rail miles); and human factors. The RFEIR minimized hazard impacts by restricting its analysis to a tiny subset of relevant accident types.

Third, we argued that the probability analysis was based only on historic 1990 to 2010 LPG rail traffic accident data and that cumulative accident impacts due to the increase in LPG cars coupled with post-2010 traffic, which includes a significant increase in crude rail cars, was not evaluated and are significant. RFEIR, p. 3.2-232. Master Response 2.5.1(3) asserts, without citing any evidence, that the accident risk of transporting butane and propane is independent of other commodities carried on the subject rail lines. RFEIR, p. 2-9. This is the same argument used to rebut point two and is wrong for the same reason previously discussed. The risk of any accident depends on many things other than the commodity in the tank car. It depends directly on the amount of traffic using the rail line, the condition of the track, and human error. Our point here is that there will be much more rail traffic in the future, due to the huge

surge in moving crude by rail. More trains on the tracks means a greater risk of accident.

Fourth, we argued that the accident analysis was based only on the short segment of track from the Richmond Yard to the Refinery, pointing out that other route segments contain many high hazard areas for derailments. RFEIR, p. 3.2-233. Master Response 2.5.1(4) argues that the release frequency of 1.04E-8 releases per mile “is representative of the tank car release frequency of propane or butane in the United States... not based on any particular stretch of track, but on a compilation of all tracks. RFEIR, p. 2-9. This nationwide average frequency would significantly underestimate release frequency in California, as its rail lines are in poor repair and include many high hazard areas where derailments are much more common than the national average.

Fifth, we argued that the RDEIR did not establish any significance threshold for its hazard analysis and cites no authority for concluding accident impacts are not significant. RFEIR, p. 3.2-233. Master Response 2.5.1(5) argues that CEQA does not cite any acceptable significance criteria for hazard analysis states the Santa Barbara Guidelines do not specifically address rail risk. RFEIR, p. 2-10.

CEQA does not cite acceptable significance criteria for any impact area. The lead agency selects appropriate significance criteria. In this case, the County has failed to fulfill its duty. Further, Santa Barbara Guidelines are general guidelines, applicable to any source of risk, including rail risk. They are relied on by Phillips 66 in the Rail Spur RDEIR, Figures 4.7-5, -6, and -7.

Finally, Master Response 2.5.1(5) asserts that in any case, the Project does not add any train traffic to existing rail lines and would therefore not increase the hazard profile. RFEIR, p. 2-10. As noted in our response to RTC B11-20, butane exports are seasonal. The record does not disclose daily butane train traffic from the Refinery and the RFEIR does not require that there be no increase in the number of daily butane trains. Historically, the export of butane has been seasonal to serve the gasoline market, with high exports in the summer when butane must be removed from gasoline to meet ROG regulations and low exports in the winter when butane can be blended into gasoline. Thus, it is plausible that there are days when no butane trains would leave the Refinery in the baseline. The Project, on the other hand, would likely export LPG every day, as it is serving a year-round market.

Fox/Pless Comment V: Health Risk Impacts Are Underestimated and Significant

We commented in our Comment V that health risks from Project operational emissions were underestimated and significant. RFEIR, pp. 3.2-234/237. SAFER

summarized our comments in Comment B11-18. The RFEIR responds at RTC B11-18 to nine issues that we raised. RFEIR, pp. 3.2-249/251.

We explained in our comments that the health risk assessment (“HRA”) provided by the RDEIR is substantially flawed. The RFEIR does not directly respond to our comments, but rather only to SAFER’s summary comments at RTC 11-18. We discuss below seven of these nine points that are not adequately resolved by the RFEIR’s response. As we misnumbered the points in our comment letter, we follow the numbering used in the RFEIR’s responses.

In the first point, we commented that the RDEIR’s health risk assessment only identifies the Maximum Exposed Individual Receptor (“MEIR”) and the Maximum Exposed Individual Worker (“MEIW”) but fails to identify the Point of Maximum Impact (“PMI”). RFEIR, p. 3.2-235. The RFEIR’s response at RTC 11-18(1) states that the MEIR and MEIW were identified “because these locations represent the locations of maximum risk.”

This response is incorrect and misses the point. The PMI is just that, the point of maximum impact, not the point of maximum risk to existing receptors, and it is not necessarily located at the same point as the MEIR or MEIW. In fact, review of the modeling files shows that health risks at the PMI are higher (e.g., boiler scenario: acute hazard index of 0.099 at UTM 566,404E, 4,211,397N) than the maximum health risks reported by the RDEIR (Table 4.1-11 boiler scenario: acute hazard index 0.047 at MEIW).

Information about the location and health risks at the PMI is routinely included when reporting the results of health risk assessments, in addition to the MEIR and MEIW. Further, this information is a required component of health risk assessments. See, for example, the guidance developed by the California Association of Air Pollution Control Officers (“CAPCOA”), *Health Risk Assessments for Proposed Land Use Projects*;⁴ by the Office of Environmental Health Hazard Assessment (“OEHHA”), *Air Toxics Hot Spots Program Risk Assessment Guidelines – The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*;⁵ and by the OEHHA, the California Air

⁴ CAPCOA, *Health Risk Assessments for Proposed Land Use Projects*, July 2009; <http://ca-contracostacounty.civicplus.com/DocumentCenter/View/28311>. (p. 69: “If a fence line receptor point does not represent an existing or reasonably anticipated person, it is not necessary to consider these results to determine the Maximum Exposed Individual (MEI), but fence line exposure should be considered to determine the Point of Maximum Impact (PMI).” p. 70: “The receptor grid must be designed to include the Point of Maximum Impact (PMI).” p. 7): “It is the responsibility of the modeler to demonstrate that the PMI has been identified and that the modeling includes all areas where Hazard Indices are above one, and the cancer risk is above ten per million, or other district standards.”)

⁵ OEHHA, *Air Toxics Hot Spots Program Risk Assessment Guidelines – The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, Public Review Draft, September 2014; http://oehha.ca.gov/air/hot_spots/2014/SRP2014/SRPReviewSept2014GuidanceManual.pdf. (pp. 4-20)

Resources Board (“CARB”), and local air districts, *Standardized Forms for Use with Submittal of Updated and Screening Health Risk Assessments*.⁶ While the RDEIR claims to follow the first three guidance documents, it fails to include the location and health risks at the PMI as recommended by these documents. Thus, the RFEIR fails to adequately respond to our comments and fails to show that the HRA accurately discloses health risks from the Project.

In the fourth point, we commented that the health risk assessment for locomotive emissions fails to account for “idling” emissions from operation of the on-site switching locomotive. RFEIR, p. 3.2-235. In response, the RFEIR at RTC B11-18(4) states that the “locomotive HRA conservatively assumes that 100 percent of the proposed Project’s locomotives travel would take the northern route and 100 percent would take the southern route. In both directions, the emissions include large and small line haul and switch emissions. Therefore, the HRA is conservative.” This statement is entirely non-responsive as it only addresses emissions from locomotives in transit and fails to address emissions from idling locomotives.

In the fifth point, we commented that the health risk assessment for locomotive emissions fails to account for “increased” idling emissions from operation of the on-site switching locomotive. RFEIR, p. 3.2-235. In response, the RFEIR asserts “There is no validity to the argument that the proposed Project would increase idling of haul locomotives.” RFEIR, p. 3.2-250, RTC B11-8(5). This is evidentially intended as the response to the fourth point, which deals with idling emissions from haul locomotives.

and 4-21: “The modeling analysis should contain a network of receptor points with sufficient detail (in number and density) to permit the estimation of the maximum concentrations. Locations that must be identified include the maximum estimated off-site impact or point of maximum impact (PMI), the maximum exposed individual at an existing residential receptor (MEIR), and the maximum exposed individual at an existing occupational worker receptor (MEIW)... All of these locations (i.e., PMI, MEIR, and MEIW) must be identified for potential multipathway carcinogenic and noncarcinogenic effects... In addition to actual UTM coordinates, the block/street locations... should be provided in the HRA for the PMI, MEIR, and MEIW for carcinogenic and noncarcinogenic health effects.” p. 9-10: “The point of maximum impact (PMI), maximum exposed individual at a residential receptor (MEIR), and maximum exposed individual worker (MEIW) for both cancer and noncancer risks should be located on the maps.” The same language appears in the adopted version of the document: OEHHA, *Air Toxics Hot Spots Program Risk Assessment Guidelines – The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, August 2003; http://oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf.

⁶ OEHHA, CAPCOA, and CARB, Memorandum to District Air Toxics Coordinators, Standardized Forms for Use with Submittal of Updated and Screening Health Risk Assessments; <http://www.arb.ca.gov/ab2588/hraforms.pdf>. (Multiple references to “PMI” as one of the required parameters for HRAs and Attachment B: “The potential health impact must be calculated for the point of maximum impact (PMI) or maximum off site concentration.”)

The fifth point deals with idling emissions from the on-site switching locomotive, which is not addressed in RTC B11-18. However, elsewhere, the RFEIR agrees the Project would increase idling, from 1 hour prior to the Project to 2 hours, assuming an increase of 12 additional rail cars. RFEIR, p. 3.2-246. However, as we note above in our response to RTC B11-14, the Project would require 20 additional rail cars, not 12. Thus, the RFEIR underestimates the increase in idling time. As the health risk assessment did not include any increase in idling time, from on-site switching or off-site hauling, it underestimated health risks from diesel particulate matter (“DPM”) emissions from idling locomotives.

In the sixth point, we commented that the RDEIR’s incremental cancer risk from increased concentrations of diesel particulate matter in ambient air due to increased locomotive emissions suffers from the same problems as the RDEIR’s estimates of criteria pollutant emissions from locomotives. Specifically, concentrations of DPM in ambient air were modeled based on annual emissions estimates. As discussed in section III.B.2 of our comments on the RDEIR (RFEIR, pp. 3.2-207/209), for criteria pollutant emissions, the RDEIR substantially underestimates annual LPG exports and the number of rail cars loaded on an annual average basis. Consequently, the RDEIR underestimates locomotive emissions by a factor of 1.36.⁷ Therefore, the RDEIR’s estimate of incremental cancer risks at the MEIR (1.7 in one million) due to Project increases in locomotive DPM emissions is 2.31 in one million (1.7 in one million × 1.36). Note that this revised estimate does not account for increased idling on site or nearby.

In response, the RFEIR at RTC B11-18(6) states that locomotive emissions were not underestimated based on RTC B11-12, RTC B11-13, and RTC B11-14 and, therefore, incremental cancer risks were not underestimated. However, the RFEIR’s responses to comments B11-12, B11-13, and B11-14 are directed at SAFER’s summaries of underlying detailed analyses. These responses fail to address substantial evidence in our underlying comment letter labeled B11-25, which was not responded to at all. Our comment letter (B11-25) proves that the RFEIR underestimated locomotive emissions. Thus, incremental cancer risks due to DPM *were* underestimated.

In the seventh point, we commented that the RDEIR’s health risk assessment does not account for cancer risks associated with increased emissions of benzene due to a switch to Bakken crudes, which contain considerably higher amounts of benzene than the baseline crude slate. In response, the RFEIR at RTC B11-18(7) claims that the Project does not involve the use of Bakken crudes. This claim is rebutted in our Comments II.B and II.C, which the RFEIR did not respond to. RFEIR, pp. 3.2-194/198.

⁷ Calculated as: (revised annual emissions)/(RDEIR annual emissions). For example for NOx: (13.85 tons/year)/(10.18 tons/year) = 1.36.

Our Comment II.C, for example, proves that the Marine Terminal modifications are designed to allow the import light crudes, such as Bakken crudes, which have very high concentrations of benzene. The RFEIR does not respond to our Comments II.B and II.C, but rather only responded to SAFER's summary. The response to the summary does not address any of the substantial evidence we presented that prove the Project, in fact, would recover propane and butane from Bakken and other light crudes that contain elevated benzene levels. *See* above: "Fox/Pless Comment II. The Project Is Piecemealed."

In the eighth point, we commented that the RDEIR's analysis of cancer risks from existing sources at the Rodeo Refinery (5.95 in one million at the MEIR), which is part of the RDEIR's cumulative health risk assessment, does not include emissions from mobile source or exempt sources and, thus, health risks associated with those sources are not accounted for. In response, the RFEIR at RTC B11-18(8) admits that the "refinery piece of the HRA does not address mobile source emissions." With respect to mobile sources, the RFEIR notes that "the cumulative HRA included the proposed Project, the existing Phillips 66 Refinery, along with locomotives operating on the rail line and transportation sources on Highway 80." The RFEIR is silent with respect to exempt sources and mobile on-site sources. Thus, we maintain that the cumulative health risk assessment is flawed because it does not account for emissions from these sources.

In the ninth point, we commented that the RDEIR's estimates of PM_{2.5} concentrations due to increases in locomotive emissions suffer from the same problems as those for criteria pollutant and DPM emissions. Further, we commented that the RDEIR omitted several sources of PM_{2.5}. When these errors and omissions are corrected, ambient PM_{2.5} concentrations exceed the PM_{2.5} significance threshold of 0.8 µg/m³, resulting in a new significant impact. RFEIR, pp. 3.2-236/237.

The RFEIR at RTC B11-18(9), responding only to SAFER's summary of our comment, complains that no documentation was provided for this estimate. This is incorrect. Our comments at RFEIR, pp. 3.2-236/237, which the RFEIR failed to respond to at all, clearly explain and document based on substantial evidence that our revised PM_{2.5} concentration of 0.749 µg/m³ was calculated from the RDEIR's estimate of 0.739 µg/m³ plus an additional 0.01 µg/m³ based on correcting errors in the RFEIR's estimate of locomotive emissions.

Response B11-18(9) also asserts that 0.749 µg/m³ rounds to 0.7 µg/m³ which is less than the PM_{2.5} significance threshold. However, we reported our results to the wrong number of significant figures. The increase in PM_{2.5} from correcting the RFEIR's

locomotive emissions error is $0.015 \mu\text{g}/\text{m}^3$,⁸ not $0.01 \mu\text{g}/\text{m}^3$. When $0.015 \mu\text{g}/\text{m}^3$ is added to the RFEIR's estimated increase in PM2.5 of $0.739 \mu\text{g}/\text{m}^3$, the revised PM2.5 increase is $0.754 \mu\text{g}/\text{m}^3$, which rounds up to $0.8 \mu\text{g}/\text{m}^3$ and is equal to the PM2.5 significance threshold. Thus, any further increase tips PM2.5 over the significance threshold. The RFEIR's analysis omitted several sources of PM2.5 emissions, such as idling emissions, resulting in a *per se* significant PM2.5 impact.

We further commented that other sources of PM2.5 were omitted from the RDEIR's PM2.5 calculations, including fugitive dust PM2.5 emissions associated with locomotive and other mobile source travel plus exhaust PM2.5 emissions from mobile sources within the Refinery and exempt sources. Response B11-18(9) indicates that some exempt sources were included, but is silent as to fugitive dust from train travel and sources within the Refinery. Further, the RFEIR's calculations exclude increases in PM2.5 from increased emissions at the Sulfur Recovery Unit and the off-site Hydrogen Plant, as documented in our Comment III.E, at RFEIR pp. 3.2-224/225.

These omitted sources when added to $0.8 \mu\text{g}/\text{m}^3$, regardless of their magnitude, exceed the BAAQMD's significance threshold for this pollutant as any increase tips the concentration over the threshold of $0.8 \mu\text{g}/\text{m}^3$. Thus, we re-assert that PM2.5 emissions are a new significant impact that must be identified and mitigated in a revised RDEIR for the Project.

Finally, we recommend that the County revise the maps showing the Project and cumulative health risk assessments to include isopleths for health risks in addition to the PMI, MEIR, and MEIW to identify those locations that would exceed the BAAQMD's health based thresholds of significance.

⁸ Increase in PM2.5 ambient concentration from correcting RFEIR's errors in locomotive emissions: $0.042 \times 1.36 - 0.042 = 0.015 \mu\text{g}/\text{m}^3$.