



September 15, 2014

**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

Ms. Amy Million  
City of Benicia  
Community Development Department  
250 East L Street  
Benicia, CA 94510

**Subject: Valero Benicia Crude by Rail Project Draft Environmental Impact Report**

**ALAMEDA COUNTY**

Tom Bates  
Margaret Fujoka  
Scott Haggerty  
Nate Miley  
(Chair)

**CONTRA COSTA COUNTY**

John Gioia  
David Hudson  
Mary Piepho  
Mark Ross

**MARIN COUNTY**

Susan Adams

**NAPA COUNTY**

Brad Wagenknecht

**SAN FRANCISCO COUNTY**

John Avalos  
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(Secretary)

**SAN MATEO COUNTY**

Carole Groom  
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**SANTA CLARA COUNTY**

Cindy Chavez  
Ash Kalra  
Liz Kniss  
Jan Pepper

**SOLANO COUNTY**

James Spering

**SONOMA COUNTY**

Teresa Barrett  
Shirlee Zane

Jack P. Broadbent  
EXECUTIVE OFFICER/APCO

Dear Ms. Million:

Bay Area Air Quality Management District (Air District) staff has reviewed the City of Benicia's Draft Environmental Impact Report (DEIR) prepared for the Valero Benicia Crude by Rail Project (Project). The Project includes receiving up to 70,000 barrels of crude oil by two 50-tank car trains daily at the Valero Benicia refinery and would replace marine vessels currently delivering crude oil.

Additionally, the Project will involve installation of a single tank car unloading rack, new rail track spurs, pumps, a pipeline, new tracks, a service road and underground infrastructure at the Valero Benicia refinery. This project will require an Authority to Construct and Permit to Operate issued by the Air District. Air District staff has the following comments regarding the DEIR.

**Operational Emissions**

The Project is intended to reduce the amount of crude oil being delivered at the refinery by ship by the same amount being proposed for delivery by railcars. The analysis in the DEIR assumes that an average ship holds 350,000 barrels and that the Project would displace a maximum of 70,000 barrels per day of waterborne crude. The DEIR estimates that approximately 73 ships per year would be displaced, or 82% of existing ships delivering crude oil to the refinery (DEIR, page 1-2). This would equate to approximately 89 ship calls per year over the three year baseline line period of 2010 to 2012.

Air District staff reviewed the Marine Exchange Report (Purchased from: <http://www.sfmex.org/>) from 2010 to 2012 which indicates that on average there were 125 ship calls per year (see table below). This is higher than the number of ship calls that were used in the analysis in the DEIR (approximately 89 ship calls). Please verify and explain the rationale for the number of ship calls assumed in the analysis and make any adjustments (if necessary) to Project impacts or estimates of "displaced" emissions as provided in Table 4.1-4 of the DEIR.

Year	Number of Vessel Calls at Valero (Marine Exchange Report)
2010	96
2011	90
2012	190
2013	181

### **Sensitive Receptors**

The following comments regarding locomotive emissions and health risk modeling are based on review of Appendix E.6 of the DEIR. The appendix indicates that two separate analyses were conducted; one that looked at potential health impacts from locomotive idling, transit, fugitive leaks, and switching operations at the refinery; and another that looked at potential health impacts to sensitive receptors who live near the railroad tracks in the City of Fairfield. Air District staff has the following questions and comments regarding the analyses of the locomotive emissions based on the data provided in the table following Table 5 in the Appendix.

1. Please ensure that the emissions factors used to estimate emissions from railcars are consistent between the DEIR and the District's permit application. For example, the average fuel efficiency is presented as 400 tons-mile/gal in Appendix E.6 of the DEIR and 1,005 tons-mile/gal in Appendix E.3 of the permit application submitted to the Air District. Please explain why the fuel efficiency assumptions in the DEIR and the Air District permit application differ.
2. The analysis provided in the appendix states that rail emissions from fugitive leaks and idling were included in the analysis of the railcars loading and unloading at the refinery. However, the DEIR does not provide information regarding the modeling parameters and methodology associated with these sources, such as the length of time idling was assumed to occur or the amount of fugitive emissions from valves and flanges. Air District staff recommends that this be provided in order to confirm that the emissions are accurately estimated and modeled.
3. The analysis provided in the appendix states that approximately two miles of siding tracks will be installed as part of this project. However, the modeling analysis uses a distance of 3300 feet to characterize emissions associated with switching activities. Please explain why the entire 2 miles of new track was not used to conduct the analysis.
4. The analysis provided in the appendix uses a release plume height of 45.8 feet for line haul and switching activities which relies on stationary mobile source emissions from the California Air Resources Board's (CARB) Roseville Railyard analysis. Another study conducted by CARB in 2006 at the Burlington Northern Santa Fe Richmond Railyard used a plume height of 9.5 meters (31 feet). Please explain why the analysis in the DEIR used the 45.8 foot plume height versus the 31 foot plume height.
5. The analysis provided in the appendix uses a width of transiting railcars of 30 feet. Please explain why this width was used.

6. The DEIR should explain how it was determined that the maximally exposed individual along the rail line was located in the City of Fairfield. It appears this location is not based on dispersion modelling taking into effect local meteorology and topography.

Additionally, the modeled cancer risk at the daycare center in Benicia underrepresents exposures to this sensitive receptor since the calculation does not account for the higher breathing rate of children based on the Office of Environmental Health Hazard Assessment's (OEHHA) Hot Spots Program. This impact should be reevaluated using the higher breathing rate based on OEHHA's approved Hot Spots Program Guidance.

#### **Cumulative Analysis**

Air District staff recommends that the cumulative impact health risk analysis prepared at a residence in the City of Fairfield should be revised to include emissions from nearby roadways with an AADT volume greater than 10,000 vehicles. Also, please confirm that the distance to the residence is 100 feet from the railroad tracks as reported in the DEIR. The distance from the residence to the railroad line should be taken from the property line of the residence to the closest edge of the tracks. For more information on screening risk analysis methodologies, please see the Air District's Recommended Methods for Screening and Modeling Local Risk and Hazards, available for download at <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>.

#### **Crude**

Valero plans to purchase a range of crude consistent with those listed in Table 3-1 of the DEIR (page 3-23) as they become available. Air District staff recommends that the DEIR evaluate potential changes in emissions associated with handling the new crude as a result of this project. Lighter crude generally has a higher content of volatile organic compounds (VOCs) which can result in increased fugitive emissions during transport and storage in comparison to the current crude. One of the VOCs found in crude includes benzene, which is classified as a carcinogen. Air District staff recommends that any potential increase in VOC emissions be quantified, and if it is determined that there will be an increase in toxic air contaminants from the new crude, that the City reevaluate the potential health impacts to nearby sensitive receptors.

Air District staff is available to assist the City of Benicia in addressing these comments. If you have any questions, please contact Andrea Gordon, Senior Environmental Planner, at (415) 749-4940 or [agordon@baaqmd.gov](mailto:agordon@baaqmd.gov). For questions regarding Air District permits for this project or to discuss any equipment modifications, alterations or use of new equipment at the site, please contact Thu Bui, Senior Air Quality Engineer, at (415) 749-5119 or [tbui@baaqmd.gov](mailto:tbui@baaqmd.gov).

Sincerely,

  
for Jean Roggenkamp  
Deputy Air Pollution Control Officer

cc: BAAQMD Director James Spering