From: "kith@spicejar.org" <kith@spicejar.org>
To: p66-railspur-comments@co.slo.ca.us
Date: 11/23/2014 09:34 AM
Subject: Reject the Phillips 66 oil train proposal

Mr. Murry Wilson
San Luis Obispo County Planning Department

Dear San Luis Obispo decision-makers,

I am writing to encourage you to protect yourselves, your neighbors, and your community from increased crude-by-rail transport by Phillips 66.

I would ask you to consider Santa Maria and Rodeo as a single project. It is clear that Phillips 66 wants to bring toxic Canadian tar sands, the extraction of which is very controversial in Canada, to California. The proposed terminal in Santa Maria would be linked by pipeline to the Phillips 66 refinery in Rodeo, CA. Bringing tar sands to California will undermine the state's efforts to be a global leader addressing climate disruption. KIT-01

The current draft EIR omits the best information that we have, which is the newest information: crude rail accidents in 2013 and 2014, when the amount of spilled crude has increased dramatically. The EIR must be current, and include accident data from Canada. KIT-02

The draft EIR seems to assume that no more than six tank cars of crude will spill; this is very hard to sync up with the fact that most crude trains have 100 tank cars or more. With the EIR both out-of-date and wildly inaccurate, how can emergency responders know what they might expect. KIT-03

The EIR does not address the possibility of a spill near a watershed. The proposed rail route brings oil trains through the San Francisco Bay-Delta watershed and along California's treasured central coast. A derailment near a river, stream, reservoir, or above a groundwater aquifer could contaminate drinking water for millions of Californians, water that is already threatened by our drought. KIT-04

Even if there were _no_ accidents, which we cannot assume, volatile toxic chemicals leak out of tank cars into the air, endangering people and communities all along California's rail routes. Phillips 66 itself calls these levels "significant and unavoidable." But you have the power to avoid them. KIT-05

Finally, if Phillips 66 will not disclose crude quality information, you will not be able to assess the climate impacts of the proposed rail project. KIT-06

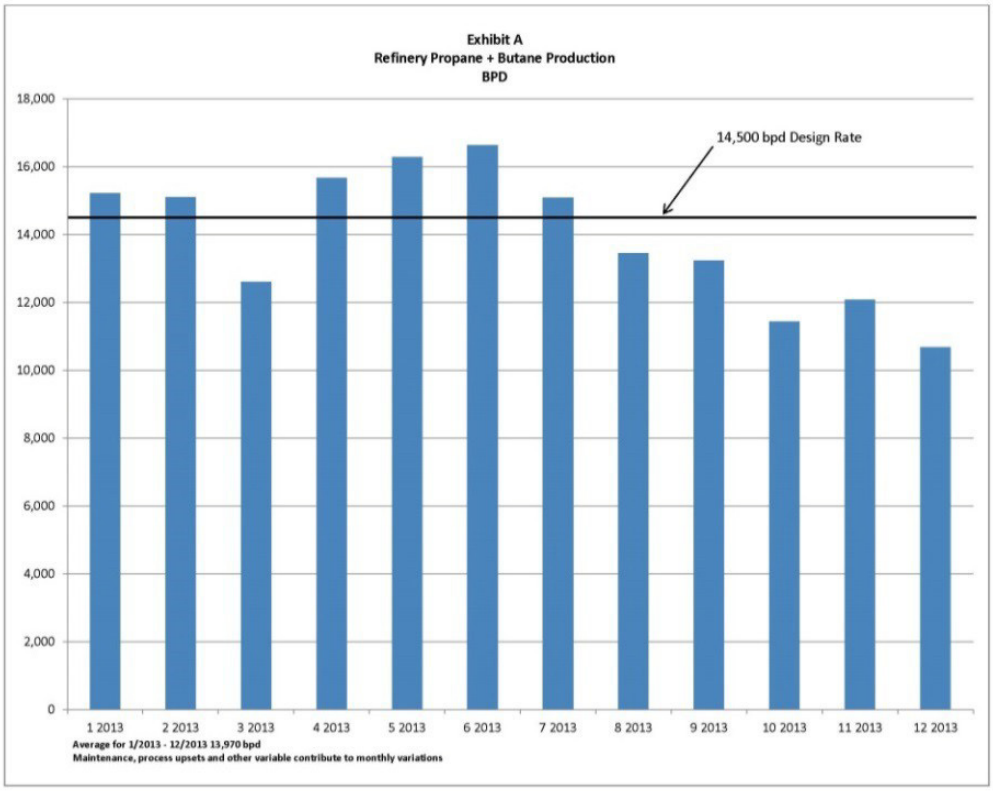
Please reject the Phillips 66 proposed rail spur. You'll be glad you did. KIT-07

Respectfully yours,

KIT-01	Operations at the Rodeo Refinery are not anticipated to change with the processing of Rail Spur Project crude oil. The refinery currently handles heavy crude oil and the characteristics of the Rail Spur Project crude oil are similar to current heavy crude oils. Section 4.3, Table 4.3.13 summaries the different characteristics of the crude oils. BTEX levels may increase (although some tar sands crude oils have lower percentages of BTEX than the heavy crudes currently being processed. The SMR refinery ships naphtha and gas oils via pipeline to the Rodeo Refinery. Both of these are semi-refined products. The composition of these two products is not expected to change with the Rail Spur Project. As discussed in the Project Description (Chapter 2.0) the SMR currently processes a range of crude oils from different sources, and the crudes vary from time to time. In addition, the refinery often blends crudes from multiple sources prior to processing. A comparison of crude oils and their characteristics demonstrates that the crudes likely to be received by unit train would be comparable to those currently or recently processed at the SMR. The SMR is not requesting any changes or modifications to its crude unit or other processing units that would allow it to process any crude types that it can't be process currently. The only proposed change to the Rodeo Refinery is the Propane Recovery Project. The Rodeo Refinery (SFR) produces gases as a byproduct of the refining process, and these gases are used as fuel in various refinery processes (referred to as "refinery fuel gas" or "RFG"). Currently, the propane and part of the butane generated at the SFR is used as RFG. Instead of using the propane and butane as fuel at the SFR, the Propane Recovery Project will allow Phillips 66 to recover, store, and ship propane and additional butane via rail to outside customers. Therefore, the primary project objective is to recover liquid petroleum gases ("LPGs"– i.e., propane and butane) that already exist in the RFG. The Propane Recovery Project will not cause or require an increase in the amount of recoverable LPG present in the RFG; it will simply allow recovery of the LPGs that already are present in the RFG. The Propane Recovery Project is designed to remove up to 14,500 barrels of LPGs per day. Data regarding actual LPG content of the RFG is consistent with the design basis for the project. The figure below shows that, for the twelve month period from January through December 2013, the average LPGs in the Rodeo RFG was 13,970 barrels per day. The equipment design is a limiting factor on the amount of propane and butane that can be captured and stored, regardless of how much propane and butane can be produced by the SFR in the future or what type of crude oil is processed. Phillips 66 specified this design basis in the application to the Bay Area Air Quality Management District for an authority to construct the Propane Recovery Project, and it has been translated into an enforceable condition

included in the draft permit prepared by the air district. Therefore, the amount of propane and butane to be extracted once the Propane Recovery Project is operational will be constrained by the physical design of the equipment and the permit limits.

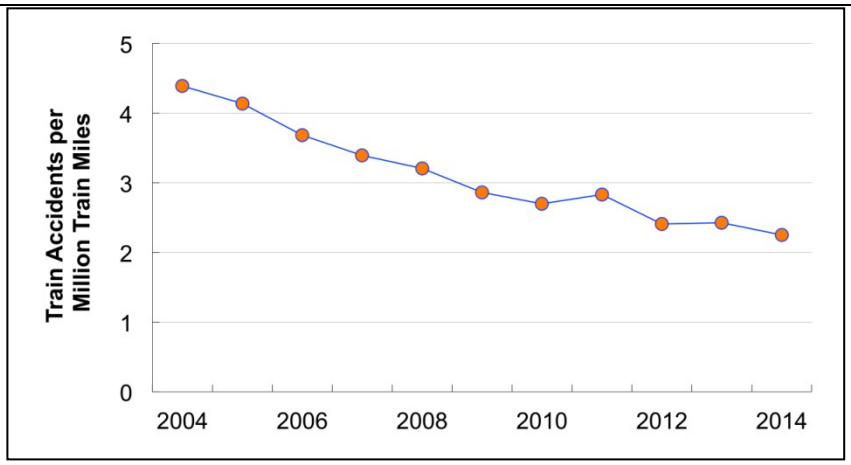
Most of the LPG produced at the SFR does not arrive as propane and butane in crude oil or in the semi-refined products received from the Santa Maria Refinery (SMR). Rather, the vast majority of LPG produced at the SFR is created through the refining process itself. As explained above, the design capacity of the Rodeo Propane Recovery Project was sized to recover LPGs that are currently being produced and burned as part of the refinery fuel gas at the SFR. No changes in the crude delivery system, type of crude or operations at the SMR are needed in order to fully utilize the propane recovery unit in Rodeo.



The commenter's have overlooked the fact that the refining process at the SFR itself accounts for 90% of the propane and butane currently produced and proposed to be recovered by the Rodeo Propane Recovery Project. As described at pages 3-8 to 3-9 of the Recirculated Draft Environmental Impact Report for the Propane Recovery Project, the refining process incorporates four primary functions: separation, conversion, purification and blending. Crude oil and other incoming feed streams contain mixtures of

	various hydrocarbon compounds that can be separated using distillation and fractionation in the first step of the refining process. At the SFR, a small amount of butane and propane is separated from the crude oil in these first stage processes. However, butane and propane are also created from other hydrocarbon compounds during the conversion phase of the refining process. Overall approximately ten percent of the LPG (combined butane and propane) arrives as identifiable fractions of the crude oil, and the balance of approximately ninety percent is created in the refining processes (cracking units). Since LPG in the crude oil accounts for only a very small fraction (approximately ten percent) of the total LPG produced at the SFR, a change in crude oil LPG content in Santa Maria or in Rodeo would have very little effect on the volume of LPG available for recovery at Rodeo. As discussed in the Recirculated Draft Environmental Impact Report for the Propane Recovery Project Section 3.4.2.1, and shown in Figure 3-7, the proposed Project's design basis was derived from data taken at the Refinery in August, 2011. In the same section, the RDEIR for the Propane Recovery Project also provides an update to substantiate this 2011 design basis with the most recent full year (2013) of RFG data from the Refinery in Figure 3-8. This figure shows that for 2013 an average of 13,970 barrels per day (BPD) of propane and butane were available and that monthly this quantity of propane and butane varies. Note that between the 2011 design basis and the 2013 data, no change to crude feedstock, such as those of concern to commenter's, had been made. These data provide the substantial evidence to support the "independent utility" of this Project and further support that the EIR has not inappropriately piecemealed or segmented this Project.
KIT-02	The historical accidental data used in the RDEIR is not limited to trains shipping crude oil in recent years, but the long term historical train accident data for all freight. The use of data from all freight train movements nationwide provides a very robust database for estimating rail accidents and derailments. Average U.S. train derailment rates over the 5-year period 2005 – 2009 have previously been estimated using data from the U.S. Department of Transportation, Federal Railroad Administration (FRA) Rail Equipment Accident (REA) database combined with traffic data from the rail industry (Liu et al, 2014). This dataset was used to develop detailed derailment rates as a function of three factors: FRA Track Class, traffic volume (which appears to be correlated with additional maintenance above basic federal requirements) and Method of Operation (i.e., signaled or non-signaled trackage). All three of these factors have a significant effect on freight train derailment rate. These factors were used to calculate segment-specific derailment rates thereby enabling a fine grained calculation of derailment probability for any particular route. As discussed below, the overall accident rate has declined since this data was recorded and analyzed, thereby resulting in an overestimate of the present-

	day risk, and future risk. For example the average accident rate for the five-year period 2010-2014 was 27% lower than the average for the five-year period from 2005-2009, and the preliminary estimate of the accident rate for 2014 was 35% lower than the five-year period from 2010-2014. The reason data from 2005-2009 was used is because that dataset contained additional information that allowed for the estimated effect of FRA Track Class, Traffic Density and Method of Operation (Signaled or Unsignaled) on derailment rate. This additional granularity is needed for more precise segment-specific accident rate used in the analysis. The derailment rates calculated were based on 1,420 Class 1 railroad mainline derailments. Inclusion of a few more crude oil train derailments in recent years would have virtually no effect on the estimated rates. The suggestion that because these recent accidents were not included in our dataset somehow invalidates the results reflects a lack of understanding of the analytical technique and how it was used. The data needed for this analysis are less complete than for overall accident rate but all other things being equal, there is no reason to believe that crude oil trains derail at a rate different than other freight trains. Using what data are available and making certain assumptions, the EIR consultant conducted an analysis in 2014 and observed no significant difference in the derailment rate for crude oil trains then for other freight trains. The railroad accident rate has been steadily trending downward for over a decade. The accident rates in the past few years were the lowest since the FRA started recording the data in the mid-1970s. In the period from 2004 to 2014 the rate declined by 49% (almost half) (see Figure 1 below). Most derailments receive little or no attention from the public or media. Railroads are required by regulation to report all accidents that exceed a certain monetary threshold in damage to track, signals and rolling stock (currently $9,600). Proper estimation of train accident rates involves analysis of all accidents, divided by the total amount of traffic. The reason that some perceive an increase in the railroad petroleum crude oil accident rate is because of the more than 50-fold increase in this traffic since 2009. Estimates are that 233,698 tank cars of crude oil were moved by rail in 2012. This increased to over 435,000 tank cars moved by rail in 2013 (the full year of data is not yet available for 2014). With this increase in crude by rail traffic, the derailment and spill probability data would suggest that multiple crude by rail accidents would happen each year. Figure 1. Railroad Accident Rate 2004 – 2014



Data Source: US DOT Federal Railroad Administration http://safetydata.fra.dot.gov/officeofsafety/publicsite/summary.aspx

(Data for 2014 include January through November)

Using the accident and spill probability data from the RDEIR the DEIR would have estimated that between 2012 and 2013 there would have been two to five derailments that had spills of 100 gallons or more in the U.S. Based upon the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) incident data base, there were three crude oil train derailments with spills of 100 gallons or more.

This does not contain the accident and spills that have occurred in Canada over this period since the accident and spill probability data is for mainline rails within the United States only.

The methodology for estimating crude oil unit train accidents and spill probabilities is also consistent with the methodology outlined by the American Institute of Chemical Engineers, Center for Chemical Process Safety (AIChE CCPS) document Guidelines for Chemical Transportation Risk Analysis (CCPS, 1995), which is the definitive reference on the methodology for estimating hazardous materials transportation risk.

A Quantitative Risk Analysis (QRA) was conducted as part of the RDEIR and is documented in the Hazards and Hazardous Materials Section (see Section 4.7 and Appendix H). The rail routes were divided up into distinct segments to account for differing population levels along the rail routes. Each segment was assigned a population density reflecting the unique populations along the rail route. Segments where facilities and/or events might attract temporary high population levels were assigned a population that reflected the larger temporary population, and did not correct for seasonal or diurnal variation, thus slightly overestimating the risk for the segment. The fact that every possible landmark along the proposed rail routes is not explicitly mentioned does not mean that it was omitted. The population assigned for each segment characterizes the

	potential residential, commercial, industrial, and venue population that is, or could be temporarily, present along the segment.
KIT-03	In the event of a train derailment and accident, only a limited number of rail cars actually derail and spill oil. In no case has a rail accident resulted in all rail cars derailing and failing. The median number of cars derailed per FRA-reportable, freight-train derailment on Class I mainlines was six (Liu et al., 2013). In this analysis, we assumed that all derailed cars were crude oil tank cars. The conditional probability of release (CPR) represents tank car safety performance in accidents and was estimated based on the latest statistics developed by the Railway Supply Institute (RSI) – Association of American Railroads (AAR) Railroad Tank Car Safety Research and Test Project. The RSI-AAR Tank Car Project analysis accounts for tank car safety design features and accident characteristics. The RSI-AAR Project has also calculated a similar statistic, CPR(>100), which is the conditional probability of release of more than 100 gallons from an individual tank car involved in an FRA-reportable accident. Releases smaller than this amount are not believed to pose a substantial threat, so this is the principal metric being used by the rail and tank car industries in their consideration of different tank car safety designs. CPR(>100) is used in the risk analysis described here to be consistent with other documents related to this subject. Please note that trains associated with the Phillips 66 Project would generally have 80 tank cars due based on the space available for the new rail spur.
KIT-04	Potential worst-case water quality impacts related to a rail accident has been addressed in Impact WR.3. Individual waterways that could be affected are shown on Figures 4.13-4 through 4.13-9 and in Tables 4.13-1 and 4.13-2. This includes the San Francisco Bay-Delta watershed and waterways along the central coast. Water quality impacts from a spill along the mainline rail were concluded to be significant and unavoidable (Class I).
KIT-05	Air emissions from tank car fugitive emissions are nominal, totaling only about 0.02 lbs/round trip within SLO County. Rails cars would not be opened during transit. Emissions associated with unloading of the tank cars, including pumps, pressure relief valves, manifolds, connections, etc, were all included in the EIR and listed in detail in the Air Quality Appendix. Emissions associated with unloading would not occur during transit. The EIR does indicate that emissions of criteria pollutants along the mainline routes would exceed the thresholds in most Districts, thereby being a significant impact.
KIT-06	Crude oil processed at the SMR will be similar to crude oils processed historically at the SMR. Additional levels of BTEX might be in the crude oil and these were examined in the EIR in Section 4.3 (Air Quality and Greenhouse Gases) and were determined to have nominal impacts.

KIT-07	This comment does not identify a specific environmental analysis or CEQA issue relative to the EIR and compliance with CEQA. No further response is required.