San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUN 05 2017

Ruthanne Walker
Tesoro Logistics Operations LLC
3003 Navy Circle
Stockton, CA 95206

RE: Final - Authority to Construct / Certificate of Conformity (Significant Modification)
Facility Number: N-845
Project Number: N-1163274

Dear Ms. Walker:

The Air Pollution Control Officer has issued the Authority to Construct permits to Tesoro Logistics Operations LLC for the project to remove an existing gasoline storage tank and replace it with a new denatured ethanol storage tank, install an additional gasoline storage tank and a denatured ethanol bulk offloading operation, at 3003 Navy Drive and 2650 West Washington Street in Stockton, California. Enclosed are the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits was published on February 27, 2017. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on February 21, 2017. All comments received following the District's preliminary decision on this project were considered (see Attachment A and B for comments). The District response to these comments is included in Attachment C.

Comments received by the District during the public notice period do not result any changes to District's preliminary decision, consequently, the project did not trigger additional public notification requirements.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Prior to operating with the modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5. Application forms have been enclosed for your use. These forms may also be found on the District's website at www.valleyair.org.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Nick Peirce at (209) 557-6400.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:JK/ys

Enclosures

cc: Tung Le, CARB (w/enclosure) via email

Gerardo C. Rios, EPA (w/enclosure) via email

Amrit S. Kulkarni (w/enclosure) via email
(akulkarni@meyersnave.com)

Rachael Koss (w/enclosure) via e-mail and via certified mail
(rkoss@adamsbroadwell.com)

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Facility # N-845
TESORO LOGISTICS OPERATIONS LLC
ATTN: JOHN WALKER
3003 NAVY DR
STOCKTON, CA 95206

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice**: Please pay enclosed invoice before due date.
2. **Modify Your Title V Permit.** Prior to operating the equipment authorized under this ATC, submit an application to modify your Title V permit. See application forms at http://www.valleyair.org/busind/pto/ptoforms/1ptoformidx.htm.
3. **Fully Understand ATC**: Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.
4. **Follow ATC**: You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.
5. **Notify District**: You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department. A startup inspection may be required prior to receiving your Permit to Operate.
6. **Source Test**: Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.
7. **Maintain Records**: Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for at least 5 years. Sample record keeping forms can be found at http://www.valleyair.org/busind/comply/compliance_forms.htm.

By operating in compliance, you are doing your part to improve air quality for all Valley residents.

For assistance, please contact District Compliance staff at any of the telephone numbers listed below.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

AUTHORITY TO CONSTRUCT

PERMIT NO: N-845-28-0 **ISSUANCE DATE:** 05/25/2017

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: JOHN WALKER
3003 NAVY DR
STOCKTON, CA 95206

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
ONE 571,068 GALLON ABOVEGROUND WELDED INTERNAL FLOATING ROOF DENATURED ETHANOL STORAGE TANK (NO. 20) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A RIM-MOUNTED SECONDARY SEAL

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under Authorities to Construct N-845-28-0, N-845-29-0 and N-845-30-0, the permittee shall mitigate the following quantities of VOC: 1st quarter - 290 lb, 2nd quarter - 290 lb, 3rd quarter - 290 lb, and 4th quarter - 290 lb. The quarterly amounts already include the applicable distance offset ratio per Section 4.8.1 of Rule 2201 (02/18/16). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificates N-1078-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Upon implementation of this Authority to Construct, Permit to Operate N-845-1-3 shall be cancelled. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-845-28-0 May 25 2017 5:13PM – KAHLONJ : Joint Inspection NOT required

6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. VOC emissions from this tank shall not exceed 1.5 pounds in any one day and 304 pounds in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The quantity of organic liquid loaded into this tank shall not exceed the following limits: a) 180,000 gallons in any one day and b) 24,000,000 gallons in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Total VOC emissions from this permit unit shall not exceed 1.7 pounds in any one day. {Total VOC emissions shall be calculated as follow: Total VOC emissions (lb/day) = Daily Tank VOC emissions (lb/day) + Daily Fugitive Components emissions (lb/day)}. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Fugitive VOC from components, such as valve, flange, connector, pump seal, etc, associated with this permit unit shall not exceed 87 pounds in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal Average Emission Factors. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
14. True vapor pressure of the organic liquid stored shall be less than 11 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
15. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
16. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
17. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
18. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
19. The cumulative length all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
20. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
21. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
22. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
23. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
24. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

25. The internal floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled, and for tank interior cleaning, and during tank repair and maintenance activities. When the roof is resting on the leg supports the processes of filling or emptying and refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rules 2020, 2201, and 4623, and 40 CFR 60.112b(a)(1)(i)] Federally Enforceable Through Title V Permit

26. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

27. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

28. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)] Federally Enforceable Through Title V Permit

29. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)] Federally Enforceable Through Title V Permit

30. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)] Federally Enforceable Through Title V Permit

31. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)] Federally Enforceable Through Title V Permit

32. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)] Federally Enforceable Through Title V Permit

33. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)] Federally Enforceable Through Title V Permit

34. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)] Federally Enforceable Through Title V Permit

35. All slotted sampling or gauging wells shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

36. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed one-eighth inch. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623] Federally Enforceable Through Title V Permit

38. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit

39. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit

40. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit

41. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

42. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623] Federally Enforceable Through Title V Permit

43. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623] Federally Enforceable Through Title V Permit

44. The permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit

45. During tank cleaning operations, draining and refilling of this tank shall occur as a continuous process and shall proceed as rapidly as practicable while the roof is not floating on the surface of the stored liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

46. Gap seal requirements shall not apply while the roof is resting on its legs, and during the processes of draining, degassing, or refilling the tank. A leak-free condition will not be required if the operator is draining or refilling this tank in a continuous, expeditious manner. [District Rule 4623] Federally Enforceable Through Title V Permit

47. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623] Federally Enforceable Through Title V Permit

48. After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

49. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit

50. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

51. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623] Federally Enforceable Through Title V Permit

52. The permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623] Federally Enforceable Through Title V Permit

53. The permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623] Federally Enforceable Through Title V Permit

54. For newly constructed, repaired, or rebuilt internal floating roof tanks, the permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)] Federally Enforceable Through Title V Permit

55. The operator shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit

56. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

57. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit

58. The permittee shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5)] Federally Enforceable Through Title V Permit

59. The permittee shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specification of 40 CFR Part 60.112b(a)(1) and 40 CFR Part 60.113b(a)(1) within 15 days after the initial startup of the equipment. [40 CFR 60.115b(a)(1)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

60. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)] Federally Enforceable Through Title V Permit

61. The operator shall visually inspect the internal floating roof, the primary seal and/or secondary seal, gaskets, slotted membrane and/or sleeve seals each time the storage tank is emptied and degassed. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to refilling the tank. [40 CFR 60.113b(a)(4)] Federally Enforceable Through Title V Permit

62. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, and these records shall be kept for the life of the source. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

63. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit

64. The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

65. The permittee shall keep daily records and annual records on a rolling 12-month period of the quantity of organic liquid loaded into the tank, in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

66. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each calculated emission quantity as well as each process variable used in the respective calculations/modeling. [District Rule 2201] Federally Enforceable Through Title V Permit

67. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201 and 4623, and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

AUTHORITY TO CONSTRUCT

PERMIT NO: N-845-29-0 **ISSUANCE DATE:** 05/25/2017

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: JOHN WALKER
3003 NAVY DR
STOCKTON, CA 95206

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
ONE 1,347,627 GALLON ABOVEGROUND WELDED INTERNAL FLOATING ROOF GASOLINE STORAGE TANK (NO. 32) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A RIM-MOUNTED SECONDARY SEAL

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under Authorities to Construct N-845-28-0, N-845-29-0 and N-845-30-0, the permittee shall mitigate the following quantities of VOC: 1st quarter - 290 lb, 2nd quarter - 290 lb, 3rd quarter - 290 lb, and 4th quarter - 290 lb. The quarterly amounts already include the applicable distance offset ratio per Section 4.8.1 of Rule 2201 (02/18/16). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificates N-1078-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-845-29-0 May 25 2017 5:13PM – KAHLONJ Joint Inspection NOT Required

6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
7. VOC emissions from the tank shall not exceed 10.2 pounds in any one day and 1,686 pounds in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The quantity of organic liquid loaded into this tank shall not exceed the following limits: a) 1,347,627 gallons in any one day and b) 90,720,000 gallons in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Total VOC emissions from this permit unit shall not exceed 10.4 pounds in any one day. {Total VOC emissions shall be calculated as follow: Total VOC emissions (lb/day) = Daily Tank VOC emission (lb/day) + Daily Fugitive Components emissions (lb/day)}. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fugitive VOC from components, such as valve, flange, connector, pump seal, etc, associated with this permit unit shall not exceed 90 pounds in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal Average Emission Factors. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
13. True vapor pressure of the organic liquid stored shall be less than 11 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
14. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
15. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
16. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
17. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
18. The cumulative length all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
19. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
20. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
21. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
22. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
23. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. The internal floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled, and for tank interior cleaning, and during tank repair and maintenance activities. When the roof is resting on the leg supports the processes of filling or emptying and refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rules 2020, 2201, and 4623, 40 CFR 60.112b(a)(1)(i), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

25. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

26. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

27. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623, 40 CFR 60.112b(a)(1)(iii), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

28. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623, 40 CFR 60.112b(a)(1)(iv), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

29. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623, 40 CFR 60.112b(a)(1)(v), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

30. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623, 40 CFR 60.112b(a)(1)(vi), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

31. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623, 40 CFR 60.112b(a)(1)(vii), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

32. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623, 40 CFR 60.112b(a)(1)(viii), and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

33. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix) and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

34. All slotted sampling or gauging wells shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

35. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed one-eighth inch. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

36. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623] Federally Enforceable Through Title V Permit

37. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit

38. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623] Federally Enforceable Through Title V Permit

39. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit

40. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

41. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623] Federally Enforceable Through Title V Permit

42. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623] Federally Enforceable Through Title V Permit

43. The permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit

44. During tank cleaning operations, draining and refilling of this tank shall occur as a continuous process and shall proceed as rapidly as practicable while the roof is not floating on the surface of the stored liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

45. Gap seal requirements shall not apply while the roof is resting on its legs, and during the processes of draining, degassing, or refilling the tank. A leak-free condition will not be required if the operator is draining or refilling this tank in a continuous, expeditious manner. [District Rule 4623] Federally Enforceable Through Title V Permit

46. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623] Federally Enforceable Through Title V Permit

47. After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

48. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit

49. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

50. During sludge removal, the operator shall control emissions from the sludge receiving vessel by operating an APCO-approved vapor control device that reduces emissions of organic vapors by at least 95%. [District Rule 4623] Federally Enforceable Through Title V Permit

51. The permittee shall only transport removed sludge in closed, liquid leak-free containers. [District Rule 4623] Federally Enforceable Through Title V Permit

52. The permittee shall store removed sludge, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rules 2020 and 4623] Federally Enforceable Through Title V Permit

53. For newly constructed, repaired, or rebuilt internal floating roof tanks, the permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623, 40 CFR 60.113b(a)(1), 40 CFR 63.11087(c), and 40 CFR 63.11092(e)(1)] Federally Enforceable Through Title V Permit

54. The operator shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623, 40 CFR 60.113b(a)(2), 40 CFR 63.11087(c), and 40 CFR 63.11092(e)(1)] Federally Enforceable Through Title V Permit

55. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

56. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2), 40 CFR 63.11087(c), and 40 CFR 63.11092(e)(1)] Federally Enforceable Through Title V Permit

57. The permittee shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5), 40 CFR 63.11087(c), and 40 CFR 63.11092(e)(1)] Federally Enforceable Through Title V Permit

58. The permittee shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specification of 40 CFR Part 60.112b(a)(1) and 40 CFR Part 60.113b(a)(1) within 15 days after the initial startup of the equipment. [40 CFR 60.115b(a)(1)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

59. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623, 40 CFR 60.115b(a), and 40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

60. Each calendar month, the owner or operator shall perform leak inspection of all equipment in gasoline service. Equipment in gasoline service is defined as a piece of equipment used in a system that transfers gasoline or gasoline vapors. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. [40 CFR 63.11089(a)] Federally Enforceable Through Title V Permit

61. For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR 63.11089(b) and 40 CFR 63.11094(d)] Federally Enforceable Through Title V Permit

62. The operator shall visually inspect the internal floating roof, the primary seal and/or secondary seal, gaskets, slotted membrane and/or sleeve seals each time the storage tank is emptied and degassed. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to refilling the tank. [40 CFR 60.113b(a)(4), 40 CFR 63.11087(c), and 40 CFR 63.11092(e)(1)] Federally Enforceable Through Title V Permit

63. Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak. Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. The owner or operator shall provide in the semiannual report the reason(s) why the repair was not feasible and the date each repair was completed. [40 CFR 63.11089(c) and (d), and 40 CFR 63.11095(a)(3)] Federally Enforceable Through Title V Permit

64. The permittee shall submit a semi-annual compliance report that contains all required information stipulated under 40 CFR 63.11095(a) to the Administrator and the District. [40 CFR 63.11095(a)] Federally Enforceable Through Title V Permit

65. The permittee shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [40 CFR 63.11089(g), 40 CFR 63.11094(e), and 40 CFR 63.11095(a)(3)] Federally Enforceable Through Title V Permit

66. The permittee shall submit an excess emissions report that contains all required information that stipulated under 40 CFR 63.11095(b)(5) to the Administrator and the District. The excess emissions report shall be submitted along with the semi-annual compliance report. [40 CFR 63.11095(b)(5)] Federally Enforceable Through Title V Permit

67. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, and these records shall be kept for the life of the source. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

68. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit

69. The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

70. The permittee shall keep daily records and annual records on a rolling 12-month period of the quantity of organic liquid loaded into the tank, in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

71. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each calculated emission quantity as well as each process variable used in the respective calculations/modeling. [District Rule 2201] Federally Enforceable Through Title V Permit

72. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, and 4623, 40 CFR 60.116b(a), and 40 CFR 63.11094(a)] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

AUTHORITY TO CONSTRUCT

PERMIT NO: N-845-30-0 **ISSUANCE DATE:** 05/25/2017

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: JOHN WALKER
3003 NAVY DR
STOCKTON, CA 95206

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
DENATURED ETHANOL BULK OFFLOADING OPERATION CONSISTING OF ONE RAILCAR OFFLOADING STATION AND ONE TRUCK OFFLOADING STATION

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under Authorities to Construct N-845-28-0, N-845-29-0 and N-845-30-0, the permittee shall mitigate the following quantities of VOC: 1st quarter - 290 lb, 2nd quarter - 290 lb, 3rd quarter - 290 lb, and 4th quarter - 290 lb. The quarterly amounts already include the applicable distance offset ratio per Section 4.8.1 of Rule 2201 (02/18/16). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificates N-1078-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-845-30-0 May 25 2017 5:13PM – KAHLONJ Joint Inspection NOT Required

6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

7. Fugitive VOC from components, such as valve, flange, connector, pump seal, etc, associated with this permit unit shall not exceed 44 pounds in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal Average Emission Factors. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum number of organic liquid hose disconnections performed by the unloading equipment for this permit unit shall not exceed 105 disconnects in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

10. The maximum number of organic liquid hose disconnections performed by the unloading equipment for this permit unit shall not exceed 13,000 disconnects in any one rolling 12-month period. [District Rule 2201] Federally Enforceable Through Title V Permit

11. The VOC emissions rate from each organic liquid hose disconnect shall not exceed 0.0141 pound per disconnect. {The VOC emissions rate from each disconnect shall be calculated as follow: VOC emissions rate (lb/disconnect) = 8 mL-VOC/disconnect x organic liquid density (lb/gal) x (1 gal/3785.41 mL)}. [District Rule 2201] Federally Enforceable Through Title V Permit

12. The unloading equipment shall be designed, installed, maintained, and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 2201] Federally Enforceable Through Title V Permit

13. A leak is defined as the dripping of VOC-containing liquid at a rate of more than three drops per minute; or the detection of any gaseous or vapor emissions with a concentration of VOC greater than 1,000 ppmv above a background as methane when measured using a portable hydrocarbon detection instrument in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit

14. Excess organic liquid drainage from each hose disconnect shall not exceed 8 milliliters per disconnect. Such liquid drainage for disconnect operation shall be determined by computing the average drainage from three consecutive disconnects. Liquid drainage is the volume of organic liquid that reaches the ground and potentially can evaporate into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Each time a tanker truck or railcar is unloaded, the operator or permittee shall ensure all liquid that drops from each disconnect is captured using a collection vessel that will be immediately covered once drainage is complete. The operator or permittee shall ensure the collection vessel will be emptied each time any liquid is collected in a manner so as to prevent any evaporation into the atmosphere. The operator or permittee shall ensure that clean empty collection vessels are available for use each time a tanker truck or railcar is unloaded. [District Rule 2201] Federally Enforceable Through Title V Permit

16. The operator or permittee shall ensure that each time a tanker truck or railcar is unloaded, a checklist to be prepared by the permittee is completed where the operator or delegate verifies that a collection vessel was used for each disconnect associated with each unloading event. [District Rule 2201] Federally Enforceable Through Title V Permit

17. The operator or permittee shall determine an average organic liquid drainage, in unit of milliliters for three consecutive disconnects to demonstrate compliance with the 8 milliliters limit. The drainage shall be determined within 60 days of initial startup under this permit and once every calendar month thereafter. An appropriate action shall be taken in case excess liquid drainage occurs from any unloading hose. If no excess drainage conditions are found during five consecutive monthly inspections, the drainage inspection frequency may be changed from monthly to quarterly. However, if one or more excess drainage condition is found during a quarterly inspection, the inspection frequency shall return to monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Liquid drainage inspections shall be completed before 10:00 AM the day of inspection. Compliance shall be demonstrated by collecting all drainage at disconnect in a spouted container. The drainage shall be transferred to a graduated cylinder and the volume determined within one minute of collection. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. The permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100] Federally Enforceable Through Title V Permit

20. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure (e.g. breakdown of vapor recovery system), the date and cause of the initial failure, the estimated emissions in excess of those allowed including the amount of organic liquid unloaded during the breakdown period, and the methods utilized to restore normal operations. [District Rule 1100] Federally Enforceable Through Title V Permit

21. The equipment that are found leaking shall be repaired or replaced within 72 hours after detecting the leakage. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit

22. The permittee may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624] Federally Enforceable Through Title V Permit

23. The permittee shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624] Federally Enforceable Through Title V Permit

24. Safety Data Sheet for each organic liquid processed by the unloading equipment for this permit unit shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

25. The permittee shall keep daily records of the number of organic liquid hose disconnections from both railcars and tank trucks for this permit unit. The records shall be updated at least weekly. [District Rule 2201] Federally Enforceable Through Title V Permit

26. The permittee shall keep annual records of the number of organic liquid hose disconnections on a rolling 12-month period. The record shall be updated at least monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

27. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each calculated emission quantity as well as each process variable used in the respective calculations. [District Rule 2201] Federally Enforceable Through Title V Permit

28. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4624] Federally Enforceable Through Title V Permit

ATTACHMENT A
COMMENTS FROM ADAMS BROADWELL JOSEPH & CARDOZO

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March 27, 2017

VIA EMAIL & U.S. MAIL

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Re: Comments on the Proposed Authorities to Construct and Significant Modification for Tesoro Logistics Operations LLC Facility # N-845 (Project # N-1163274)

Dear Mr. Marjollet and Mr. Peirce:

We are writing on behalf of Safe Fuel and Energy Resources California ("SAFER California"), Raul Hernandez, Steve Stevenson and Jason Miranda to provide comments on the San Joaquin Valley Air Pollution Control District's ("Air District") proposed Authorities to Construct and Significant Modification to the Operating Permit ("Draft ATC") for Tesoro Logistics Operations LLC's ("Tesoro") Facility # N-845, located at 3003 Navy Drive in Stockton, California. Tesoro proposes to: (1) remove a 420,000 gallon gasoline storage tank (N-845-1) at its terminal at the Port of Stockton; (2) install a new 571,068 gallon ethanol storage tank (N-845-28-0) in the same location as the gasoline tank; (3) install a new

1,347,627 gallon gasoline tank (N-845-29-0) at a new location at the terminal; and (4) install an ethanol bulk offloading operation at 2650 West Washington Street in the Port of Stockton, which will feed ethanol to the new ethanol storage tank at the terminal via new piping ("Project").

The Air District proposes to exempt the Project from review under the California Environmental Quality Act[1] ("CEQA") as an existing facility pursuant to CEQA Guideline sections 15301 and under CEQA's "common sense exemption," CEQA Guidelines section 15061(b)(3). As described in detail below, the District cannot exempt the Project from review under CEQA because: (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531; (2) even if a petroleum distribution terminal was a "facility," the Project involves more than a negligible expansion of the existing use; and (3) the Project would result in significant air quality, public health and traffic impacts. Thus, the Air District must withdraw the Draft ATC until it prepares an initial study and either a mitigated negative declaration or environmental impact report, as appropriate, pursuant to CEQA.

The Air District also must withdraw the Draft ATC because it does not comply with the federal or state Clean Air Acts. The Draft ATC fails to require best available control technology for all emissions units, underestimates tank fugitive emissions and fails to require enforceable permit conditions for storage tank volatile organic compound and hazardous air pollutant emissions.

We prepared these comments with the assistance of Petra Pless, D. Env. and Phyllis Fox, Ph.D., PE. Dr. Pless and Dr. Fox's comments and curriculum vitae are attached as **Attachment A**.

I. STATEMENT OF INTEREST

SAFER California advocates for safe processes at California refineries and fuel storage and distribution facilities to protect the health, safety, the standard of life and the economic interests of its members. For this reason, SAFER California has a strong interest in enforcing environmental laws which require the disclosure of potential environmental impacts of, and ensure safe operations and processes for, California oil refineries and fuel storage and distribution facilities. Failure to

[1] Pub. Resources Code § 21000 et seq.

adequately address the environmental impacts of crude oil and fuel products transport, refining, storage and distribution processes poses a substantial threat to the environment, worker health, surrounding communities, and the local economy.

Refineries and fuel storage and distribution facilities are uniquely dangerous and capable of generating significant fires and the emission of hazardous and toxic substances that adversely impact air quality, water quality, biological resources and public health and safety. These risks were recognized by the Legislature and Governor when enacting SB 54 (Hancock). Absent adequate disclosure and mitigation of hazardous materials and processes, refinery workers and surrounding communities may be subject to chronic health problems and the risk of bodily injury and death.

Poorly planned refinery and fuel products storage and distribution projects also adversely impact the economic wellbeing of people who perform construction and maintenance work in these facilities and the surrounding communities. Plant shutdowns in the event of accidental release and infrastructure breakdown have caused prolonged work stoppages. Such nuisance conditions and catastrophic events impact local communities and can jeopardize future jobs by making it more difficult and more expensive for businesses to locate and people to live in the area. The participants in SAFER California are also concerned about projects that carry serious environmental risks and public service infrastructure demands without providing countervailing employment and economic benefits to local workers and communities.

The members represented by the participants in SAFER California live, work, recreate and raise their families in the City of Stockton. Accordingly, these people would be directly affected by the Project's adverse environmental impacts. The members of SAFER California's participating unions may also work at the facility itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants, and other health and safety hazards, that exist onsite.

These comments are also submitted on behalf of individuals who reside and/or work in the Project area, including Raul Hernandez, Steve Stevenson and Jason Miranda, and would be directly affected by the Project's impacts.

II. THE PROJECT IS NOT EXEMPT FROM CEQA REVIEW

The District improperly determined that the Project is exempt from environmental review under CEQA. CEQA is "an integral part of any public agency's decision making process."[2] CEQA was enacted to require public agencies and decision makers to document and consider the environmental implications of their actions before formal decisions are made.[3] CEQA requires an agency to conduct adequate environmental review prior to taking any discretionary action that may significantly affect the environment unless an exemption applies.[4] Thus, CEQA's exemptions are to be construed narrowly and are not to be expanded beyond the scope of their plain language.[5] Here, the Air District cannot exempt the Project from CEQA as an existing facility or under the common sense exemption because: (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531, (2) the Project involves more than a negligible expansion of the existing use, and (3) the Project will result in significant air quality, public health and traffic impacts.

A. The Project is Not Categorically Exempt as an Existing Facility

Under CEQA, the Secretary of California's Natural Resources Agency designated categories of projects that are accepted as having no potential to cause environmental harm.[6] Because such projects are presumed to pose no danger to the environment, a public agency need not examine them under CEQA. The CEQA Guidelines enumerate 32 classes of categorical exemptions.[7] Class 1, the exemption invoked by District, applies to minor alternations of existing facilities.[8]

> Class I consists of the operation, repair, maintenance, permitting, leasing, licensing or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features,

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[2] *Id.*, § 21006.
[3] *Id.*, §§ 21000, 21001.
[4] *Id.*, § 21100(a); *see also* CEQA Guidelines § 15004(a).
[5] *Castaic Lake Water Agency v. City of Santa Clarita*, 41 Cal. App. 4th 1257 (1995).
[6] Pub. Resources Code § 21084(a).
[7] CEQA Guidelines, §§ 15300-15332.
[8] *Id.*, § 15301.

> involving negligible or no expansion of use beyond that existing at the time of the leady agency's determination.[9]

The Air District's *Environmental Review Guidelines/Procedures for Implementing the California Environmental Quality Act* adds that the existing facilities exemption applies to Air District permit actions for projects "involving negligible or no expansion of use or emissions beyond that existing at the time of the lead agency's determination," including permit actions for:

> ATC applications to install air pollution control or abatement equipment and there are no possible significant environmental effects and ATC applications to alter permitted equipment or to change processes that will involve only negligible increases or decreases in pollutant emissions and no other possible significant environmental effects.[10]

The Project does not qualify for an exemption as an existing facility because (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 15301, and (2) even if a petroleum distribution terminal was a "facility," the Project involves more than a negligible expansion of use.

1. A Petroleum Distribution Terminal is Not a "Facility" Under CEQA Guidelines Section 15301

CEQA Guidelines section 15301 provides examples of "existing facilities" which might fall under the exemption, but section 15301 does not specifically speak to petroleum distribution terminals. Therefore, in determining whether a petroleum distribution terminal qualifies as an "existing facility," a court would look to other terms and provisions in the CEQA Guidelines, the environmental and public health impacts and risks associated with the terminal, and CEQA policy.[11]

> Categorical exemptions may be provided for 'classes of projects which have been determined *not* to have a significant effect on the environment.' (Pub.

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[9] *Id.*
[10] SJVAPCD, Environmental Review Guidelines/Procedures for Implementing the California Environmental Quality Act, August 2000, p. 4-2.
[11] *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1192.

> Resources Code, § 21084, subd. (a).) These exemptions should be construed in the light of that authorization. Hence, a term that does not have a clearly established meaning, such as the exemption for existing 'facilities,' should not be so broadly interpreted so to include a class of businesses that will not normally satisfy the statutory requirements for a categorical exemption, even if the premises on which such businesses are conducted might otherwise come within the vague concept of a 'facility."[12]

Indeed, the CEQA Guidelines state that CEQA should be interpreted to "afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[13]

The Project cannot be characterized as a "facility" for purposes of a CEQA existing facility exemption because petroleum terminals are *not* a class of projects which have been determined not to have a significant environmental impact and petroleum terminals inherently have potentially significant environmental impacts. Thus, CEQA does not allow the Air District to apply the existing facility exemption to the Project.[14]

2. The Project Involves More than a Negligible Expansion of Use

The key consideration in determining the applicability of the existing facility exemption is whether the project involves negligible or no expansion of use. For a project to qualify for the existing facilities exemption, the agency's record must support the conclusion that the alteration is, in fact, minor.[15] "[A] 'minor' alteration cannot be an activity that creates a reasonably possibility of a significant environmental effect."[16]

Here, the Project does not involve repair, maintenance or minor alteration of an existing structure. Indeed, according to the Air District, the Project is a Significant Modification to the Title V permit and a Federal Major Modification

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[12] *Id.*, pp. 1192-1193.
[13] CEQA Guidelines, § 15003(f).
[14] *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster,* 52 Cal.App.4th at 1192-1193.
[15] *Id.* at 1194.
[16] *Id.*

under Air District Rule 2201. The Project includes the installation of ***new*** equipment (which does not constitute air pollution control or abatement equipment), including a 571,068 gallon ethanol storage tank, a 1,347,627 gallon gasoline tank, an ethanol bulk offloading operation at 2650 West Washington Street (with a throughput capacity of up to 180,000 gallons per day delivered by 21 heavy-duty tanker trucks per day with a capacity of 8,800 gallons each and denatured ethanol via rail with a capacity of up to six railcars per day/780 rail cars per year), and a new 1,000-foot pipeline for transferring denatured ethanol from the new off-site offloading operation to the new ethanol storage tank. The installation of new equipment disqualifies a project from a Class 1 exemption.[17] Also, the Project's new offloading operation would exist at an entirely different location from Tesoro's existing facility. The Project would increase volatile organic compounds ("VOC") emissions from the storage tanks and loading racks by 2,394 lb/year (or 1.2 tons/year). The Project requires the Applicant to provide 3,591 lb/year of offsets for the increase in VOC emissions. The Project would also increase hazardous air pollutant emissions, requiring the installation of best available control technology.

Clearly, the Project does not constitute a minor alteration of an existing facility and is much more than a negligible expansion of use. Thus, the District's reliance on the Class 1 exemption is improper and violates CEQA. The District must prepare an initial study and either a mitigated negative declaration or an environmental impact report, as appropriate, before approving any permits for the Project.

B. The Project Is Not Exempt From CEQA Under The Common Sense Exemption Because It Would Result In Significant Public Health, Air Quality And Traffic Impacts

CEQA Guidelines section 15061(b)(3) provides that a project is exempt from CEQA if "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." This exemption can be used "only in those situations where its absolute and precise language clearly applies."[18] When invoking the common sense exemption, the agency "must be *certain* that there is *no possibility* the project may cause significant environmental

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[17] *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 326.
[18] *Myers v. Board of Supervisors* (1976) 58 Cal.App.3d 413, 425.

impacts."[19] "If legitimate questions can be raised about whether the project might have a significant impact and there is any dispute about the possibility of such an impact, the agency cannot find with certainty that a project is exempt."[20] In this case, the Air District does not have substantial evidence to conclude that the Project will not result in a significant effect. On the contrary, as explained below, the Air District's own records show that the Project will result in significant air quality, public health and traffic impacts, and the Air District failed to perform a legally adequate analysis that shows otherwise. Therefore, the District could not conclude with certainty that there is no possibility the Project may cause a significant impact.

III. THE PROJECT WOULD RESULT IN SIGNIFICANT AIR QUALITY, PUBLIC HEALTH AND TRAFFIC IMPACTS

Substantial evidence shows that the Project would result in significant air quality, public health and traffic impacts. Thus, the Air District must withdraw the Draft Permit until it prepares an initial study and either a mitigated negative declaration or environmental impact report, as appropriate, pursuant to CEQA.

A. The Project Would Result In Significant Impacts From Truck Offloading

The Air District's Supplemental Application Form for CEQA Information requires project applicants to disclose whether a project would result in more than 47 heavy-duty truck one-way trips (or 23 round trips) per day. This information assists "the District in clarifying whether or not the project has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document (CEQA Guidelines §15060(a))."[21] The Applicant claims that the Project would not result in more than 47 heavy-duty one-way (23 round) truck trips per day. The Applicant's claim is unsupported. Substantial evidence shows that the Project would result in 92 heavy-duty one-way truck trips per day (47 round trips), which far exceeds the Air District's CEQA trigger threshold.

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[19] *Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 117 (emphasis in original).
[20] *Id.*
[21] San Joaquin Valley Air Pollution Control District Supplemental Application Form for CEQA Information, p. 2.

The Draft ATC proposes a permit limit of 105 disconnects per day at the new ethanol loading rack. Dr. Fox and Dr. Pless explain that a "disconnect occurs when the flexible hoses connecting the tanker truck or railcar to the off-loading racks are uncoupled after the ethanol transfer is complete." According to the Engineering Evaluation, a tanker truck in ethanol service has five disconnects per delivery.[22] Therefore, the Project would result in a total of 21 roundtrips, or 42 one-way trips, for trucks in ethanol service at the new denatured ethanol off-loading rack. The Engineering Evaluation, however, states that there would be an increase of only 21 one-way truck trips per day associated with the new ethanol off-loading rack. Thus, the Engineering Evaluation underestimates the number one-way truck trips by a factor of two.

Further, the Project would increase the truck trips at the existing gasoline bulk loading rack by 25 round trips per day / 50 one-way trips per day. This is because the Project includes installation of a new gasoline storage tank that is three times larger than the existing tank. This new, larger tank substantially increases storage capacity at the facility and debottlenecks the existing operational situation at the facility by allowing for an increase in product loadout at the existing bulk loading rack.

In Dr. Fox's and Dr. Pless' opinion, the Project's substantial increase in heavy-duty truck trips would result in potentially significant air quality and traffic impacts. Indeed, the Port of Stockton admits that the new ethanol truck offloading rack will result in increased traffic in an area already impacted by traffic. The Port's lease with Tesoro for the 2650 West Washington Street property states:

> As a condition of this Lease, Tenant will route all inbound and outbound truck traffic affiliated with its use and operation on Port property (and within Tenant's control) to Navy Drive and/or the Port of Stockton Expressway in order to alleviate the traffic impacts on the residential area (Boggs Tract) to the east.[23]

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[22] 2/21/17 Engineering Evaluation, p. 11.
[23] Port of Stockton, Lease Agreement, p. 12.

The Air District must disclose, analyze and mitigate, in a CEQA document, the Project's potentially significant traffic and air quality impacts from increased truck traffic.

B. The Project Would Result In a Significant Air Quality Impacts from Locomotive Exhaust Emissions at the New Ethanol Off-loading Rack

The Project would allow delivery of ethanol via truck and rail. The Draft ATC for the new ethanol off-loading rack does not specify separate throughput limits for trucks and rail. The Draft ATC only provides combined throughput limits for both modes of delivery. The Engineering Evaluation states that rail cars carrying denatured ethanol received at the off-loading rack would be moved on site by a locomotive at the Port of Stockton. The Engineering Evaluation provides estimates for exhaust emissions from the rail cars. Dr. Fox and Dr. Pless reviewed these estimates and found that they are incorrect and substantially underestimate emissions from locomotive movements. Specifically, as explained in detail in Dr. Fox's and Dr. Pless' comments, the emissions calculations: (1) incorrectly calculate annual emissions in pounds per year; (2) incorrectly assume that the locomotive would comply with emissions standards for Tier 2 switch locomotives; (3) incorrectly assumes that the switch locomotive would access the site only once per day; (4) incorrectly assumes that the switch locomotive would operate one hour on site; and (5) fails to calculate locomotive exhaust emissions while traveling off-site. When the emissions calculations are corrected, Dr. Fox and Dr. Pless found that the combined on-site and off-site locomotive exhaust NOx emissions from the new ethanol off-loading rack would be 11.03 tons per year, which exceeds the Air District's significance threshold of 10 tons per year. This is a significant impact that must analyzed and mitigated in a CEQA document.

C. The Project Would Result In Significant Cancer Risks from On-site Locomotive Exhaust Emissions at the Ethanol Loading Rack

The Engineering Evaluation briefly discusses potential health risks from Project emissions of toxic air contaminants based on the results from the Air District's Risk Management Review ("RMR"). The Engineering Evaluation concludes that health risks posed by the Project are less than significant. Dr. Fox and Dr. Pless reviewed the RMR and Engineering Evaluation. They found that the

Air District failed to address operational emissions from mobile sources such as truck or locomotive exhaust emissions associated with the new ethanol off-loading rack or exhaust emissions associated with the increase in truck traffic at the existing loading rack.

Ms. Camille Sears conducted a health risk assessment for locomotive exhaust diesel particulate ("DPM") emissions associated with the new denatured ethanol off-loading rack. Based on Ms. Sears' modeling, Dr. Fox and Dr. Pless found that the Project's locomotive emissions at the new ethanol off-loading rack would individually and cumulatively exceed the Air District's CEQA threshold of 20 in one million (for a release height of five meters, 47.7 to 51.8 per million excess risk; for a release height of 10, 22.5 to 23.5 per million excess risk). This is a significant impact that the Air District must analyze and mitigate in a CEQA document.

D. The Project Would Result in Significant Cumulative Air Quality and Public Health Impacts from Successive Modifications at the Facility

Under CEQA, while a project's incremental impacts may be individually limited, they may be cumulatively considerable when viewed together with past, present and reasonably foreseeable future projects. Categorical exemptions cannot apply when the cumulative impacts of successive projects of the same type in the same place, over time are significant.[24] Here, the Project is just one of several major modifications of the facility in the past. Importantly, the Air District did not conduct CEQA review for any of these projects. Cumulatively, these modifications result in substantial increases of emissions and associated significant adverse impacts on air quality as well as significant impact in health risks, as discussed below. The Engineering Evaluation completely fails to address cumulative impacts.

Since 1995, the Air District permitted numerous substantial modifications at the facility without any of these permit modifications ever being subjected to public review under CEQA. Dr. Fox and Dr. Pless provide a list of these modifications in their comments. For example, in August 2001, the Air District permitted the removal of existing throughput limits of 50,000 gal/day at two existing gasoline storage tanks (N-845-1 and N-845-5) and an increase at the existing bulk loading

[24] CEQA Guidelines, § 15300.2(b).

rack (N-845-6) from 250,000 gal/day to 45,000 gal/day with Project ID N-1112963. Information obtained from the Air District indicates that no CEQA evaluation was performed.

Most recently, in 2012, the Air District issued authorities to construct to Tesoro authorizing, among other modifications, an increase at the organic liquids loading rack (N-845-6-3) from 450,000 gal/day to 771,120 gal/day and the installation of a new 2,231,508-gallon internal floating roof gasoline storage tank (N-845-24-0) with Project ID N-1112963.[25] The engineering evaluation estimated the increase in VOC emissions resulting from that project at 4.7 tons/year,[26] almost 50 percent of the Air District's significance threshold for this pollutant of 10 tons per year.[27] The Air District exempted that project from CEQA review.[28]

As shown in Table 3, over the course of the past 22 years, the District permitted substantial modifications at the Facility without any of these permit modifications ever undergoing public review under CEQA. Below, we discuss permitted increase in throughput at the Facility's bulk loading rack (N-845-6) and total permitted increase in the Facility's total organic liquid storage capacity.

Now, for the Project, the District intends to permit another increase in total organic liquid storage capacity from 4,319,508 gal to 6,238,196 gal, a 44 percent increase. Once again, the Air District proposes to exempt the Project from CEQA review. In other words, over the course of less than five years, the permitted

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[25] SJVAPCD, Tesoro, Notice of Final Action – Authority to Construct, Project Number: N-1112963, March 27, 2012 (Exhibit C-40); available at: https://www.valleyair.org/notices/Docs/2012/03-27-12%20(N-1112963)/Public%20Notice%20Package.pdf, accessed March 24, 2017 and SJVAPCD, Tesoro, Notice of Preliminary Decision – Authorities to Construct, Project Number: N-1112963, February 16, 2012 (Exhibit C-41); available at: https://www.valleyair.org/notices/Docs/2012/02-16-12%20(N-1112963)/Public%20Notice%20Package.pdf, accessed March 24, 2017.

[26] SJVAPCD, Notice of Preliminary Decision, Project Number: N-1112963, *op. cit.*, p.12. (9,337 lb/year) / (2,000 lb/ton) = 4.67 tons/year.

[27] *See* 2/21/17 Engineering Evaluation, p. 50.

[28] *Id.*, p. 61 ("The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061 (b)(3)).")

throughput at the bulk loading rack (N-845-6) would increase by a total of 213 percent over 1995 permitted levels without any of these permit modifications ever undergoing CEQA review.

Further, the facility existed before CEQA was enacted in 1970 and, thus, units that existed before 1970 never underwent CEQA review unless they were modified and the Air District required CEQA review. Notably, as discussed above, the Air District did not require CEQA review for any of the substantial modifications that occurred between 1995 and present. It is therefore likely that any projects that were permitted between 1970 and 1995 also did not undergo CEQA review.

Dr. Fox and Dr. Pless provide evidence that the Project would result in significant cumulative health risks from the various emission units and non-permitted operational activities at the facility before and after implementation of the Project. Specifically, even when accounting for only eight major emissions units at the 3003 Navy Drive site — five existing emissions units (gasoline storage tanks N845-5, and N-845-24, organic liquid storage tank N845-4, bulk loading rack N-845-6 and associated vapor recovery unit N-845-22) and three new emissions units (denatured ethanol storage tank N845-28, gasoline storage tank N-845-29, and ethanol bulk offloading rack (N-845-30) — the cumulative acute hazard index for the facility (≥1.61) exceeds the Air District's significance threshold of 1.0. Thus, the Project's cumulative acute health risks are significant and must be analyzed in a CEQA document.

IV. THE DRAFT PERMIT DOES NOT COMPLY WITH THE FEDERAL OR STATE CLEAN AIR ACTS

The Draft ATC does not comply with the federal or state Clean Air Acts because it: (1) substantially underestimates emissions of volatile organic compounds ("VOCs"); (2) fails to identify the best available control technology ("BACT") for all five emissions units; and (4) fails to include enforceable conditions to limit VOC emissions.

A. The Draft ATC Is Based On Underestimated VOC Emissions

The Engineering Evaluation substantially underestimates emissions of VOCs from the new denatured ethanol and gasoline storage tanks by omitting emissions from roof landing, degassing and cleaning.

The Project involves two new internal floating roof storage tanks. These tanks function so that, when the tank contains liquid, the roof floats on the liquid, and when the tank is emptied, the roof sits on deck legs at the bottom of the tank. When the roof lands on the deck legs, evaporative losses occur. These emissions continue until the tank is refilled to a sufficient level to float the roof. These are called roof landing losses. According to Dr. Fox and Dr. Pless, tank roof landing losses are large and typically comprise 25 to 60 percent of total tank emissions. The Air District's emissions calculations for the Project completely fail to account for VOC emissions from roof landing losses.

The Air District's emissions calculations also fail to account for degassing and cleaning losses. These emissions occur when tanks are drained and degassed, and continue until the tank is refilled to a sufficient level to float the tank roof. The U.S. Environmental Protection Agency ("EPA") recommends methods to estimate emissions from degassing and cleaning losses. Further, these emissions are routinely included in emission inventories. Yet, the Air District failed to include them in its emission calculations for the Project and failed to limit these emissions through permit conditions. As a result, the Air District underestimated the Project's VOC emissions.

In short, the Draft ATC does not comply with the federal or state Clean Air Acts because it is based on underestimated VOC emissions. The Air District must withdraw the Draft ATC and prepare a revised Draft ATC that accounts for all of the Project's VOC emissions.

B. The Air District Failed To Require BACT For All Project Emission Units

The Project is a Federal Major Modification and, therefore, requires BACT for all Project emission units for which there is an emissions increase, including the existing loading rack, the new ethanol storage tank, the new gasoline storage tank and the new ethanol bulk offloading operation. Debottlenecking the existing loading terminal will increase its throughput, triggering VOC BACT.

Section 3.10 of Air District Rule 2201 defines BACT as the most stringent emission limitation or control technique achieved in practice for such category and class of source, contained in any State Implementation Plan approved by the EPA, contained in an applicable New Source Performance Standard, or other emission limitation or control technique found by the Air Pollution Control Officer to be feasible. Here, the Air District failed to require BACT for all of the VOC emissions sources that trigger BACT. Further, the Engineering Evaluation determined that BACT for toxic emission control ("T-BACT") is required for the gasoline storage tank because emissions from this tank individually exceed the Air District's cancer risk threshold of 1 in one million. As Dr. Fox and Dr. Pless explain in their comments, the proposed BACT/T-BACT determinations for the Project's emissions sources are substantially flawed.

1. The Air District Failed to Require BACT for the Existing Organic Liquid Bulk Loading Rack and Vapor Recovery System

The Project will increase the amount of product loaded at the existing loading rack by increasing the throughput of the new gasoline tank. This, in turn, will increase VOC emissions. The Engineering Evaluation fails to include a BACT analysis for this loading rack and associated vapor recovery system.

The existing organic liquid bulk loading rack is a bottom loading rack equipped with dry break couplers. The captured loading vapors are vented to a carbon adsorption vapor recovery system with a minimum VOC destruction efficiency of 99 percent. The current operating permits for the existing organic liquid bulk loading rack and vapor recovery system specify an emission factor of 0.08 pounds per 1000 gallons organic liquid loaded ("lbs/1000 gal loaded"). Dr. Fox and Dr. Pless explain that this is not BACT, yet the Engineering Evaluation recommends no change in this existing emission factor.

The Bay Area Air Quality Management District ("BAAQMD"), for example, adopted a BACT VOC emission standard for truck and rail car bulk loading of 0.02 lbs/1000 gal loaded as achieved in practice, which is a factor of four less than the Engineering Evaluation's 0.08 lbs/1000 gal loaded. This standard is applicable for both gasoline and ethanol loading racks. According to Dr. Fox and Dr. Pless:

> [t]his emission level can be achieved by submerged loading with a vapor collection system vented to a thermal oxidizer or carbon absorber with vapor

tank. The facility is currently equipped with carbon adsorption vapor recovery. This system could be upgraded to meet a much lower VOC emission rate by adding additional carbon columns in series with the existing unit to achieve the emission limit of 0.02 lbs/1000 gal loaded adopted by the BAAQMD. Alternatively, a thermal oxidizer could be used. Either of these would also satisfy T-BACT.

The Air District failed to require BACT for the existing bulk loading rack and associated vapor recovery system.

2. The Air District Failed to Require BACT for the New Denatured Ethanol and Gasoline Storage Tanks

The Project includes two new internal floating roof tanks to store denatured ethanol and gasoline. According to the EPA, geodesic domes with a cable-supported internal floating roof are BACT for internal floating roof tanks. The Air District did not require BACT for the two new internal floating roof tanks.

The Air District misleadingly states that the tanks are covered and are, therefore, BACT. However, as Dr. Fox and Dr. Pless explain, internal floating roof tanks are open at the top and do not have a fixed roof. Internal floating roof tanks actually allow significant leakage. A geodesic dome, on the other hand, is a cover.

The Applicant argues that geodesic domes are not appropriate for the ethanol storage tank because "[a]luminum metal is known to corrode in the presence of liquids with a high ethanol content." Dr. Fox and Dr. Pless explain why the Applicant is wrong. First, corrosion is an issue for storing petroleum products in steel floating roofs, which are proposed by the Applicant and the District as BACT for these tanks. Aluminum floating roofs and cable-supported aluminum floating roofs have actually seen good service in ethanol storage. Further, a nitrogen blanket can be used to minimize corrosion concerns. Second, many similar facilities use geodesic dome roofs and internal floating roofs to store gasoline and ethanol.[29]

[29] Saunders International, Diesel, Petrol and Ethanol Storage Tanks; Available at: http://saundersint.com/project/diesel-petrol-and-ethanol-storage-tanks/; United Terminals PTY LTD, Notice of an Application for an Amendment to a Planning Permit, February 10, 2015 (Tank 102, 23.5 million gallon ethanol storage tank equipped with geodesic dome and internal floating roof); Available at: https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=geodesic+dome+tanks+ethanol&start=10&*; Aloha Petroleum, Ltd., Hilo East Terminal,

Corrosion-related failures have not been reported for these facilities. Third, the geodesic dome would not be in contact with the ethanol. Rather, the geodesic dome would be separated from the ethanol by a floating roof and substantial headspace. Further, aluminum geodesic domes can be coated with a protective layer. Finally, even assuming some corrosion could occur, the same is true for steel tank lids, which are proposed by the Applicant.

For the gasoline storage tank, the Applicant argues that geodesic domes proposed by Dr. Fox and Dr. Pless are inapplicable to the Project because they are permitted to store non-gasoline petroleum products or are significantly larger than the gasoline tank proposed. Dr. Fox and Dr. Pless explain why the Applicant is wrong. First, the Air District's own BACT Guideline 7.3.3 for tanks, covers "petroleum and petrochemical production – floating roof organic liquid storage or processing tank, equal to or greater than 471 bbl tank capacity, equal or greater than 0.5 psia." Second, many gasoline storage tanks that cover a wide range of tank sizes, including the Project's gasoline tank, are cited in the BACT Guideline, providing evidence that the subject tank controls are achieved in practice.

In sum, the Air District failed to require BACT for the Project's gasoline and denatured ethanol storage tanks, which is a welded cable-suspended internal floating roof tank with a geodesic dome.

Covered Source Permit Review Summary (Renewal), July 29, 2011; Available at: https://yosemite.epa.gov/r9/air/epss.nsf/6924c72e5ea10d5e882561b100685e04/672443a8e8561be60a257a95007fc6cb/$FILE/030706review.PROPOSED.pdf; Iowa Department of Natural Resources, Draft Title V Operating Permit Fact Sheet, pdf 9 (geodesic domes added to two existing gasoline storage tanks); Available at: http://www.polkcountyiowa.gov/media/92763/Fact%20Sheet.pdf; Maryland Department of the Environment, Kinder Morgan Liquids Terminals LLC, Permit No. 24-003-0309, Part 70 Operating Permit Fact Sheet, March 11, 2016, pdf 5-6 (two 3,342,053 gallon gasoline storage tanks equipped with internal floating roof and geodesic domes), pdf 6 (1 3,111,005 gallon ethanol storage tank equipped with an internal floating roof and a geodesic dome), pdf 9; Available at: http://www.mde.state.md.us/programs/Permits/AirManagementPermits/TitleVProgramInformation/Documents/Issued_Part70_Permits/KinderMorganTitleV2016withFS; Michigan Department of Environmental Quality, Permit to Install 249-03A, Buckeye Terminals, LLC, Taylor, MI, December 2, 2015, pdf 6 (EUTANK3: internal floating roof with geodesic dome storing denatured ethanol; EUTANK5,6: internal floating roof with geodesic dome storing denatured ethanol or gasoline); Available at: http://www.deq.state.mi.us/aps/downloads/permits/finpticon/2003/249-03A.pdf.

3. The Air District Failed to Require BACT for the New Denatured Ethanol Truck and Rail Offloading Rack

The Project includes a new denatured ethanol truck and rail off-loading rack. After unloading is complete, the couplings between the tanker truck or rail car and the loading rack are disconnected. Some liquid remains inside the lines/couplings connecting the tanker truck/rail car and the rack. Dr. Fox and Dr. Pless explains that some of this ethanol will spill to the ground and subsequently evaporate, resulting in VOC emissions. The amount of the "leak" depends on the type of coupler -- either a camlock or a dry break coupler -- used to connect the tanker truck and railcar to the loading rack. The leaks (and resulting VOC emissions) from camlocks are significantly higher than from dry break couplers. Despite this, the Applicant proposes camlocks and the Air District improperly concluded that they satisfy BACT.

Section 3.10 of Rule 2201 defines BACT as the most stringent emission limitation or control technique that has been achieved in practice or required by any SIP for the same class or category as the source. According to Dr. Fox and Dr. Pless, the use of camlock couplers with a leak rate of 8 mL per disconnect for the ethanol offloading rack does not satisfy BACT. Rather, BACT is the use of dry break couplers and leak rate of 2 mL per disconnect.

The Applicant claims that dry break and camlock couplers are "equivalent" under the Air District's BACT Guideline 7.1.14 for Light Crude Unloading Rack. Therefore, according to the Applicant, the proposed camlock fittings with an average disconnect loss no greater than 8 mL (0.014 lb/gal) is BACT.[30] However, the Applicant provides zero support for the 8 mL per disconnect leak rate. Further, the Applicants provides no evidence that dry breaks and camlocks are equivalent. Indeed, both of these unsupported statements are false.

Evidence shows that dry break couplers have much lower leak rates than camlock couplers. For example, the Bakersfield Crude Terminal holds a permit issued by the Air District that includes the use of dry break couplers limited to 3.2 mL per disconnect (0.0056 lb/gal).[31] Also, the Maryland Department of the

[30] 12/20/16 Application, pdf 20.
[31] SJVAPCD, Authority to Construct, Bakersfield Crude Terminal, LLC, Permit No. S-8165-3-0, Draft, Condition 5 ("Maximum liquid spillage for liquids from organic liquid transfer operation shall not exceed

Environment indicates that most denatured ethanol deliveries arrive in MC306/406 (DOT 406) tanker cars, which typically can be off-loaded with dry disconnect.[32] Dry break couplers are widely used for the transfer (loading and unloading) of ethanol and numerous other substances.[33] Thus, much lower VOC emissions have been achieved in practice for both loading and unloading of both ethanol and other similar substances and must be required here as BACT.

4. The Air District Failed to Require BACT for Fugitive Components

Dr. Fox and Dr. Pless explain that fugitive components, such as valves, connectors, pumps, compressors, drains and sampling ports present opportunities for contained vapors to leak into the atmosphere. The Project's proposed pipeline, new storage tanks and new offloading rack would contain new fugitive components. The Engineering Evaluation concludes that BACT is not required for fugitive components by improperly piecemealing the components from the equipment they support.

In evaluating the applicability of BACT, the Air District separated the fugitive components from the emission units and separately evaluated BACT for each. The Air District concluded that the fugitive components taken alone do not exceed the 0.5 lb/day threshold and thus do not trigger BACT. However, as Dr. Fox and Dr. Pless explain, these components are integral to the operation of the tanks and loading rack and thus must be subject to BACT. Alternatively, one could argue that all fugitive components should be considered as a single emission source and considered together. Under either of these scenarios, VOC emissions from fugitive components trigger BACT.

Dr. Fox and Dr. Pless explain that BACT for fugitive components is leakless components where feasible and, otherwise, a leak detection and repair ("LDAR")

3.2 milliliters/disconnect based on an average from 3 consecutive disconnects. [District Rules 2201 and 4624]").

[32] MDE, Technical Support Document, Amendments to COMAR 26.11.13.04 and .05, Control of Gasoline and Volatile Organic Compound Storage and Handling, March 5, 2014 (Exhibit 27), *emphasis* added; available at: http://www.mde.state.md.us/programs/regulations/air/Documents/TSD_Transflo_03-05-14.pdf.

[33] Typical Dry Link Installations; Available at: http://www.drylink.com/installations.html. See also: http://www.drylink.com/videos.html.

monitoring program coupled with a leak rate of 100 ppm achieved using the technologies identified in the BACT guidelines established by the Bay Area Air Quality Management District ("BAAQMD"). The 100 ppm leak rate is achieved in practice at many similar facilities in the BAAQMD and, thus, satisfies BACT and T-BACT for fugitive equipment leaks for the Project. The Engineering Evaluation fails to evaluate or even mention either of these BACT options, let alone require either as permit conditions.

Tesoro is well aware of BACT for fugitive components. Tesoro proposes to use low-leak fugitive components at the Tesoro Savage Vancouver Energy Distribution Terminal. Tesoro's Senior Project Manager for Design and Engineering of this Terminal testified in July 2016 that the Terminal will use all low-emission valves, capable of meeting a leak rate of less than 100 ppm. He reported manufacturer data which measured VOC levels of less than 15 ppm for these valves when tested at 650 pounds per square inch ("psi") at a temperature of 350 F for over 5,000 cycles. He also testified that the terminal will use all low-emission, spiral-wound, flex-metallic gaskets.

The Draft ATCs for the two new tanks include a VOC concentration limit for gas leaks of 10,000 ppm measured using EPA Method 21. The Draft ATCs do not state which sources this leak limit apply to, (i.e. tanks or its fugitive components). However, assuming fugitive components, this trigger level for leak repair is a factor of 100 higher than the achieved-in-practice BACT level of 100 ppm.

C. The Draft ATC Permit Conditions Are Unenforceable and Fail to Incorporate All Assumptions Supporting The Emission Estimates

Permit conditions must be federally enforceable and practically enforceable by a state or local air pollution control agency. Here, the proposed conditions for storage tank VOC and HAP emissions are not practically enforceable.

The Draft ATC contains various conditions to limit the VOC emissions. However, according to Dr. Fox and Dr. Pless, the conditions are insufficient and fail to limit VOC and HAP emissions to the levels assumed in the Engineering Evaluation and HRA prepared for the Project. In fact, many of the errors and omissions in the Draft ATC are the same issues that served as the basis of a recent Notice of Violation issued by the EPA to the Bakersfield Crude Terminal, which is

also permitted by the Air District. Thus, the Air District is well aware of the Draft ATC's shortfalls. The Draft ATC must be revised to require enforceable conditions to limit VOC emissions to those assumed in the HRA and Engineering Evaluation.

The Engineering Evaluation estimated the increase in VOC emissions from the storage tanks using the TANKS 4.09d model. However, the Draft ATC does not require the Applicant to use this model, or any other method, to actually estimate daily and annual VOC emissions. Further, the Draft ATC does not require any testing of the key input parameters used in the TANKS 4.09d model, the true vapor pressure ("TVP"), temperature and vapor molecular weight. Rather, the Air District argues that the permit limit of 11 pounds per square inch ("psia") is sufficient to limit VOC emissions. Dr. Fox and Dr. Pless explain that the Air District is wrong. The daily and annual VOC emission limits are not practically enforceable because the Draft ATC does not specify any method to determine VOC emissions nor does it require any testing to determine the key input parameters necessary to estimate VOC emissions (e.g., vapor molecular weight, temperature and TVP). Thus, there is no way to confirm that daily and annual VOC and HAP emissions are met, and the limits are not practically enforceable.

VI. CONCLUSION

The Project does not qualify for a CEQA exemption because a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531. Even if a petroleum distribution terminal was a "facility," the Project involves more than a negligible expansion of the existing use, and the Project would result in significant air quality, public health and traffic impacts. In addition, the Draft ATC does not comply with the federal or state Clean Air Acts. The Draft ATC fails to require best available control technology for all emissions units, underestimates tank fugitive emissions and fails to require enforceable permit conditions for storage tank volatile organic compound and hazardous air pollutant emissions. We urge the Air District to withdraw the Draft

ATC until it prepares an initial study and a mitigated negative declaration or environmental impact report, as required by CEQA, and prepares a Draft ATC that complies with the federal and state Clean Air Acts.

Sincerely,

Rachael E. Koss

Rachael Koss

REK:acp

cc: EPA, Region IX (via U.S. Mail)
Deborah Jordan, Director, Air Division
Sylvia Quest, Office of Regional Counsel

Attachment

3626-015acp

ATTACHMENT A

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March 27, 2017

Via Email

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Re: Review of San Joaquin Valley Air Pollution Control District's Proposed Authority to Construct Application Review for Tesoro Logistics Operations LLC (District Facility N-845) for Modification of Bulk Petroleum Terminal – Ethanol Expansion (District Project N-1163274)

Dear Ms. Koss,

Per your request, we reviewed the public notice package published on February 21, 2017 by the San Joaquin Valley Air Pollution Control District ("SJVAPCD" or "District") and supporting documents for the modifications proposed by Tesoro Logistics Operations LLC ("Tesoro," "TLO," or "Applicant") at its existing petroleum bulk distribution terminal at 3003 Navy Drive at the Port of Stockton ("Terminal" or "Facility").[1] The public notice package for the Project consists of a 1-page cover letter and a 56-page engineering evaluation for proposed Authorities to Construct ("ATC") and Certificates of Conformity with the procedural requirements of 40 CFR Part 70 for a Federal Major Modification to the Title V Operating Permit held by Tesoro including 10 appendices ("2/21/17 Engineering Evaluation").

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[1] Arnaud Marjollet, SJVAPCD, Letter to Ruthanne Walker, Tesoro, Re: Proposed ATC/Certificate of Conformity (Significant Mod), District Facility N-845, Project N-1163274, February 21, 2017, and enclosures (hereafter "Public Notice Package"); available at: http://www.valleyair.org/notices/Docs/2017/02-22-17_%28N-1163274%29/N-1163274.pdf, accessed February 24, 2017. (Exhibit C-0.)

The Terminal and blends receives gasoline and other petroleum products via pipeline and trucks and blends these products with denatured ethanol and other additives.[2] The Terminal ships the blended products to market in tanker trucks from an existing loading rack (N-845-6) consisting of eight loading arms for gasoline/denatured ethanol and eight loading arms for diesel.[3] According to Tesoro's December 2016 application for the proposed modifications[4] ("12/16 Application"), the Terminal does not currently have the capability to receive and store denatured ethanol. Instead, it currently, imports denatured ethanol via dedicated transfer piping from the adjacent NuStar Energy LP Terminal ("NuStar Terminal").[5] The Terminal is an existing major source under the Title V permitting program and operates under facility ID No. N-845, issued by the District.

The Applicant submitted an application, proposing to construct and operate a new ethanol import terminal at an off-site property at 2650 West Washington Drive, install a new ethanol tank and replace an existing gasoline tank with a larger one at the Terminal at 3003 Navy Drive ("12/16 Application"), as follows:

- Construct a new ethanol unloading facility with separate unloading racks for trucks and railcars at 2650 West Washington Avenue which would connect to the existing Terminal at 3003 Navy Drive via a new 1,000-foot, 8-inch pipeline;
- Construct a new aboveground internal floating roof denatured ethanol storage tank with a capacity of 571,068 gallons (District permit N-845-28-0; Tank 20) at the existing Terminal at 3003 Navy Drive; and
- Construct a new aboveground internal floating roof gasoline storage tank with a capacity of 1,347,627 gallons (N-845-29-0; Tank 32) to replace an existing 420,000-gallon gasoline tank 420,000-gallon gasoline storage tank (N-845-1; Tank 20) at the Terminal at 3003 Navy Drive.[6]

We refer to these project components collectively as "the Project." The Project would allow the Terminal to increase the export of gasoline and other products. The

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[2] 2/21/17 Engineering Evaluation, p. 3.

[3] SJVAPCD, Title V Permit for Facility N-845, Permit Unit N-845-6, expiration date July 31, 2017. (Exhibit C-1.)

[4] Tesoro, Authority to Construct Permit Application, Tesoro Logistics Operations LLC > Stockton Terminal, Stockton, CA, December 2016. (Exhibit C-2.)

[5] *Ibid*, p. 2-1.

[6] 2/21/17 Engineering Evaluation, p. 3.

Project is analyzed in the District's Authority to Construct Application Review for District Project N-1163274, ("2/21/17 Engineering Evaluation").

The Applicant previously, in January 2016, submitted an application for a similar project which included the same physical components as the Project and a request for a permit increase of daily and annual permitted throughput of organic liquids (gasoline, denatured ethanol, and additives) at the existing loading rack (N-845-6).[7] We refer to the project described in the prior application as "Prior Project" and Tesoro's prior application as "1/16 Application." The District reviewed the project the Authority to Construct Application Review for District Project N-1160048, ("7/13/16 Engineering Evaluation").[8] We submitted comments on the District's public notice package for the Prior Project on August 17, 2016[9] (8/17/16 Pless/Fox Comments) and August 24, 2016 (8/26/16 Pless Comments).[10] As a result of these comments, the Applicant withdrew the application for the prior Project[11] on December 21, 2016.[12] We resubmit these comments including all exhibits with this comment letter.

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[7] Tesoro Logistics, San Joaquin Valley Air Pollution Control District Authority to Construct Application, Project Report, Tesoro Logistics Operations LLC > Stockton Terminal, Stockton, CA, January 2016. (Exhibit 1 to 8/17/16 Pless/Fox Comments, *see* Footnote 9 below.)

[8] Arnaud Marjollet, SJVAPCD, Letter to Stephen Cromley, Tesoro, Re: Proposed ATC/Certificate of Conformity (Significant Mod), District Facility N-845, Project N-1160048, July 13, 2016, and enclosures; available at: http://www.valleyair.org/notices/Docs/2016/07-13-16_(N-1160048)/N-1160048.pdf, accessed March 26, 2017. (Exhibit C-4.)

[9] Petra Pless, Pless Environmental, Inc., and Phyllis Fox, Letter to Rachael Koss, Adams Broadwell Joseph & Cardozo, Re: Review of San Joaquin Valley Air Pollution Control District's Proposed Authority to Construct Application Review for Tesoro Logistics Operations LLC (District Facility N-845) for Modification of Bulk Petroleum Terminal – Ethanol Expansion (District Project N-1160048), August 17, 2016. (Comment letter and all appendices resubmitted with this comment letter.)

[10] Petra Pless, Pless Environmental, Inc., Letter to Rachael Koss, Adams Broadwell Joseph & Cardozo, Re: Additional Comments Regarding San Joaquin Valley Air Pollution Control District's Proposed Authority to Construct Application Review for Tesoro Logistics Operations LLC (District Facility N-845) for Modification of Bulk Petroleum Terminal – Ethanol Expansion (District Project N-1160048), August 26, 2016. (Comment letter and all appendices resubmitted with this comment letter.)

[11] The District discloses that it "received numerous comments during the public notice period for the previous project. As a result of these comments the previous project was cancelled. The scope of this new project involves installation of only new equipment and no modification of the new loading rack…" *See* attachment "fed_maj_mod_cover_sheet N-1163274.docx" to Email from Wai-Man So, SJVAPCD, Re: Tesoro Logistics Operations LLC N-845, N-1163274 Prelim Notice for ATC with COC & Title V Significant Mod (REVISED), Tuesday 21, 2017. (Exhibits C-5a and C-5b.) The District's responses to your firm's Public Records Act requests for the Project indicate that no other comments were received.

[12] *See* file "Tesoro's Project.xlsx" attached to Email from Jag Kahlon, SJVAPCD, to Patia Song, SJVAPCD, Re: Copy of Tesoro Project.xlsx, February 1, 2017. (Exhibits C-6a and C-6b.)

As discussed below, the Public Notice Package posted by the District is substantially deficient. (*See* Comment I.) Further, the draft Authorities to Construct ("Draft ATCs" or "proposed ATCs") for the Project's new emission units do not comply with the provisions of the Federal and State Clean Air Acts. (*See* Comment II.) Further, the Project is not consistent with the categorical exemption from the provisions of the California Environmental Quality Act ("CEQA") invoked by the District and requires review under the statute. (*See* Comment III.)

Table of Contents

I. The Public Notice Package Is Substantially Deficient

The public notice package for the Project fails to include a number of documents that are needed for an adequate review of the District's analysis including emission estimates, emission reduction credit ("ERC") calculations, health risk assessment modeling, etc. to support the proposed draft ATCs, modification of the Facility's Title V permit. (We commented on the same deficiency for the public notice package for the Prior Project.[13]) These documents include:

- Tesoro's December 22, 2016 Project Application and revisions
- Attachments to Health Risk Assessment in Appendix K:
  - A. RMR Request Form & MSDS
  - B. Convert
  - C. Emission Calculation Worksheets
  - D. Prioritization
  - E. Facility Summary
- Current Permits to Operate for the facility
- Copies of ERC certificates

Your firm received these documents, as well as modeling files for the Health Risk Assessment and correspondence between the Applicant and the District, in response to Public Records Act requests. Without these documents, we would have not been able to identify a number of the below discussed substantial deficiencies in the Engineering Evaluation for the Project.

II. The Draft ATCs Do Not Comply with the Provisions of the Federal and State Clean Air Acts

The 2/21/16 Engineering Evaluation for the Project is substantially flawed for a number of reasons, as discussed below, and, as a result, the Draft ATCs fail to comply with the provisions of the federal and state Clean Air Acts. Specifically, the Draft ATCs fails to require best available control technology ("BACT") and BACT for toxic air contaminant emissions ("T-BACT"). (*See* Comment II.A) Further, the 2/21/17 Engineering Evaluation underestimates emissions of volatile organic compounds ("VOC"), and, thus, fails to require an adequate quantity of offsets for the Project's emission increases of these ozone precursor pollutants. (*See* Comment II.B)

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[13] 8/17/16 Pless/Fox Comments, Comment I.

Further, the permit conditions in the Draft ATCs for the new emissions units (N-845-28, N-845-29, and N-845-30) are not federally or practically enforceable. (*See* Comment II.C)

II.A BACT/T-BACT Is Not Required for All Project Emission Units

The 2/21/17 Engineering Evaluation concludes that, because the Project constitutes a Federal Major Modification, BACT is required for VOC for all Project emissions units for which there is an emissions increase, including the new ethanol storage tank (N-845-25), the new gasoline storage tank (N-845-26), and the new ethanol bulk offloading operation (N-845-27).[14] Further, debottlenecking the existing loading terminal will increase its throughput, also triggering BACT for VOC emissions.

SJVAPCD Rule 2201, Section 3.10, defines BACT as the most stringent emission limitation or control technique of the following:

> 3.10.1 Achieved in practice for such category and class of source;
>
> 3.10.2 Contained in any State Implementation Plan approved by the Environmental Protection Agency for such category and class of source. A specific limitation or control technique shall not apply if the owner of the proposed emissions unit demonstrates to the satisfaction of the APCO that such a limitation or control technique is not presently achievable; or
>
> 3.10.3 Contained in an applicable federal New Source Performance Standard; or
>
> 3.10.4 Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be cost effective and technologically feasible for such class or category of sources or for a specific source.[15]

As discussed below, BACT has not been properly identified for any of the VOC emission sources that trigger BACT. Further, the 2/21/17 Engineering Evaluation determines that T-BACT is required for the gasoline storage tank (N-845-29) because toxic air contaminant emissions from this tank individually result in exceedance of the District's cancer risk threshold for T-BACT of 1 in one million.[16]

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[14] 2/21/17 Engineering Evaluation, pp. 19-21.

[15] SJVAPCD, Rule 2201, New and Modified Stationary Source Review Rule, amended February 18, 2016, available at: http://www.valleyair.org/rules/currntrules/Rule22010411.pdf, accessed March 27, 2017 (Exhibit C-7.)

[16] 2/21/17 Engineering Evaluation, pp. 42-43.

SJVAPCD Rule 2550 defines T-BACT as the emission limitation or control technique that:

> 3.1.1 Is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and
>
> 3.1.2 Reflects the maximum degree of reduction in emissions that the APCO determines is achievable for the new or reconstructed source. In making this determination, the APCO shall consider the cost of achieving the reduction, non-air quality health impacts, other environmental impacts and energy requirements.[17]

As discussed below, the proposed BACT/T-BACT determinations for the Project's emissions sources are substantially flawed. The BACT determination for the gasoline storage tank does not meet either of the requirements of Rule 2550.

II.A.1 BACT Must Be Required for the Existing Organic Liquid Bulk Loading Rack (N-845-6) and Vapor Recovery System (N-845-22)

As discussed in Comment III.C below, the Project would increase the amount of product loaded at the existing loading rack (N-845-6) by increasing the loadout of blended gasoline by replacing an existing gasoline storage tank with a new, much larger gasoline tank, which would remove existing constraints on storage and flexibility and result in an increase in VOC emissions. The 2/21/17 Engineering Analysis does not include a BACT analysis for this loading rack and associated vapor recovery system. The PTO for the existing loading rack, Condition 5, specifies that "all organic liquids loading shall be conducted utilizing bottom loading and dry-break couplers." and Condition 9 limits VOC emissions to 0.08 pounds per 1000 gallons ("lb/1,000 gal") organic liquid loaded. This is not BACT for the subject equipment and operations.

The Bay Area Air Quality Management District ("BAAQMD"), for example, has adopted a BACT VOC emission standard for truck and rail car bulk loading of 0.02 lb/1,000 gal loaded as achieved in practice,[18] which is a factor of four lower than the existing permit limit of 0.08 lb/1,000 gal loaded. While this determination is for gasoline loading racks, the South Coast Air Quality Management District ("SCAQMD") has

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[17] SJVAPCD, Rule 2550 Federally Mandated Preconstruction Review for Major Sources of Air Toxics, adopted June 18, 1998, 2016; available at: http://www.valleyair.org/rules/currntrules/r2550.pdf, accessed March 27, 2017. (Exhibit C-8.)

[18] BAAQMD, Best Available Control Technology (BACT) Guideline, Liquid Transfer & Handling-Tank Truck & Rail Car Bulk Loading, Gasoline Bulk Terminals, June 28, 2000 (Exhibit 13 to 8/17/16 Pless/Fox Comments).

concluded that this standard is also applicable for ethanol loading racks because it has been achieved in practice.[19]

This emission level can be achieved by submerged loading with a vapor collection system vented to a thermal oxidizer or carbon absorber with vapor tank. The facility is currently equipped with carbon adsorption vapor recovery. This system could be upgraded to meet a much lower VOC emission rate by adding additional carbon columns in series with the existing unit to achieve the emission limit of 0.02 lb/1000 gal loaded adopted by the BAAQMD. Alternatively, a thermal oxidizer could be used. Either of these would also satisfy T-BACT.

The responses to our comments on the Prior Project prepared by the Applicant ("8/26/16 Responses to Comments"),[20] upon which the District's 2/21/17 Engineering Evaluation relies in many respects, fails to address the substance of this comment, instead deferring to SJVAPCD.[21] However, there is no analysis whatsoever to support the retention of the existing permit limit, which is inconsistent with the achieved in practice standard required in Rule 2201.

II.A.2 BACT Must Be Required for New Denatured Ethanol Storage Tank (N-845-25, Tank 20) and New Gasoline Storage Tank (N-845-26, Tank 32)

The Draft ATCs describe the proposed 571,068-gallon denatured ethanol storage tank (Tank 20) and the proposed 1,347,627-gallon gasoline storage tank (Tank 32) as aboveground welded internal floating roof tanks with a mechanical shoe type primary seal and a rim-mounted secondary seal.[22] The 12/16 Application identifies the tanks as vertical, column-supported, cone roof tanks.[23]

The District's BACT analysis concludes that the Applicant's proposed "covered internal floating roof storage tanks equipped with both primary metal shoe seals and

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[19] SCAQMD, Volume I - Final Environmental Impact Report for the Shell Carson Facility Ethanol (E10) Project, December 2012, p. 2-12; available at: http://www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2012/final-environmental-impact-report-for-the-shell-carson-facility-ethanol-(e10)-project.pdf, accessed March 26, 2017. (Exhibit C-9.)

[20] Melissa Hillman, Trinity Consultants, Inc., Letter to Nick Pierce, SJVAPCD, Re: Responses to an August 17, 2016 Letter from Adams Broadwell Joseph & Cardozo, Tesoro Logistics Operations LLC: Stockton, CA Terminal, Facility ID No. N-845 - Project No. N-1160048, August 26, 2016. (Exhibit C-10.)

[21] 8/26/16 Response to Comments, p. 11.

[22] 2/21/17 Engineering Evaluation, Appx. A, Draft ATCs N-845-28-0 and N-845-29-0.

[23] 12/16 Application, Section 3.1.1, p. 3-2.

secondary wiper seals" are BACT for VOC emissions.[24] We demonstrated in our 8/17/16 Comments that BACT for these tanks is an aluminum geodesic dome in combination with an aluminum cable suspended internal floating roof that sits on the surface of the liquid.[25]

The Applicant and the District did not revise the tank BACT analyses in response to our comments, beyond misleadingly implying the tanks were actually "covered". However, floating-roof tanks are open at the top and do not have a fixed roof. This language was not used in the 7/13/16 Engineering Analysis for the Prior Project.[26] It is misleading to now describe the subject tanks as "covered," because they will not be "covered." An internal floating roof is not a "cover" as it allows significant leakage, as explained in our 8/17/16 Comments. A geodesic dome, on the other hand, is a cover and is not required in the 2/21/17 Engineering Analysis or in the draft ATCs as BACT for the subject tanks. Thus, for the reasons we explain below, we re-assert our 8/17/16 Comments. BACT for these two tanks is a cable-supported internal floating roof and a geodesic dome.

Denatured Ethanol Storage Tank

As to Tank 20, which would store denatured ethanol, the Applicant argues that "[a]luminum metal is known to corrode in the presence of liquids with a high ethanol content. Therefore, an aluminum geodesic dome and an aluminum internal floating roof would not be suitable or technologically feasible for a denatured ethanol storage tank."[27] This is misleading and incorrect.

First, corrosion is an issue for steel floating roofs, proposed by the Applicant and the District as BACT for these tanks, when storing virtually all petroleum products. Corrosion is not unique to ethanol. The problem is addressed by using various coatings or alloys, selected for the specific applications.[28] Aluminum floating roofs and cable-

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[24] 2/21/17 Engineering Evaluation, Appx. F, BACT Analyses, Units N-845-28 & -29, Top-Down BACT Analysis for VOC Emissions from the Proposed Covered Internal Floating Roof Organic Liquid Storage Tanks.

[25] 8/17/16 Pless/Fox Comments, Comment III.B.2.

[26] 7/13/16 Engineering Evaluation, *op. cit.*, Appx. H, BACT Analyses, N-845-25 & -26 Top-Down BACT Analysis for VOC Emissions.

[27] 8/26/12 Response IV.B.2, p. 12.

[28] Alec Groysman, Corrosion in Systems for Storage and Transportation of Petroleum Products and Biofuels, Identification, Monitoring and Solutions, Springer, 2014; Alec Groysman, Corrosion in Systems for Storage and Transportation of Petroleum Products and Biofuels, NACE International Corrosion 2015 Conference & Expo, Paper No. 5455; available at:

supported aluminum floating roofs have seen good service in ethanol storage.[29] A nitrogen blanket can be used to minimize any corrosion concerns.[30]

While there is substantial discussion in the literature on the corrosion of *engine* components due to ethanol-blended fuels that were not designed for these fuels, there is no discussion of corrosion of ethanol corroding aluminum geodesic roofs or aluminum floating roofs on ethanol storage tanks. Engine corrosion due to ethanol-blended fuels is due to the water absorbed by the ethanol, which is highly hygroscopic, not the ethanol itself, unless at very high temperatures not encountered in storage tanks.[31] Further, it is notable that corrosion that occurs inside of an engine with moving parts, significant friction, and high temperatures, is not similar to the environment inside of a stationary floating roof storage tank.

In fact, the use of a geodesic dome and a floating roof on the ethanol storage tank would eliminate water that would otherwise get into the tank, minimizing the risk of corrosion. While some aluminum alloys are subject to corrosion from direct contact with ethanol, substantial corrosion only occurs at very high temperatures (>60 C)[32] that would not be experienced in a storage tank in Stockton.[33] Further, some aluminum alloys resist corrosion from aqueous solutions of ethanol up to 95%. Industry uses aluminum alloy equipment such as stills, heat exchangers, tanks, and piping for processing ethanol and products manufactured using ethanol.[34] Aluminum alloys could be selected to minimize or eliminate corrosion or aluminum could be coated with

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http://engineers.org.il/_Uploads/12214AlecGroysmanNACE2015.pdf, accessed March 26, 2017. (Exhibit C-11.)

[29] *See, e.g.*, Ethanol Today, Internal Floating Covers for Ethanol Storage Tanks: Clean Air, Safety, and Profitability; available at: http://www.ethanoltoday.com/index.php?option=com_content&task=view&id=5&did=73&Itemid=6, accessed March 26, 2017. ("Cable suspended aluminum floating covers, in lieu of legs, have become increasingly popular, especially with larger diameter tanks.") (Exhibit C-12.)

[30] ENG-TIPS.com, Internal Floating Roof for Ethanol Storage; available at: http://www.eng-tips.com/viewthread.cfm?qid=249886, accessed March 26, 2017. (Exhibit C-13.)

[31] National Marine Manufacturers Association, The Negative Affects [sic] of Ethanol on Recreational Boat Fuel Systems, March 30, 2006; available at: http://www.nmma.org/assets/cabinets/Cabinet103/E20_Position_Paper.docm, accessed March 26, 2017. (Exhibit C-14.)

[32] J.K. Thompson, S.J. Pawel, and D.F. Wilson, Susceptibility of Aluminum Alloys to Corrosion in Simulated Fuel Blends Containing Ethanol, Fuel, v. 111, pp. 592-597, 2013. (Exhibit C-15.)

[33] K. Krüger et al., Corrosion Behaviour of Aluminum Alloys in Ethanol Fuels, J. Mater. Sci., v. 47, 2012, pp. 2798-2806. (Exhibit C-16.)

[34] Bruce D. Craig, Handbook of Corrosion Data, ASM International, 1989, p. 254 (Exhibit C-14A).

corrosion-resistant paint, which is commonly used to coat other metals used in tank roofs.

Second, there are many similar facilities that use geodesic dome roofs and internal floating roofs to store both gasoline and ethanol.[35] Corrosion-related failures have not been reported for these applications.

Third, the geodesic dome would not be in contact with the ethanol, but rather separated from it by a floating roof and a substantial headspace. Thus, even if direct contact with aluminum were an issue, the geodesic dome itself would have no contact with ethanol and thus would not be subject to corrosion, even if it were a valid concern, which it is not.

Fourth, geodesic domes are frequently specified for ethanol storage tanks as ethanol is 100% soluble in water, affecting the resulting gasoline blend quality. Thus, it is common to use geodesic domes on ethanol storage tanks to keep water out. The Applicant has not provided any evidence that the proposed ethanol storage tank in this

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[35] Saunders International, Diesel, Petrol and Ethanol Storage Tanks; available at: http://saundersint.com/project/diesel-petrol-and-ethanol-storage-tanks/, accessed March 26, 2017 (Exhibit C-17);

United Terminals PTY LTD, Notice of an Application for an Amendment to a Planning Permit, February 10, 2015 (Tank 102, 23.5 million gallon ethanol storage tank equipped with geodesic dome and internal floating roof), (Exhibit C-18);

Aloha Petroleum, Ltd., Hilo East Terminal, Covered Source Permit Review Summary (Renewal), July 29, 2011; available at: https://yosemite.epa.gov/r9/air/epss.nsf/6924c72e5ea10d5e882561b100685e04/672443a8e8561be60a257a95007fc6cb/$FILE/030706review.PROPOSED.pdf, accessed March 26, 2017 (Exhibit C-19);

Iowa Department of Natural Resources, Draft Title V Operating Permit Fact Sheet, pdf 9 (geodesic domes added to two existing gasoline storage tanks); available at: http://www.polkcountyiowa.gov/media/92763/Fact%20Sheet.pdf, accessed March 26, 2017 (Exhibit C-20);

Maryland Department of the Environment, Kinder Morgan Liquids Terminals LLC, Permit No. 24-003-0309, Part 70 Operating Permit Fact Sheet, March 11, 2016, pdf 5-6 (two 3,342,053-gallon gasoline storage tanks equipped with internal floating roof and geodesic domes), pdf 6 (one 3,111,005-gallon ethanol storage tank equipped with an internal floating roof and a geodesic dome, (Exhibit C-21);

Michigan Department of Environmental Quality, Permit to Install 249-03A, Buckeye Terminals, LLC, Taylor, MI, December 2, 2015, pdf 6 (EUTANK3: internal floating roof with geodesic dome storing denatured ethanol; EUTANK5,6: internal floating roof with geodesic dome storing denatured ethanol or gasoline); available at: http://www.deq.state.mi.us/aps/downloads/permits/finpticon/2003/249-03A.pdf, accessed March 26, 2017 (Exhibit C-22).

case is distinguishable from the many other similar ethanol tanks equipped with geodesic domes.

Fifth, even assuming, *arguendo*, some corrosion could occur, this is also true for the steel tank lids proposed by the Applicant, which are commonly coated to prevent corrosion as ethanol is known to accelerate corrosion in steel.[36] It is known, for example, that a chemically deposited nickel layer resists corrosion due to alcohol fuels.[37] Thus, even if corrosion were a valid concern for aluminum geodesic domes on ethanol tanks (which it is not), a coating could be used to protect the floating roof in contact with the ethanol.

Gasoline Storage Tank

As to Tank 32, which would store gasoline, the Applicant argues that the evidence we provided supporting geodesic domes on internal floating roof tank is not relevant because the tanks we cited are permitted either to store non-gasoline petroleum products or are significantly larger than the gasoline tank proposed at the Facility.[38]

First, the product or the size of a storage tank has nothing whatsoever to do with the applicability of a geodesic dome on Tank 32 within the range of products we reported, *i.e.*, petroleum products. In fact, the District's own BACT Guideline 7.3.3 for tanks is broadly stated as covering "petroleum and petrochemical production - floating roof organic liquid storage or processing tank, = or > [equal to or greater than] 471 bbl Tank capacity, = or > 0.5 psia."[39]

Second, many gasoline storage tanks that cover a wide range of tank sizes, including the 1,347,627-gallon gasoline Tank 32, are identified in the citations in footnote 34 in this comment letter, proving that the subject tank controls are achieved in practice.

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[36] Wisconsin Department of Commerce, Ethanol Motor Fuel Storage Overview, September 2002, p. 2; available at: http://dsps.wi.gov/er/pdf/bst/ProgramLetters_PL/ER-BST-PL-EthanolMotorFuelStorageOverview.pdf, accessed March 26, 2017. (Exhibit C-23.)

[37] Krüger et al., 2012, *op. cit.*, p. 2805.

[38] 8/26/12 Response to Comments, Comment IV.B.2, p. 12.

[39] SJVAPCD, Best Available Control Technology (BACT) Guideline 7.3.3, Petroleum and Petrochemical Production - Floating Roof Organic Liquid Storage or Processing Tank, = or > 471 bbl Tank capacity, = or > 0.5 psia TVP, October 1, 2001; available at: https://www.valleyair.org/busind/pto/bact/chapter7.pdf, accessed March 26, 2017. (Exhibit C-24.)

In sum, BACT for the Project's gasoline and denatured ethanol storage tanks is a welded cable-suspended internal floating roof tank with a geodesic dome.

II.A.3 BACT Must Be Required for Denatured Ethanol Truck and Rail Off-loading Rack Disconnect Emissions (N-845-27-0)

The Project includes a new denatured ethanol truck and rail off-loading rack. After unloading is complete, the couplings between the tanker truck or rail car and the loading rack are disconnected. Some liquid remains inside the lines/couplings connecting the tanker truck/rail car and the rack. Some of this ethanol will spill to the ground and subsequently evaporate, resulting in VOC emissions. The amount spilled, referred to as a "leak," depends on the type of coupler used to connect the tanker truck and railcar to the loading rack. There are two general types of couplers, camlock and dry break. The leaks (and hence VOC emissions) from camlocks are significantly higher than from dry break couplers. The Applicant is proposing camlocks[40] and the District has improperly concluded they satisfy BACT.[41]

Section 3.10 of Rule 2201 defines BACT as the most stringent emission limitation or control technique that has been achieved in practice or required by any SIP for the same class or category as the source. The proposed use of camlock couplers with a leak rate of 8 milliliters ("mL") per disconnect for the Ethanol Offloading Rack does not satisfy BACT. As discussed below, BACT is the use of dry break couplers and leak rate of 2 mL per disconnect.

The Applicant claims that dry-break and camlock couplers are "equivalent" under SJVAPCD BACT Clearinghouse Guideline 7.1.14 for Light Crude Unloading Rack and thus selected camlock fittings with an average disconnect loss no greater than 8 mL (0.014 lb/gal) as BACT.[42] No support is provided for the 8 mL per disconnect leak rate beyond the citation to Guideline 7.1.14. Further, no evidence is supplied that dry breaks and camlocks are equivalent. In fact, both of these unsupported assumptions are false.

We provided a fair argument in our 8/17/16 Comments that these two types of couplers are not equivalent and that dry break couplers achieve much lower leak rates.[43] For example, the Bakersfield Crude Terminal holds a permit issued by the SJVAPCD that includes the use of dry-break couplers limited to 3.2 mL per disconnect

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[40] 12/16 Application, pp. 3-4 and 5-5.

[41] 2/21/17 Engineering Evaluation, p. 21, and Appx. F, BACT Analyses, Unit N-845-30.

[42] 12/16 Application, p. 5-5.

[43] 8/17/16 Pless/Fox Comments, Comment II.B.3.

(0.0056 lb/gal).[44] The Maryland Department of the Environment ("MDE") indicates that most denatured ethanol deliveries arrive in MC306/406 (DOT 406) tanker cars, which typically can be off-loaded with dry disconnect:

> COMAR [Code of Maryland Regulations] 26.11.13.04 establishes requirements for the use of automatic disconnections for the transfer of gasoline and VOCs with a total vapor pressure greater than 1.5 psia. Automatic disconnections are typically referred to in the industry as dry disconnects. Affected sources in Maryland do use dry disconnects on transfer equipment used for the handling of gasoline and fuel grade ethanol products (which have vapor pressures of greater than 1.5 psia). These products are typically transported in tank trucks meeting the U.S. Department of Transportation (US DOT) specifications as a MC306 or MC406 type cargo tank. The fuel industry has adopted the use of dry disconnect fittings for loading and unloading hose applications.
>
> ...
>
> *The use of dry disconnects for products such as gasoline and fuel grade ethanol is reasonable, as the trucking industry has developed appropriate infrastructure (e.g., connectors on gasoline delivery trucks) to provide for ready accommodation and use of these fittings.*[45]

Dry break couplers are widely used for the transfer, both loading and unloading of ethanol and numerous other substances.[46] Thus, much lower VOC emissions have been achieved in practice for both loading and unloading of both ethanol and other similar substances and must be required here as BACT.

In response, the Applicant first "... defers the responsibility of determining the appropriate BACT standard to SJVAPCD,"[47] citing an outdated and inapplicable guideline. However, the District does not have discretion to ignore the law, which defines BACT as the most stringent emission limitation or control that has been

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[44] SJVAPCD, Authority to Construct, Bakersfield Crude Terminal, LLC, Permit No. S-8165-3-0, Draft, Condition 5 ("Maximum liquid spillage for liquids from organic liquid transfer operation shall not exceed 3.2 milliliters/disconnect based on an average from 3 consecutive disconnects. [District Rules 2201 and 4624]"). (Exhibit C-25.)

[45] MDE, Technical Support Document, Amendments to COMAR 26.11.13.04 and .05, Control of Gasoline and Volatile Organic Compound Storage and Handling, March 5, 2014 (Exhibit 27), *emphasis* added; available at: http://www.mde.state.md.us/programs/regulations/air/Documents/TSD_Transflo_03-05-14.pdf, accessed March 26, 2017. (Exhibit C-26.)

[46] Dry Link, Inc. Typical Dry Link Installations; available at: http://www.drylink.com/installations.html (Exhibit C-27); *see* also: http://www.drylink.com/videos.html, both accessed March 26, 2017

[47] 8/26/16 Response to Comments, Comment IV. B.3, p. 13.

achieved in practice for the subject source or category.[48] Much lower VOC unloading leak rates have been achieved in practice at similar terminals. As this is a new facility, there is no reason why it cannot be designed with the top BACT technology, dry-break connectors. Further, there is no reason why the Applicant cannot require that its suppliers deliver ethanol in tanker trucks and railcars equipped with dry break couplers.

Next, the Applicant attempts to distinguish "loading" and "unloading", asserting that our examples are for "loading," while the new ethanol rack is for "unloading." This is pure myth. There is no distinction between the types of connectors that are used for loading and unloading or for loading of different products. The same type of connectors can be and are routinely used for both loading and unloading. The determining factor is the desired leak rate, not the type of operation.

Next, the Applicant points to the Maryland rule that we cited and asserts that it does not require the use of dry break couplers.[49] However, the rule actually requires:

> A. Bulk Gasoline Terminals
> (b) Design and operate…the gasoline loading equipment so that during loading:
> (ii) There are no gasoline leaks in the system when tested…"[50]

"No gasoline leaks" means "no gasoline leaks" or a leak rate of zero. The only way to achieve "no gasoline leaks" is with dry-break connectors. Other state regulations similarly require that all delivery vessels at gasoline loading racks are equipped, maintained, or controlled with "[a] device to accomplish complete drainage before the loading device is disconnected or a device to prevent liquid drainage from the loading device when not in use."[51] This can only be accomplished with dry-break couplers. Further, other agencies have regulations that specifically require the use of dry-break couplers.[52] The Applicant has failed to disclose the fact that dry-break couplers are

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[48] SJVAPCD Rule 2201, Section 3.10.1.

[49] 8/26/16 Response to Comments, Comment IV.B.3, p. 14.

[50] MDE, COMAR 26.11.13.04: Loading Operations; available at: http://www.dsd.state.md.us/comar/comarhtml/26/26.11.13.04.htm, accessed March 26, 2017. (Exhibit C-28.)

[51] Michigan SC III.3(c). This regulation is routinely complied with at terminals in Michigan. *See, e.g.*, Buckeye Terminals, LLC-Detroit Terminal, Activity Report, March 29, 2016, pdf 10 ("… each loading arm has a dry-break coupler"); available at: http://www.deq.state.mi.us/aps/downloads/SRN/B2247/B2247_SAR_20160329.pdf, accessed March 26, 2017. (Exhibit C-29.)

[52] *See, e.g.*, Colorado Regulation Number 7, 5 CCR 1001-9, Section VI.C.2.b(i) "Install dry-break loading couplings to prevent petroleum liquid loss during uncoupling from vehicles." available at:

widely used and required in numerous similar applications. Thus, the Applicant's response is misleading and disingenuous.

Finally, the Applicant provides a photograph of a truck carrying denatured ethanol equipped with camlock fittings. This proves nothing. We agree that many existing facilities, particularly those in ozone attainment areas or older terminals, may operate with camlock fittings. However, this is a new terminal. BACT is required and BACT is only satisfied by dry-break fittings, which are feasible and achieved in practice.

II.A.4 BACT Must Be Required for Fugitive Components

Valves, connectors, pumps, compressors, drains, and sampling ports present opportunities for contained vapors to leak into the atmosphere. These are referred to as fugitive components, and the leaks as fugitive emissions. New fugitive components are present at the two new storage tanks, along the new ethanol pipeline, and at the new denatured ethanol off-loading rack.

The 2/21/17 Engineering Analysis concludes that BACT is not required for fugitive components by piecemealing the components from the equipment they support.[53] Under Federal Major Modification requirements, BACT is required for "emission units" with VOC emission increases greater than 0.5 pounds per day ("lb/day"). The fugitive components are integral parts of the new gasoline and ethanol tanks and the new ethanol loading rack.

In evaluating the applicability of BACT, the District separates the fugitive components from these emission units and separately evaluates BACT for each, concluding that the fugitive components taken alone do not exceed the 0.5 lb/day threshold and, thus, do not trigger BACT. However, these components are integral to the operation of the tanks and loading rack and thus must be subject to BACT. Alternatively, one could argue that all fugitive components should be considered as a single emission source and considered together. Under either of these scenarios, VOC emissions from fugitive components trigger BACT.

The 2/21/17 Engineering Evaluation fails to require or even discuss BACT for fugitive components. The Applicant's response to our prior comment on BACT for fugitive components does not address the substance of our comment but rather "defers

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https://www.colorado.gov/pacific/sites/default/files/5-CCR-1001-9_1.pdf, accessed March 26, 2017. (Exhibit C-30.)

[53] 2/21/17 Engineering Evaluation, p. 20.

to the judgement of SJVAPCD for determining the appropriate BACT standard for new fugitive components..."[54]

BACT for fugitive components is leakless components[55] where feasible and otherwise a leak detection and repair ("LDAR") monitoring program coupled with a leak rate of 100 parts per million ("ppm") achieved using the technologies identified in the BACT guidelines established by the BAAQMD,[56] which are required to control fugitive leaks from similar facilities under BAAQMD Regulation 8, Rule 18, *Equipment Leaks*.[57] The 100 ppm leak rate is achieved in practice at many similar facilities in the BAAQMD's jurisdiction and, thus, satisfies BACT and T-BACT for fugitive equipment leaks for the Project. The 2/21/17 Engineering Evaluation fails to evaluate or even mention either of these BACT options, let alone require either as permit conditions.

Tesoro is proposing to use low-leak fugitive components at the Tesoro Savage Vancouver Energy Distribution Terminal. Tesoro's Senior Project Manager for Design and Engineering of this terminal, David Corpron, a witness for Tesoro-Savage, testified in July 2016 that the Terminal will use all low-emission valves, capable of meeting a leak rate of less than 100 ppm. He reported manufacturer data which measured VOC levels of less than 15 ppm for these valves when tested at 650 pounds per square inch ("psi") at a temperature of 350 F for over 5,000 cycles. He also testified that the terminal will use all low-emission, spiral-wound, flex-metallic gaskets.[58]

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[54] 8/26/16 Response to Comments, Comment IV.B.4, p. 14.

[55] *See, e.g.*, Eriks and LewisGoetz, Solutions for: Reliability and Emission Control in the Chemical Industry, March 2014 (Exhibit 31); available at: http://www.lewis-goetz.com/wp-content/uploads/2015/06/lewisgoetz_elastagraph-dynagraph_brochure_chemical_final.pdf, accessed March 26, 2017. (Exhibit C-31.)

[56] BAAQMD, Best Available Control Technology (BACT) Guideline, Flanges, January 18, 2006; http://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/78-1.pdf?la=en, accessed March 27, 2017; Valves, January 18, 2006; http://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/136-1.pdf?la=en, accessed March 27, 2017; Pumps; January 18, 2006; http://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/137-1.pdf?la=en, accessed March 27, 2017; Compressors, January 18, 2006; http://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/48b-1.pdf?la=en, accessed March 27, 2017. (Exhibits 33a through 33d to 8/17/16 Pless/Fox Comments.)

[57] BAAQMD, Regulation 8, Rule 18 - Equipment Leaks, amended January 21, 2004; available at: http://www.arb.ca.gov/pm/pmmeasures/ceffect/rules/baaqmd_8-18.pdf, accessed March 26, 2017. (Exhibit C-32.)

[58] Washington State, Energy Facility Site Evaluation Council, Hearing, Morning Session, Tesoro Savage Vancouver Energy Distribution Terminal Project Adjudication, AM Session, July 28, 2016, 1:01:50 min to 1:03:15 min; available at: http://www.cvtv.org/vid_link/18262, accessed March 26, 2017.

The draft ATCs for the two new tanks include a VOC concentration limit for gas leaks of 10,000 ppm measured using EPA Method 21.[59] The draft ATCs do not state which sources this leak limit applies to, *e.g.*, the tanks or its fugitive components. However, assuming fugitive components, this trigger level for leak repair is a factor of 100 higher than the achieved-in-practice BACT level of 100 ppm.

II.B Tank Fugitive Emissions Are Underestimated

We commented that the 7/13/16 Engineering Analysis for the Prior Project underestimated tank VOC emissions because it omitted roof landings, degassing, and cleaning losses.[60] The 2/21/17 Engineering Analysis[61] argues that maintenance activities, such as tank roof landings and tank cleaning are exempt from permit requirements. The 8/26/16 Response to Comments argues that "[p]er SJVAPCD standard emission calculations practices, roof landing, degassing and cleaning activities are not included in a Facility's Potential to Emit (PTE) calculations, as SJVAPCD considers these emissions to be maintenance activities associated with the tanks."[62]

The 2/21/17 Engineering Analysis asserts that maintenance activities are exempt from permit requirements per Section 7.3 of District Rule 2020.[63] However, this rule only exempts "repairs or maintenance not involving structural changes to any emissions unit for which a permit has been granted." Tank roof landings are generally not repairs or maintenance activities. They are part of the normal operation of tank. While a roof may be landed for maintenance, these events are generally infrequent. However, there are many other instances in which roofs are landed. Tank roofs are landed for inventory control, to support a change in service, or in emergencies, such as the loss of inventory due to an accident elsewhere in the system, *e.g.*, at a refinery supplying gasoline. Thus, we disagree with this assertion as to potential to emit calculations. (Further, there is no dispute that maintenance activities must be included in estimating emission increases under CEQA. *See* Comment III.)

Roof landing emissions, the largest source of VOC emissions from maintenance activities, was addressed in the recent Notice of Violation ("NOV") NOV issued by the issued by the U.S. Environmental Protection Agency ("EPA") to the Bakersfield Crude

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[59] 2/21/17 Engineering Evaluation, Appx. A, ATC N-845-28-0, Condition 27, and ATC N-845-29-0, Condition 26.

[60] 8/17/16 Pless/Fox Comments, Comment II.A.1(a).

[61] 2/21/17 Engineering Analysis, p. 7.

[62] 8/26/16 Response to Comments, p. 10.

[63] 2/21/17 Engineering Analysis, pdf 6.

Terminal LLC, which is also permitted by the SJVAPCD. This NOV concluded as to roof landings:[64]

> 46. The PTE calculations used in the 2012 Application Review to determine the Facility's minor source status incorrectly underestimated the emissions from the floating roof tanks installed at the Facility. As set forth in the 2012 ATCs for the storage tanks at the Facility and as experienced in the petroleum industry, internal floating roof tanks are regularly emptied to the point that the floating roof touches down on its support legs. In a roof landing event, substantial amounts of VOC emissions occur, and these emissions are referred to as "roof landing losses." A proper engineering analysis includes roof landing losses in the PTE for a petroleum storage tank. The PTE calculations used to determine the Facility's minor source status omitted roof landing losses for the internal floating roof tanks.

Similarly, the EPA, granting a petition objecting to remanding a Title V permit for similar errors at a chemical facility, is clear that maintenance emissions must be included in the calculation of the potential to emit VOC emissions from storage tanks:[65]

> However, the Final Permit and permit record are inadequate to ensure that the MTSCAP is enforceable as a practical matter with respect to tank emissions for two primary reasons. First, the Final Permit and permit record are unclear as to whether the required emission calculation methods properly account for all actual emissions that may be emitted from the tanks. For example, while the Tanks 4.09 program can account for emissions from tank roof landings when used according to the EPA's guidance,[21] the equations in AP-42 Section 7.1.3.2.2 explicitly provide a method for calculating roof landing emissions. The Final Permit currently allows for either of these methods to be used to demonstrate compliance with the MTSCAP without requiring or specifying how roof landing emissions would be calculated. Moreover, the permit record contains no explanation for how the permit term requiring Yuhuang to record the number and duration of roof landings and the number of tank cleanings would be used to assure compliance with the MTSCAP. *See* Final Permit SR 263.

The Engineering Analysis also asserts that maintenance emissions are small, because tank roof landings only occur every 10 years. However, the proposed ATCs do not limit the number or frequency of roof landings and maintenance events. Based on

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[64] Plains NOV, *op. cit.* p. 7.

[65] *In the Matter of Yuhuang Chemical Inc.*, Order on Petition No. VI-2015-03, Aug. 31, 2016 ("Yuhuang Order"); available at: https://www.epa.gov/sites/production/files/2016-09/documents/yuhuang_response2015_0.pdf, accessed March 26, 2017. (Exhibit C-32.)

my experience (Fox), roof landings are much more common than once every 10 years, often occurring daily, than claimed in the Engineering Analysis. Thus, the ATCs must be modified to limit the number of roof landing events to the frequency assumed in the emission calculations, or the calculations must be modified, VOC emission increased, and additional offsets provided.

II.C Permit Conditions for Storage Tank VOC and HAP Emissions Are Not Enforceable and Fail to Incorporate All Assumptions Supporting the Emission Estimates

As we explained in our 8/17/16 Comments, permit conditions must be both federally enforceable and practically enforceable by a state or local air pollution control agency.[66] The proposed conditions in the draft ATCs are not adequate to assure that the VOC and hazardous air pollutant ("HAP") emissions in the Engineering Analysis are practically enforceable.

Many of the errors and omissions in the proposed ATCs, discussed below, were also raised in our comments on prior drafts of these ATCs and are not cured in the current drafts. These issues were the basis of a recent NOV issued by the EPA to the Bakersfield Crude Terminal LLC,[67] which is also permitted by the SJVAPCD. This NOV is based on a report prepared by one of the authors of these comments (Fox).[68] The permitting errors identified in this NOV are similarly present in the proposed ATCs for the Project. The proposed ATCs must be modified to require enforceable conditions to limit VOC emissions to those assumed in the Engineering Evaluation and the health risk assessment for the Facility.

The Project includes two new storage tanks: a 571,068-gallon internal floating roof denatured ethanol storage tank and a 1,347,627-gallon internal floating roof gasoline storage tank. The SJVAPCD has proposed Draft ATC permits for these two new tanks: (1) N-845-28-0, Tank 29 and (2) N-845-30, Tank 32.[69] These Draft = ATCs contain various conditions that must be federally enforceable to assure that the estimated VOC and HAP emissions from these tanks are limited as assumed in the Engineering Evaluation. They must be practically enforceable to be federally enforceable.

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[66] 8/17/16 Pless/Fox Comments, Comment II.C.

[67] *See* Plains NOV, *op. cit.*, (Exhibit 5 to 8/17/16 Pless/Fox Comments).

[68] *See* Elizabeth Forsyth, Earthjustice, Memorandum to EPA, Re: Bakersfield Crude Terminal, January 20, 2015, Attachment: Phyllis Fox, Report on Bakersfield Crude Terminal Permits to Operate, December 24, 2014. (Exhibit C-33.)

[69] 2/21/17 Engineering Evaluation, p. 57, and Appx. A.

We previously commented that the prior draft ATCs failed to limit VOC and HAP emissions to the levels assumed in the ERC analysis and health risk assessment for the Project.[70] The 8/26/16 Response to Comments agreed that annual VOC emissions from these tanks were not limited or federally enforceable.[71] The District added permit conditions limiting annual and daily VOC emissions,[72] but failed to make these new VOC limits practically enforceable. It further failed to limit HAP emissions. Thus, we reassert our prior comments.

The Engineering Evaluation estimated the increase in VOC emissions from these tanks using the TANKS 4.09.d model and various input assumptions.[73] We commented that the ATCs do not require the Applicant to use this model, or any other method, to actually estimate daily and annual VOC emissions. Further, we also commented that the ATCs do not require any testing of the key input parameters used in the TANKS 4.09.d model, the true vapor pressure ("TVP"), temperature, and vapor molecular weight.

Rather than revising the ATCs to require the use of the TANKS 4.09.d model to estimate daily and annual VOC emissions and require testing to determine model inputs, essential to demonstrate compliance with VOC permit limits, the Response argues the permit limit of 11 psia is required pursuant to Rule 4623. This dodges the fact that the daily and annual VOC emission limits are in fact not practically enforceable because the draft ATCs do not specify any method to determine VOC emissions nor require any testing to determine the key input parameters essential to estimate VOC emissions, *e.g.*, vapor molecular weight, temperature, and TVP. In other words, the response is not responsive. Pointing to a rule that requires a TVP of 11 psia does not cure the defects in the ATCs.

The recent NOV issued by EPA to the Plains Bakersfield Crude Terminal concluded similar permit language and circumstances were not enforceable because:[74]

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[70] 8/17/16 Pless/Fox Comments, Comment II.C.1, p. 29.

[71] 8/26/16 Response to Comments, p. 14.

[72] 2/21/17 Engineering Evaluation, Appx. A, Draft ATCs for N-845-28, Condition 8, and N-845-29, Condition 7.

[73] 2/21/17 Engineering Evaluation, Appx. C, Tanks 4.0.9d Emissions Reports.

[74] EPA, In the Matter of Bakersfield Crude Terminal LLC, Plains Marketing, L.P., Plains All American Inc., Taft California, Proceedings Under Section 113(a), Clean Air Act, as Amended, Docket No. R9-15-08, Findings and Notice of Violation, April 30, 2015 ("Plains NOV").

29. The 2012 ATCs do not require any testing of the RVP of the crude oil processed at the Facility to determine if the RVP of the crude oil processed by BCT is less than 11.0 psia or which could be used by BCT to show that the average annual RVP of crude oil processed at the Facility was no greater than 8.3 psia and therefore complied with the limits on VOC emissions contained in the 2012 ATCs.
30. The 2012 ATCs do not require any enforceable operational requirements or monitoring to ensure that the Facility will have an annual average RVP of no greater than 8.3 psia, which is the assumed average RVP for determining that the facility emits less than 20,000 pounds per year.

Similarly, in another recent case, the EPA concluded that similar permit limits on tanks at a methanol facility were not enforceable:[75]

> Second, the Final Permit does not contain any provisions to assure that the MTSCAP compliance demonstration calculations accurately reflect the site-specific storage temperature and pressure conditions at the facility, and thereby that the emissions calculations represent the facility's actual emissions. For example, nothing in the permit requires any testing or monitoring to confirm that the emissions calculations are based on the actual temperature or pressure values at the source, nor does the permit require the facility to use any specific temperature values initially relied upon to estimate the facility's emissions in its compliance demonstrations. Moreover, to the extent that the latter approach was intended, the permit record does not provide any substantive justification for why the temperature and pressure values in the permit application in fact represent the "highest possible temperature[s] at which methanol can be delivered" to the crude methanol and methanol product tanks. RTC at 31, 32.[22]
>
> Overall, because of these deficiencies in the Final Permit and permit record involving the storage tanks, together with the issues discussed above relative to VOC emissions from loading operations, the EPA finds that the Final Permit and permit record are inadequate to ensure that the MTSCAP is sufficiently enforceable as a practical matter to limit the PTE of the covered emissions units together to below 19.8 tons per consecutive 12-month period.

The 8/26/16 Response to Comments admits that "TLO does have flexibility in the allowable vapor pressure of the gasoline to be stored in Tank 32 as long as the permitted emission limit is not exceeded (both daily and annual) and the TVP of the gasoline stored does not exceed 11 psia."[76] However, absent any measurements or calculations whatsoever (and none are required), there is no way to confirm that the proposed daily and annual VOC emission limits are met. In order for an emission limit to be enforceable as a practical matter, a permit must clearly specify how emissions will

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[75] Yuhuang Order, *op. cit.*

[76] 8/26/16 Responses, p. 15.

be measured or determined for purposes of demonstrating compliance with the limit.[77] Thus, limitations must be supported by monitoring, recordkeeping and reporting requirements "sufficient to enable regulatory and citizens to determine whether the limit has been exceeded and, if so, to take appropriate enforcement action."[78]

Further, we presented evidence in our 8/17/16 Comments that the TANKS 4.09.d model used to estimate the daily and annual VOC emissions proposed as daily and annual permit conditions is known to substantially underestimate tank VOC emissions. Thus, even if the ATCs were modified to require the use of the TANKS model or AP-42 algorithms, the actual VOC emissions would be underestimated. The 8/26/16 Response to Comments argues that the cited reference is misleading because it "is specific to refinery emissions reported to the Canadian National Pollutant Release Inventory and does not detail how these emissions were calculated or reported."[79] This is incorrect.

First, the cited study is a refereed journal publication reviewed by independent scientists. It thus is much more reliable than the unsupported assertions in the Responses to Comments. Further, one of the authors of these comments (Fox) has worked with the authors of the cited paper and personally confirmed the calculations.

Second, the cited Canadian study is not the only study that has concluded the TANKS model underestimates tank emissions, based on actual field measurements at similar tanks. It is well known that both the TANKS model and the AP-42 algorithms underestimate tank VOC emissions.[80] Actual measurements of tank emissions using DIAL compared to those calculated using AP-42 at U.S. storage tanks using EPA methods indicate that AP-42 underestimates VOC emissions by factors of 2 to 15, as demonstrated in the following summary data:

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[77] *In the Matter of Hu Honua Bioenergy Facility*, Order on Petition No. IX-2011-1, p. 10 ("Hu Honua Order") ("Exhibit C-34).

[78] *In the Matter of Orange Recycling and Ethanol Production Facility*, Pencor-Masada Oxynol, LLC, Order on Petition No. II-2001-05, April 8, 2002 (Exhibit C-35).

[79] 8/26/16 Response to Comments, pp. 10-11.

[80] *See* literature review in Environmental Integrity Project, Comments on EPA's Draft "Emission Estimation Protocol for Petroleum Refineries, March 31, 2010, p. 5, Exhibit 11 to 8/17/16 Pless/Fox Comments.

Table 1:
Comparison of DIAL Results and Tank Emissions Estimated Using AP-42[81]

Source	Source Description	Compound	Average DIAL flux, lb/hr[a]	Estimated emissions using standard estimating procedures with actual conditions at the time of the DIAL test, lb/hr
Tanks 1020, 1021, 1024, and 1025	EFR[c] tanks storing crude oil	VOC	6.4[d]	1.3 – 1.9[e]
Tanks 1052, 1053, and 1055	EFR tanks storing crude oil	VOC	16.3[d]	1.8 – 2.3[e]
Tanks 501, 502, 503, and 504	EFR tanks storing light distillates	VOC	8.6[d]	3.0 – 3.9[e]
Tank 43	VFR[f] tank storing fuel oil #6	VOC	2	1.3
			9.3	1.3
Tanks 60, 63, 11, 12, 18, 42, 61, and 65	VFR and EFR tanks storing various products	VOC	9	0.6 – 9.1[e]
Tanks 54, 55, 56, and 98	VFR and EFR tanks storing various products	VOC	3.1[d]	0.3 – 9.7[e]
Tanks 53 and 55	VFR tanks storing diesel fuel	VOC	23.8[d]	4.8 – 5.2[e]

Another recent study concluded that "[c]rude oil and heated oil tank emissions measured by DIAL were 5-10 times higher than estimated by TANKS.[82] Tank VOC emissions can and should be directly measured due to substantial evidence that the model used to estimate the VOCs emissions proposed as permit conditions and the underlying equations in AP-42 underestimate emissions. The EPA, for example, in a Consent Decree with Marathon Petroleum Co., required the use of an infrared gas-imaging camera to inspect fuel storage tanks to identify potential defects that may cause excessive emissions.[83] However, the subject tank ATCs do not require any method to determine compliance with the daily and annual VOC limits. The ATCs do not require the use of the TANKS model, the AP-42 algorithms, nor actual measurements. Thus, the daily and annual VOC limits added to the ATCs in response to our comments do not address the enforceability issue that we raised in our 8/17/16 Comments.

Instead of specifying a method to calculate or measure VOC emissions on a daily and annual basis, the 8/26/16 Response to Comments argues that the true vapor pressure limit of 11 psia is justified based on SJVAPCD Rule 4623. However, this misses

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[81] EPA, Critical Review of DIAL Emission Test Data for BP Petroleum Refinery in Texas City, Texas, November 2010, Table 2; available at: https://www3.epa.gov/airtoxics/bp_dial_review_report_12-3-10.pdf, accessed March 26, 2017. (Exhibit C-36.)

[82] Rod Robinson, The Application of Differential Absorption Lidar (DIAL) for Pollutant Emissions Monitoring, January 2015, pdf 46; available at: http://www.h-gac.com/taq/airquality/raqpac/documents/2015/Jan%2015/DIAL%20%202015%20Houston%20Meeting%20January%20(sent%20version).pdf, accessed March 27, 2017. (Exhibit C-37.)

[83] U.S. Department of Justice, U.S. Settles with Marathon Petroleum Corporation to Cut Harmful Air Emissions at Facilities in Indiana, Kentucky and Ohio, May 19, 2015; available at:https://www.justice.gov/opa/pr/us-settles-marathon-petroleum-corporation-cut-harmful-air-emissions-facilities-indiana, accessed March 26, 2017.

the point. Adding daily and annual emission limits to a permit does not automatically make these limits practically enforceable. The ATCs must specify a method to measure VOC emissions from the subject tanks or specify an equivalent calculation method that uses measured input values to estimate daily and annual emissions. The revised draft ATCs do neither.

III. The District Improperly Exempts the Project from Review under the California Environmental Quality Act

As for the Prior Project, the District, as the lead agency, invokes a categorical exemption from the provisions of CEQA for the Project pursuant to CEQA Guidelines § 15301(e) for existing facilities (Class 1) and further finds that the Project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment pursuant to CEQA Guidelines § 15061(b)(3), *i.e.*, the CEQA "common sense" exemption:

> As discussed above, the District reviewed and assessed if there would be any potential significant impacts to the environment, and determined that the proposed project will not result in a potentially significant impact to the environment. As such, the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (e.g.: general CEQA "common sense" exemption.)
>
> In addition, the size of the proposed project is approximately 9,500 ft^2. CEQA Guideline for Categorical Exemptions, specifically 15301 (e) (Existing Facilities), allows for addition to existing structures that will not result in an increase in size of existing structure (not to exceed 10,000 ft^2). The size of the proposed project is less than the 10,000 ft^2 and is within the scope of the exemption.
>
> In conclusion, the District finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061 (b)(3)), and is also categorically exempt from the provisions of CEQA pursuant to CEQA Guideline §15301 (Existing Facilities).[84]

As discussed in our comments below, the District's findings for categorical exemptions pursuant to a) CEQA Guidelines §15301, Existing Facilities, and b) CEQA Guidelines §15061(b)(3), the common-sense exception, are unsupported.

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[84] 2/21/17 Engineering Evaluation, p. 55.

Lead agencies for purposes of CEQA review are required to construe the applicability of exemptions narrowly. Courts use the fair argument standard to decide whether an exception to a categorical exemption applies. For example, courts apply the fair argument test to determinize whether a project creates a reasonable possibility of significant effects due to unusual circumstances. The fair argument standard creates a low threshold for requiring further environmental review and reflects a preference for resolving doubts in favor of environmental review when the question is whether any such review is warranted. Below, we provide a fair argument that a) the scope of the project is inconsistent with a Class I exemption under CEQA Guidelines §15301; b) the potential increase in tanker truck trips exceeds the District's trigger level for CEQA review; c) locomotive exhaust emissions are significant; d) incremental cance risks due to locomotive emissions at then ethanol off-loading rack are significant; and e) cumulative impacts due to successive modifications at the facility preclude applicability of categorical exemptions and are significant.

III.A The Scope of the Project and Its Potential Impacts on Air Quality Are Inconsistent with a Class 1 Exemption under CEQA Guidelines §15301, Existing Facilities

The CEQA Guidelines §15301, Existing Facilities, define Class 1 exemptions from the provisions of the act as follows:

> Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

The District's *Environmental Review Guidelines/Procedures for Implementing the California Environmental Quality Act* define these provisions as applied to SJVAPCD's permit actions as follows:

> **Minor Alterations to Existing Facilities:** [CCR §15301] Projects consisting of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographic features, involving negligible or no expansion of use or emissions beyond that existing at the time of the lead agency's determination. This exemption includes the following SJVUAPCD permit actions:
>
> - ATC applications to install air pollution control or abatement equipment and there are no possible significant environmental effects and

- ATC applications to alter permitted equipment or to change processes that will involve only negligible increases or decreases in pollutant emissions and no other possible significant environmental effects.[85]

The Project is not consistent with either of these definitions. Clearly, the Project involves more than "minor alterations" involving "negligible or no expansion of use" or "negligible increases or decreases in pollutant emissions." In fact, according to the Engineering Evaluation, the Project would:

- Demolish an existing 420,000-gallon gasoline tank;
- Construct a new 64-foot diameter, 1,347,627-gallon storage tank for gasoline;[86]
- Construct a new 45-foot diameter, 571,068-gallon storage tank for denatured ethanol;[87]
- Construct a new off-site bulk off-loading rack for delivery of denatured ethanol by trucks with a throughput capacity of up to 180,000 gallons per day delivered by 21 heavy-duty tanker trucks per day with a capacity of 8,800 gallons each);[88]
- Construct a new off-site bulk off-loading rack for delivery of denatured ethanol via rail with a capacity of up to 6 railcars per dayand up to 780 railcars per year;[89]
- Construct a 1,000-foot pipeline for transferring denatured ethanol from the new off-site offloading operation to the new ethanol storage tank;[90]
- Result in construction activities over 8 months using the following construction equipment: 1 backhoe, 1 mini-excavator, 1 bobcat, 1 forklift, 2 cranes with lift capacities of 40 tons and 220 tons, respectively, 5 welding rigs, 1 generator, and 1 air compressor;[91]

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[85] SJVAPCD, Environmental Review Guidelines, *op. cit.* (Exhibit 49), p. 4-2; emphasis retained.

[86] *See* E2/21/17 ngineering Evaluation, Appx. C, Tanks 4.0.9d Emissions Reports, "Tank 32.".

[87] *See* 2/21/17 Engineering Evaluation, Appx. C, Tanks 4.0.9d Emissions Reports, "Tank 20."

[88] *See* 2/21/17 Engineering Evaluation, p. 50.

[89] *See* 2/21/17 Engineering Evaluation, p. 10. ("Per applicant, the maximum daily and annual loadout events for the railcar offloading station are 6 events per day and 780 events per year, the number of disconnect per each loadout event is 3 disconnects per event...")

[90] *See* 2/21/17 Engineering Evaluation, p. 10.

[91] *See* 2/21/17 Engineering Evaluation, Appx. J, Table 7: Summary of Construction Equipment Timeline.

- Increase potential VOC emissions from the Facility's storage tanks and loading racks by 2,394 lb/year,[92] or 1.2 tons/year;[93]
- Require that the Applicant provide 3,591 lb/year of offsets for the increase in VOC emissions;[94]
- Require installation of best available control technology for emissions of toxic air contaminants ("T-BACT") at the new gasoline storage tank (N-845-29, Tank 29) due to fugitive emissions of benzene and naphthalene;[95] and
- Constitute a Federal Major Modification pursuant to 40 CFR Part 51.165 for an increase of VOC emissions over the applicable significance threshold.[96]

The extensive scope of these modifications clearly involves more than "minor alterations" and results in more than "negligible increases or decreases in pollutant emissions," indicating that the Project does not qualify for a Class 1 categorical exemption under CEQA Guidelines §15301. In fact, the District appears to recognize that the Project has the potential for causing a significant effect on the environment when it presents a 6-page CEQA analysis for the Project,[97] which:

- Quantifies emissions of criteria pollutants and ozone precursors during construction to determine their significance based on the District's thresholds of significance for CEQA analysis;[98]
- Quantifies operational emissions of criteria pollutants and ozone precursors associated with new permitted stationary sources and non-permitted activities (*i.e.*, truck and train exhaust emissions) to determine whether they are significant based on the District's thresholds of significance for CEQA review;[99]

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[92] *See* 2/21/17 Engineering Evaluation, pp. 16 and 17.

[93] *See*2/21/17 Engineering Evaluation, pp. 17; (2,394 lb/year)/(2000 lb/ton) = **1.197 tons/year.**

[94] *Ibid.*

[95] *See* 2/21/17 Engineering Evaluation, Appx. I.

[96] *See* 2/21/17 Engineering Evaluation, p. 17 ("As demonstrated in the preceding table, this project does constitute a Federal Major Modification.") and p. 23 ("… this proposed project constitutes a Federal Major Modification...").

[97] *See* 2/21/17 Engineering Evaluation, pp. 49-54.

[98] *See* 2/21/17 Engineering Evaluation, p. 51.

[99] 2/21/17 Engineering Evaluation, pp. 50-51.

- Addresses the significance of other environmental impacts (*e.g.*, water quality, noise, odor nuisance, hazardous waste, etc.)[100]
- Determines whether the incremental cancer risk, acute risk, and chronic risk resulting from toxic air contaminant emissions from the Facility's permitted stationary sources, as determined by a Risk Management Review ("RMR"), would exceed applicable thresholds of significance for purposes of CEQA review.[101]
- Provides a discussion of California's Cap-and-Trade regulation for emissions of greenhouse gases to determine whether the Facility, which is subject to this regulation, would result in significant emissions of these pollutants;[102]

Clearly, the District recognizes that the Project has the potential for causing a significant effect on the environment and that some level of analysis is required. Such analysis must be published for public review and cannot be used to support a categorical exemption from CEQA review.

Further, as discussed in the Comments III.B through III.E, a fair argument can be made that the Project would result in significant impacts on air quality and public health.

III.B The Potential Increase in Tanker Truck Trips Due to the Project Exceeds the District's Trigger Levels for CEQA Review

We previously commented that the potential increase in tanker truck trips associated with the Prior Project, including truck trips to and from the new denatured ethanol loading rack and the increase in truck trips due to the previously proposed increase in throughput at the existing bulk loading rack would exceed the District's threshold of significance of 47 heavy-duty truck one-way trips per day or 23 heavy-duty truck roundtrips per day. For the Project, which does not include an increase at the existing bulk loading rack, the Engineering Evaluation claims an increase of only 21 one-way truck trips per day associated with the new denatured ethanol off-loading rack.[103] This estimate is a) calculated incorrectly and b) fails to account for an increase in truck traffic at the existing bulk loading rack due to de-bottlenecking.

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[100] 2/21/17 Engineering Evaluation, p. 53.

[101] 2/21/17 Engineering Evaluation, p. 52.

[102] 2/21/17 Engineering Evaluation, pp. 53-54

[103] 2/21/17 Engineering Evaluation, p. 50.

New Ethanol Loading Rack (N-845-30)

Specifically, the proposed ATC for the new denatured ethanol off-loading rack proposes a permit limit of 105 disconnects per day.[104] A disconnect occurs when the flexible hoses connecting the tanker truck or railcar to the off-loading racks are uncoupled after the ethanol transfer is complete. According to the Engineering Evaluation, a tanker truck in ethanol service has 5 disconnects per delivery.[105] Thus, the Project would result in a total of 21 roundtrips, or 42 one-way trips, for trucks in ethanol service at the new denatured ethanol off-loading rack.[106] Thus, the Engineering Evaluation underestimates the number one-way truck trips by a factor of two.

Existing Gasoline Bulk Loading Rack (N-845-6)

Further, the CEQA Guidelines § 15125(a) require that project emissions are compared to an existing baseline, *i.e.*, the physical environmental conditions at the Notice of Preparation of a CEQA analysis is published or the time the environmental analysis is commenced. Here, the Engineering Evaluation fails to address the increase in truck trips at the existing bulk loading rack resulting from the Project. The Facility currently has a product loadout that is 29 percent below existing permit limits of 771,120 gal/day.[107] Based on a typical tanker truck capacity of 8,800 gallons,[108] the Facility currently loads an average 62 tanker trucks per day.[109] This constitutes the baseline for CEQA review.

The Project's includes installation of a new gasoline storage tank which would be considerably larger than the existing gasoline storage tank that would be demolished. This would improve operational reliability and provide operational flexibility and sufficiency by creating a storage buffer rather than receiving/storing gasoline Just In Time.[110] Specifically, the new 1,347,627-gal gasoline storage tank (N-845-29) would be more than 3 times larger than the existing 420,000-gal gasoline storage tank (N-845-1).[111]

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[104] 2/21/17 Engineering Evaluation, p. 26.

[105] 2/21/17 Engineering Evaluation, p. 11.

[106] (105 disconnects/day)/(5 disconnects/truck roundtrip) = 21 truck roundtrips/day.

[107] Letter from Emily McKeon, Trinity Consultants, to Nick Peirce, SJVAPCD, Re: Supplemental information for Revised Project ATC Application, Tesoro Logistics Operations LLC: Stockton, CA Terminal, Facility ID No. N-845 – Project No. N-1160048, December 9, 2016, p. 3. (Exhibit C-38.)

[108] *See* 2/21/17 Engineering Evaluation, p. 50.

[109] (771,120 gal/day)/(8,800 gal/truck)×(1-0.29) = 62.2 trucks/day.

[110] *See* Exhibit C-38.

[111] (1,347,627 gal)/(420,000 gal) = 3.21.

At present, due to the way denatured ethanol is provided by NuStar, the Facility must blend gasoline directly at the bulk loading rack. Consequently, loadout is limited by the existing gasoline storage capacity which is affected by delays in the normally scheduled weekly gasoline receipts arriving via the shared Kinder Morgan pipeline.[112] The substantial storage capacity increase under the Project debottlenecks the existing operational situation at the Facility, [113]by allowing for an increase in product loadout at the existing bulk loading rack N-845-6 within existing permit limits.

The Project therefore permits an increase of truck traffic to the existing loading rack to full capacity to 88 trucks per day,[114] *i.e.*, by about 25 trucks per day.[115] An increase of 25 trucks that would be loaded per day results in 25 roundtrips per day and 50 one-way trips per day. Thus, the increase in truck traffic at the existing bulk loading rack alone exceeds the District's significance thresholds of 47 heavy-duty truck one-way trips per day or 23 roundtrips per day.

Total Increase in Heavy-duty Truck Traffic

The total daily increase in heavy duty truck traffic from the Project over the baseline is the sum of truck traffic from the new ethanol off-loading rack (21 roundtrips/day, 42 one-way trips/day) plus the daily increase in truck traffic at the existing gasoline loading rack (25 roundtrips/day, 50 one-way trips/day). Thus, the Project would permit a total increase in truck traffic at the Facility of 46 heavy-duty truck roundtrips per day or 92 one-way trips per day, which by far exceed the District's CEQA trigger thresholds of 47 one-way trips per day or more than 23 roundtrips per day, indicating that CEQA review is required.

In sum, the Project would significantly increase heavy-duty truck traffic at the Port of Stockton, resulting in potentially significant air quality and traffic impacts, which were not addressed by the District's CEQA analysis. In fact, the Port of Stockton recognizes that the ethanol truck off-loading rack may result in increased traffic in an already impacted area and included the following condition in its lease agreement for the 2650 West Washington Street property:[116]

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[112] Letter from Emily McKeon, Trinity Consultants, to Nick Peirce, SJVAPCD, Re: Supplemental information for Revised Project ATC Application, Tesoro Logistics Operations LLC: Stockton, CA Terminal, Facility ID No. N-845 — Project No. N-1160048, December 9, 2016, p. 2.

[114] (771,120 gal/day)/(8,800 gal/truck) = 87.63 trucks/day.

[115] (87.63 trucks/day) - (62.2 trucks/day) = 25.41 trucks/day.

[116] Port of Stockton, Lease Agreement, *op. cit.* (Exhibit 2 to 8/17/16 Pless/Fox Comments).

As a condition of this Lease, Tenant will route all inbound and outbound truck traffic affiliated with its use and operation on Port property (and within Tenant's control) to Navy Drive and/or the Port of Stockton Expressway in order to alleviate the traffic impacts on the residential area (Boggs Tract) to the east.

III.C Project Operational Emissions of Criteria Pollutants and Precursors Associated with Locomotive Exhaust Emissions at the New Ethanol Off-loading Rack (N-845-030) Are Individually and Cumulatively Significant

The Project would permit delivery of denatured ethanol via truck and rail. The proposed Draft ATC for the new denatured ethanol off-loading rack (N-845-30) does not specify separate throughput limits for trucks and rail but instead provides combined throughput limits for both modes of delivery for the total number of daily and annual disconnects.[117] We estimate potential criteria pollutant and precursor emissions from locomotives below.

The 2/21/17 Engineering Evaluation explains that rail cars carrying denatured ethanol that would be received at the new off-loading rack would be moved on site by a locomotive at the Port of Stockton:

> Tesoro does not utilize dedicated cargo carrier equipment, defined in section 3.12 of Rule 2201 on site. Rather, the Port of Stockton's locomotive will move the railcars to the proposed denatured ethanol offloading area, disconnect from the railcars, and leave Tesoro's site.[118]

The Engineering Evaluation, Appendix J, contains estimates for exhaust emissions from this locomotive, as shown in the excerpted tables below for operation at half throttle and for idling. (Note that these tables incorrectly have the same caption "On-site Locomotive Travel Exhaust Emissions at Half Throttle." Table 5 instead presents idling emissions.)

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[117] 2/21/17 Engineering Evaluation, Appx. A, Draft ATC for N-845-30, Condition 9 and 10.

[118] 2/21/17 Engineering Evaluation, p. 22.

Table 4. On-site Locomotive Travel Exhaust Emissions at Half Throttle

Locomotive HP:	750	(Half Throttle)				
hr/yr:	36.5	(365 trains/yr @ 1 hr/train, 10% on time is spent at half throttle)				
Emission Factor	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Emissions Factor (grams/bhp-hr) [1]	0.63	8.10	2.40	0.0051	0.13	0.12
Emissions Factor (lb/bhp-hr)	1.39E-03	1.79E-02	5.29E-03	1.12E-05	2.87E-04	2.64E-04
Emissions (lb/hr)	1.04	13.39	3.97	8.43E-03	0.21	0.20
Emissions (lb/year)	0.05	8.73	0.77	3.46E-06	2.25E-03	1.90E-03

1. 40 CFR 1033.101 - EXHAUST EMISSION STANDARDS Table 2 - Tier 2. CARB: Emission factors for SOx based on 15 ppmv S in fuel

Table 5. On-site Locomotive Travel Exhaust Emissions at Half Throttle

Locomotive HP:	15	(Idling)				
hr/yr:	328.5	(365 trains/yr @ 1 hr/train, 90% on time is spent idling)				
Emission Factor	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Emissions Factor (grams/bhp-hr) [1]	0.63	8.10	2.40	5.10E-03	0.13	0.12
Emissions Factor (lb/bhp-hr)	1.39E-03	1.79E-02	5.29E-03	1.12E-05	2.87E-04'	2.64E-04
Emissions (lb/hr)	2.09E-02	2.68E-01	7.94E-02	1.69E-04	4.30E-03	3.96E-03
Emissions (lb/year)	0.01	1.57	0.14	6.23E-07	4.05E-04	3.43E-04

1. 40 CFR 1033.101 - EXHAUST EMISSION STANDARDS Table 2 - Tier 2. CARB: Emission factors for SOx based on 15 ppmv S in fuel

These emission estimates, which were prepared by the Applicant's consultant,[119] are erroneous and substantially underestimate emissions from locomotive movements.

First, while the Applicant's emission calculations correctly calculate hourly emissions in pounds per hour ("lb/hour") from the assumed locomotive emission factors, they incorrectly calculate annual emissions in pounds per year ("lb/year"). As shown in excerpted tables above, calculated annual locomotive exhaust emissions presented by the Applicant are lower, sometimes substantially, than the calculated hourly locomotive exhaust emissions for both operation at half throttle (above Table 4) and idling (above Table 5). These erroneously calculated emissions are carried over into the 2/21/17 Engineering Evaluation's estimates of Project mobile source emissions in its CEQA analysis.[120]

We prepared revised annual locomotive exhaust emission estimates based on all of the Applicant's assumptions and only correcting for the calculation error. Table 2a compares revised on-site annual locomotive exhaust emissions as calculated by the Applicant (and presented by the Engineering Evaluation) with our revised emission estimates.

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[119] *See* Attachment 2, Construction and Mobile Source Emission Calculations, to 8/26/16 Response to Comments.

[120] *Compare* 2/21/17 Engineering Evaluation, p. 51, with 2/21/17 Engineering Evaluation, Appx. J, Table 3: Overall Annual Operational Emissions.

Table 2a: Revised annual on-site locomotive travel exhaust emissions at half throttle based on Applicant's assumptions (36.5 hours of operation per year) (lb/year)

	VOC	NOx	CO	SOx	PM10	PM2.5
Applicant						
Half-throttle[a]	0.05	8.73	0.77	0.00	0.00	0.00
Idling[b]	0.01	1.57	0.14	0.00	0.00	0.00
Total[c]	**0.06**	**10.30**	**0.91**	**0.00**	**0.00**	**0.00**
Revised						
Half-throttle[d]	38.02	488.85	144.84	0.31	7.85	7.24
Idling[e]	6.84	87.99	26.07	0.06	1.41	1.30
Total[c]	**44.87**	**576.84**	**170.92**	**0.36**	**9.26**	**8.55**

a From Engineering Evaluation, Appx. J, Table 4

b From Engineering Evaluation, Appx. J, Table 5

c Calculated as: (half-throttle) + (idling)

d Calculated as: (lb/year) = (lb/hour from Applicant's Table 4 above) × (36.5 hours/year)

e Calculated as: (lb/year) = (lb/hour from Applicant's Table 5 above) × (328.5 hours/year)

As shown, the Applicant's errors result in substantial underestimates for annual on-site locomotive exhaust emissions. In addition to this calculation error, the Applicant's calculations also underestimate locomotive emissions due to incorrect assumptions.

Second, the Applicant's emission calculations assume that the locomotive would comply with emissions standards for Tier 2 switch locomotives established by federal regulations.[121] The Applicant provides no support for this assumption. The Port of Stockton is served by the Central California Traction Company ("CCTC").[122] The company operates seven locomotives, four SW 1500 locomotives and three Tier IV Brookville Genset locomotives.[123] The SW 1500 switch locomotive was manufactured by

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[121] *See* note to 2/21/17 Engineering Evaluation, Appendix J, Tables 4 and 5. ("40 CFR 1033.101 - EXHAUST EMISSION STANDARDS Table 2 - Tier 2. CARB: Emission factors for SOx based on 15 ppmv S in fuel.")

[122] *See* Wikipedia, Stockton Terminal and Eastern Railroad; available at:https://en.wikipedia.org/wiki/Stockton_Terminal_and_Eastern_Railroad, accessed March 24, 2017. ("The Port of Stockton is served by the connecting Central California Traction Company…") and Wikipedia, Central California Traction Company; available at:https://en.wikipedia.org/wiki/Central_California_Traction_Company, accessed March 23, 2017. ("The railroad operates between Stockton and Lodi. CCT also operates the Stockton Public Belt Railway around the Port of Stockton. It connects to the Stockton Terminal and Eastern Railroad company freight lines that serve greater Stockton.")

[123] Central California Traction Company, Welcome to the Central California Traction Company; available at: http://www.cctrailroad.com/; accessed March 23, 2017. ("CCT has 28 employees, 7 locomotives (4 SW 1500s and 3 Brookville Genset locomotives Tier IV)".)

General Motors between 1966 and 1974 and has a rating of 1500 horsepower ("hp").[124] Thus, the Tier 2 emission factors for engines manufactured between 2005 and 2010 assumed by the Applicant do not apply. Rather, for locomotives manufactured between 1973 and 2001, Tier 0 emission factors apply. As shown in the following excerpted able from the federal exhaust emission standards for locomotives, Tier 0 emission factors for switch locomotives are substantially higher than the Tier 2 emission factors assumed by the Applicant.

TABLE 2 TO § 1033.101 - SWITCH LOCOMOTIVE EMISSION STANDARDS

Year of original manufacture	Tier of standards	Standards (g/bhp-hr)			
		NO^X	PM	HC	CO
1973-2001	Tier 0	11.8	0.26	2.10	8.0
2002-2004	Tier 1 [a]	11.0	0.26	1.20	2.5
2005-2010	Tier 2 [a]	8.1	[b] 0.13	0.60	2.4
2011-2014	Tier 3	5.0	0.10	0.60	2.4
2015 or later	Tier 4	[c] 1.3	0.03	[c] 0.14	2.4

[a] Switch locomotives subject to the Tier 1 through Tier 2 emission standards must also meet line-haul standards of the same tier.

[b] The PM standard for new Tier 2 switch locomotives is 0.24 g/bhp-hr until January 1, 2013.

[c] Manufacturers may elect to meet a combined NO^X HC standard of 1.4 g/bhp-hr instead of the otherwise applicable Tier 4 NO^X and HC standards, as described in paragraph (j) of this section.

Excerpted from: Cornell University Law School, Legal Information Institute, 40 CFR 1033.101 - Exhaust emission standards; available at: https://www.law.cornell.edu/cfr/text/40/1033.101, accessed March 23, 2017.

Unless the Applicant can demonstrate that only the newer Brookville Genset locomotives would serve the Project site, it must be conservatively assumed that the older SW 1500 locomotives would operate and, thus, Tier 0 emission standards must be applied. Even if all seven locomotives would equally serve the site, the weighted average emission rates would be much higher than the Tier 2 emission factors assumed by the Applicant. For example, emission rates for particulate matter ("PM") for Tier 0 and Tier 4 are 0.26, and 0.03 grams per brake-horsepower-hour ("g/bhp-hr"), respectively, as shown in the above excerpted table. Thus, the weighted average PM emission rate for four Tier 0 SW 1500 locomotives and three Tier IV Brookville Genset locomotives serving the site is 0.16 g/bhp-hr,[125] 33 percent higher than assumed by the Applicant's calculations.[126]

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[124] Wikipedia, EMD SW1500; available at: https://en.wikipedia.org/wiki/EMD_SW1500, accessed March 23, 2017.

[125] [(4 × Tier 0: 0.26 g/bhp-hr) + (3 × Tier 4: 0.03 g/bhp-hr)]/7 = 0.16 g/bhp-hr.

[126] (0.16 g/bhp-hr)/(0.12 g/bhp-hr) = 0.33.

Third, the Applicant's emission calculations account for 365 trains per year. "Trains" in this context refer to the combination of a locomotive and rail cars. These calculations incorrectly assume that the switch locomotive would access the site only once per train. However, the Engineering Evaluation indicates that the locomotive would move full railcars to the denatured ethanol offloading area, disconnect from the rail cars, and then leave Tesoro's site.[127] Thus, the locomotive would have to come back later and connect to the empty rail cars to move them off-site. Therefore, there would be a total of two locomotives on site per day and 730 locomotives on site per year. Thus, the Applicant underestimates total operating and idling time of the switch locomotive on site by a factor of two.

Fourth, the Applicant's emission calculations assume that the switch locomotive would operate 1 hour on site, operating 10% of the time at half-throttle (at 750 hp) moving the rail cars and 90% of the time idling (at 15 hp) while the rail cars are disconnected.[128] There is no support for these assumptions. Based on our experience with other rail terminal projects, we conclude that a 20%/80% split is more likely.

We prepared revised hourly and annual emission estimates assuming 730 locomotives on site per year, each locomotive operating and idling for 1 hour on site, 20% of time operating at half-throttle and 10% of time idling, Tier 0 emission factors, and otherwise relying on the Applicant's assumptions. These annual emission estimates are summarized in Table 2b.

Table 2b: Revised on-site locomotive exhaust emissions based on 730 locomotives on site per year (1 hour on site, 20% at half-throttle, 80% idling), Tier 0 emission factors, and otherwise relying on Applicant's assumptions (lb/year)

	VOC	NOx	CO	SOx	PM10	PM2.5
Revised						
Half-throttle[a]	506.95	2,848.60	1,931.25	1.23	62.77	62.77
Idling[b]	40.56	227.89	154.50	0.10	5.02	5.02
Total revised on-site[c]	**547.51**	**3,076.48**	**2,085.75**	**1.33**	**67.79**	**67.79**

a Calculated as: (lb/year) = (lb/bhp-hour) × (750 hp) × (73 hours/year)

b Calculated as: (lb/year) = (lb/bhp-hour) × (15 hp) × (282 hours/year)

c Calculated as: (half-throttle) + (idling)

Fifth, the Applicant calculates locomotive exhaust emissions only for on-site operation of the locomotive at the new denatured ethanol off-loading rack. However, locomotives would also emit exhaust emissions while traveling off-site. Specifically,

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[127] 2/21/17 Engineering Evaluation, p. 22.

[128] *See* 2/21/17 Engineering Evaluation, Appendix J, Tables 4 and 5.

the CCTC locomotive would travel from the connection with the Stockton Terminal and Eastern Railroad to Tesoro's new denatured ethanol off-loading rack and back. For CEQA purposes, these locomotive trips, four per train, must also be accounted for in emission estimates for the Project.

We estimated locomotive emissions from off-site travel based on the following plausible scenario: 730 locomotive roundtrips (365 locomotive trips with full rail cars to the new ethanol off-loading rack, 730 locomotive trips without rail cars from and to the new ethanol off-loading rack, and 365 locomotive trips with empty rail cars from the new ethanol off-loading rack) with each trip taking 0.5 hours (a conservatively low estimate); conservatively assuming the locomotives would be operating at only two thirds of total horsepower (1000 hp for 1500 hp locomotive); Tier 0 emission factors; and otherwise relying on the Applicant's assumptions. Table 2c summarizes annual emission estimates for off-site locomotive travel based on these assumptions, annual emission estimates for on-site locomotive exhaust emissions, and total annual locomotive exhaust emissions.

Table 2c: Total revised on-site locomotive emissions (from Table 2b), total off-site locomotive exhaust emissions (730 locomotive roundtrips per year, 1 hour per roundtrip at 1000 hp, and Tier 0 emission factors) and total locomotive emissions

		VOC	NOx	CO	SOx	PM10	PM2.5
Total off-site[a]	(lb/year)	1,689.84	18,990.63	12,875.01	8.21	418.44	418.44
Total revised on-site[b]	(lb/year)	547.51	3076.48	2085.75	1.33	67.79	67.79
Total locomotive[c]	(lb/year)	**2,237.35**	**22,067.12**	**14,960.76**	**9.54**	**486.22**	**486.22**
	(tons/year)	**1.12**	**11.03**	**7.48**	**0.00**	**0.24**	**0.24**

a Calculated as: (lb/year) = (lb/bhp-hour) × (15 hp) × (282 hours/year)

b Calculated as: (lb/year) = (lb/bhp-hour) × (750 hp) × (73 hours/year)

c Calculated as: (total revised on-site) + (total off-site)

d Calculated as: (ton/year) = (lb/year) /(2,000 lb/ton)

Table 2c shows that combined on-site and off-site locomotive exhaust NOx emissions from the new ethanol off-loading rack, 11.03 tons/year, exceed the District's significance threshold of 10 tons/year[129] for these ozone precursor pollutants. Thus, locomotive exhaust alone would have the potential to result in significant impacts on air quality, contrary to the District's finding.

[129] *See* 2/21/17 Engineering Evaluation, p. 51.

III.D Incremental Cancer Risks Associated with On-site Locomotive Exhaust Emissions at the New Denatured Ethanol Loading Rack (N-845-30) Are Individually and Cumulatively Significant

The Engineering Evaluation provides a brief discussion of potential health risks due to Project emissions of toxic air contaminants based on the results from the District's Risk Management Review ("RMR") performed as part of the application review process.[130] The Engineering Evaluation finds that health risks posed by the Project are less than applicable thresholds of significance for purposes of CEQA review.[131] The RMR is inadequate to demonstrate no significant health risks for purposes of CEQA review because it only addresses operational emissions from stationary sources and does not address operational emissions associated with mobile sources such as truck or locomotive exhaust emissions associated with the new denatured ethanol off-loading rack or exhaust emissions associated with the increase in truck traffic at the existing loading rack (N-845-6).

We contracted Camille Sears, a renowned air quality dispersion modeling and health risk assessment specialist, to conduct a health risk assessment for locomotive exhaust diesel particulate ("DPM") emissions associated with the new denatured ethanol off-loading rack based on PM2.5 emissions of 67.79 lb/year (9.75E-03 grams per second[132]) as a surrogate, assuming all denatured ethanol would be delivered via rail, as is permitted by the proposed Draft ATCs.

Ms. Sears modeled the following incremental cancer risks at various release heights and initial vertical dispersion ("SZINIT") for the maximally exposed receptor:[133]

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[130] 2/21/17 Engineering Evaluation, pp. 51-52.

[131] *Ibid.*

[132] (67.79 lb/year)/(453.592 g/lb)/(8,760 hours/year)/(3,600 sec/hour) = 4.51E-03 g/sec.

[133] Email from Camille Sears, to Petra Pless, Pless Environmental, Inc., Phyllis Fox, and Lindsey Sears, Re: Tesoro Locomotive Exhaust HRA, March 26, 2017. (Exhibit C-39.)

We were able to make a few runs. You provided location and emission rate, but not release parameters. I spent some time looking at the Roseville Rail Yard Study and the rail analysis in the Vancouver Energy application, and came up with some rough effective stack heights. I don't know if my estimates are reliable, so please let me know if you have any better release height data.

The impacts from the rail DPM emissions are higher than I thought they would be, and occur in a different location than the peak worker impacts identified by the SVAPCD. The rail DPM emissions contribute about 1.5 to 2.0 per million excess risk at the SVAPCD max receptor (which is dominated by benzene and naphthalene from Unit 29 storage tank).

The peak modeled rail DPM impact occurs at UTM coordinates: 646647.46, 4200796.44

We modeled the rail DPM emissions as an AREAPOLY source, with the following release heights, initial vertical dispersion (SZINIT), and AERMOD control options. Here is a summary of the modeled impacts for various scenarios:

Release ht = 5.00 meters; SZINIT = 4.65 meters; beta ADJ_U* applied; urban dispersion: peak impact = 47.7 per million excess risk

Release ht = 10.00 meters; SZINIT = 9.30 meters; beta ADJ_U* applied; urban dispersion: peak impact = 22.5 per million excess risk

Release ht = 5.00 meters; SZINIT = 4.65 meters; urban dispersion: peak impact = 51.8 per million excess risk

Release ht = 10.00 meters; SZINIT = 9.30 meters; urban dispersion: peak impact = 23.5 per million excess risk

We confirmed a release height of 5 to 10 meters for locomotive exhaust stacks. Based on Ms. Sears's modeling, Project locomotive exhaust emissions at the new denatured ethanol off-loading rack would individually, and, thus, cumulatively, exceed the District's CEQA threshold of 20 in one million for the maximally exposed receptor regardless of the assumed release height or initial vertical dispersion.

III.E Cumulative Impacts Due to Successive Modifications at the Facility Preclude Applicability of Categorical Exemptions and Are Significant

CEQA recognizes that while a project's incremental impacts may be individually limited, they may be cumulatively considerable when viewed together with the environmental impacts from past, present, and probable future projects. The Engineering Evaluation fails to address cumulative impacts.

Categorical exemptions cannot apply when the cumulative impacts of successive projects of the same type in the same place, over time are significant.[134] Here, the Project is just one of several major modifications of the Facility in the past. The record indicates that none of these projects was subjected to CEQA review. Cumulatively, these modifications result in substantial increases of emissions and associated significant adverse impacts on air quality as well as significant impact in health risks, as discussed below.

Permitted Facility Modifications Since 1995

In August 2001, the District permitted the removal of existing throughput limits of 50,000 gal/day at two existing gasoline storage tanks (N-845-1 and N-845-5) and an increase at the existing bulk loading rack (N-845-6) from 250,000 gal/day to 45,000 gal/day with Project ID N-1112963. Information obtained from the District indicates that no CEQA evaluation was performed.[135]

Most recently, in 2012, the District issued authorities to construct to Tesoro authorizing, among other modifications, an increase at the organic liquids loading rack (N-845-6-3) from 450,000 gal/day to 771,120 gal/day and the installation of a new 2,231,508-gallon internal floating roof gasoline storage tank (N-845-24-0) with Project ID N-1112963.[136] The respective engineering evaluation estimated the increase in VOC emissions resulting from that project at 4.7 tons/year,[137] almost 50% of the District's significance threshold for this pollutant of 10 tons/year.[138] The District exempted that project from CEQA review, relying on the exemptions as for the Project.[139]

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[134] CEQA Guidelines, § 15300.2(b).

[135] *See* file "Tesoro's Project.xlsx," *op. cit.*

[136] SJVAPCD, Tesoro, Notice of Final Action – Authority to Construct, Project Number: N-1112963, March 27, 2012 (Exhibit C-40); available at: https://www.valleyair.org/notices/Docs/2012/03-27-12%20(N-1112963)/Public%20Notice%20Package.pdf, accessed March 24, 2017 and SJVAPCD, Tesoro, Notice of Preliminary Decision – Authorities to Construct, Project Number: N-1112963, February 16, 2012 (Exhibit C-41); available at: https://www.valleyair.org/notices/Docs/2012/02-16-12%20(N-1112963)/Public%20Notice%20Package.pdf, accessed March 24, 2017.

[137] SJVAPCD, Notice of Preliminary Decision, Project Number: N-1112963, *op. cit.*, p.12. (9,337 lb/year) / (2,000 lb/ton) = 4.67 tons/year.

[138] *See* 2/21/17 Engineering Evaluation, p. 50.

[139] *Ibid*, p. 61 ("The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the

Table 3 summarizes all ATCs issued for the Facility since 1995 based on information obtained from the District.

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project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061 (b)(3)).")

Table 3: ATCs issued to Facility since 1995

SJVAPCD Project ID	Project Description	Date of Final ATC	Permitted Throughput Limits at Loading Rack N-845-6	Total Permitted Organic Liquid Storage Capacity[a]	CEQA Discussion in Engineering Evaluation
950402	Replace internal floating roof at 420,000-gal gasoline storage tank **N-845-1**	7-Jul-95	250,000 gal/day, no annual limit	1,994,000 gal[b]	no
950460	Replace internal floating roof at 840,000-gal gasoline storage tank **N-845-5**	7-Aug-95	250,000 gal/day, no annual limit	1,994,000 gal	no
980645	Replace existing primary and secondary seals	7-Oct-98	250,000 gal/day, no annual limit	1,994,000 gal	no
1001299	Remove 50,000 gal/day throughput limit from 420,000-gal gasoline storage tank **N-845-1** and 840,000-gal gasoline storage tank **N-845-5**; increase throughput at loading rack **N-845-6**; remove use of CEMS from **N-845-22**	31-Aug-01	450,000 gal/day, no annual limit	1,994,000 gal	no
1051387	Install 4,000-gal diesel additive tank **N-845-23**	28-Apr-05	450,000 gal/day, no annual limit	1,998,000 gal[c]	no
1112963	Increase throughput limit from 450,000 gal/day to 771,120 gal/day and establish 240,350,000 gal/year limit at loading rack **N-845-6**; re-route vapor from organic liquid storage tank **N-845-10**; replace carbon adsorption system **N-845-22**; install a new 2,321,508-gal gasoline storage tank **N-845-24**	26-Mar-12	771,120 gal/day, 240,350,000 gal/year	4,319,508 gal[d]	negligible expansion of existing use, generally exempt from CEQA
1143723	change type of additive for 4,000-gal diesel additive storage tank **N-845-23**	17-Jul-15	771,120 gal/day, 240,350,000 gal/year	4,319,508 gal	Ministerial approval
1163274 (Project)	Demolish 420,000-gal gasoline storage tank **N-845-1**; install new 1,347,627-gal gasoline storage tank **N-845-29**; install new 420,000-gal denatured ethanol storage tank **N-845-28**; install new denatured ethanol truck and rail off-loading rack **N-845-30**	TBD	771,120 gal/day, 240,350,000 gal/year	6,238,196 gal[e]	negligible expansion of existing use, generally exempt from CEQA

a Organic liquids include gasoline, diesel, jet fuel, ethanol, etc.

b 1,994,000 gal = (420,000 gal N-845-1) + (714,000 gal N-845-2) + (840,000 gal N-845-5) + (20,000 gal N-845-10)

c 1,998,000 gal = (1,994,000 gal) + (4,000 gal N-845-23)

d 4,319,508 gal = (1,998,000 gal) + (2,321,508 gal N-845-24)

e 6,236,196 gal = (4,319,508 gal) – (420,000 gal N845-1) + (1,347,627 gal N-845-29) + (571,061 gal N845-28)

As shown in Table 3, over the course of the past 22 years, the District permitted substantial modifications at the Facility without any of these permit modifications ever being subjected to public review under CEQA. Below, we discuss permitted increase in throughput at the Facility's bulk loading rack (N-845-6) and total permitted increase in the Facility's total organic liquid storage capacity.

Permitted Total Organic Liquid Storage Capacity at Facility

As shown in Table 3, with issuance of Project Number 1112963 in 2012, the District permitted an increase in total organic liquid storage capacity for the Facility's storage tanks from 1,994,000 gal to 4,319,508 gal, a 117% increase.[140] Again, this project was permitted without public review under CEQA. Now for the Project, the District intends to permit another increase in total organic liquid storage capacity from 4,319,508 gal to 6,238,196 gal, a 44% increase.[141] Again, the District intends to permit this increase without public review under CEQA. In other words, over the course of less than five years, the permitted throughput at the bulk loading rack (N-845-6) would increase by a total of 213% over 1995 permitted levels[142] without any of these permit modifications ever being subjected to public review under CEQA.

Facility Likely Never Underwent Any CEQA Review

The Facility existed before CEQA was enacted in 1970 and, thus, permit units that existed before 1970 were not subjected to CEQA review unless they were modified and the District required CEQA review. As discussed above, the District did not require CEQA review for any of the substantial modifications that occurred between 1995 and present. It is therefore likely that any projects that were permitted between 1970 and 1995 also were not subjected to CEQA review.

Cumulative Health Risks from Successive Projects at the Facility Are Significant

The Engineering Evaluation provides a brief discussion of potential health risks due to Project emissions of toxic air contaminants based on the results from the District's Risk Management Review ("RMR") performed as part of the application review process.[143] The Engineering Evaluation finds that health risks posed by the Project are less than applicable thresholds of significance for purposes of CEQA

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[140] (4,319,508 gal)/(1,994,000 gal) = 2.17.

[141] (6,238,196 gal)/(4,319,508 gal) = 1.44.

[142] (6,238,196 gal)/(1,994,000 gal) = 3.13.

[143] 2/21/17 Engineering Evaluation, pp. 51-52.

review.[144] The RMR is inadequate to demonstrate to demonstrate no significant health risks because it only

Table 4 summarizes health risks for the various emission units and non-permitted operational activities at the Facility before and after implementation of the Project. The values for incremental cancer risks and acute hazard index in Table 4 are either directly sourced from District permitting documents or are calculated proportionally based on tank volume. Incremental cancer risks for the off-site worker resulting from locomotive DPM emissions are based on Ms. Sears's modeling discussed in Comment III.D. While not providing absolutely correct estimates for health risks, these calculations provide a close approximation since all existing emission units are located on a small site, and, thus, health risks for workers on adjacent properties do not vary by a significant amount.

[144] *Ibid.*

Table 4: Cumulative Facility health risks including Project at worker receptor location near fenceline

Unit	Unit ID	Cancer Risk	Acute Hazard Index
Existing permitted emissions units			
420,000-gal gasoline storage tank	N-845-1	4.99e-07[2]	0.07[5]
714,000-gal organic liquid storage tank	N-845-4	8.48E-07[6]	0.13[7]
840,000-gal gasoline storage tank	N-845-5	9.97E-07[8]	0.15[8]
240,350,000 gal/year bulk loading rack	N-845-6	6.22E-06[3]	0.39[3]
20,000-gal organic liquid (not gasoline) storage tank	N-845-10	?	?
Vapor recovery unit serving N-845-6	N-845-22	2.56E-06[3]	0.27[4]
4,000-gal diesel additive storage tank	N-845-23	?	?
2,321,508-gal gasoline storage tank	N-845-24	2.76E-06[10]	0.41[11]
Existing emissions units exempt from permitting requirements			
10,000-gal additive storage tank	Tank 20	?	?
383,460-gal diesel storage tank	Tank 19	?	?
194,000-gal diesel storage tank	Tank 29	?	?
194,000-gal diesel storage tank	Tank 20	?	?
500-gal additive storage tank	Tank 275	?	?
Existing mobile source emissions			
Trucks	n/a	?	?
Facility total before Project			
Project permitted emissions units			
Remove 420,000-gal gasoline storage tank	N-845-1	(4.99e-07[2])	(0.07[5])
New 571,068-gal denatured ethanol storage tank	N-845-28	1.84E-08[1]	0.01[1]
New 1,347,627-gal gasoline storage tank	N-845-29	1.60E-06[1]	0.24[1]
New ethanol bulk offloading rack	N-845-30	4.70E-09[1]	0.01[1]
Project mobile source emissions			
Locomotives	n/a	1.5 to 2.0E-06[11]	?
Project total			
Facility cumulative total after Project		**≥1.65 to 1.70 E-05**	**≥1.61**
SJVAPCD CEQA threshold of significance		20.0E-06	1.0
Significant?		**NO**	**YES**

2 Calculated as: 4.99E-07 = (1.06E-07 for N-845-29)/(1,347,627 gal N-845-29) × (420,000 gal N-845-1)

5 Calculated as: 0.07 = (0.24 for N-845-29)/(1,347,627 gal N-845-29) × (420,000 gal N-845-1)

6 Calculated as: 8.48E-07 = (1.06E-07 for N-845-29)/(1,347,627 gal N-845-29) × (714,000 gal N-845-4)

7 Calculated as: 0.13 = (0.24 for N-845-29)/(1,347,627 gal N-845-29) × (714,000 gal N-845-4)

1 From Engineering Evaluation, Appx. I, p. 1.

8 Calculated as: 9.97E-0t = (8.07E-06 for N-845-6 determined in Prior Project HRA)/(1,000,000 gal/year N-845-6 for Prior Project) × (771,120 gal/year N-845-6 for Project)

9 Calculated as: 0.39 = (0.51 for N-845-6 determined in Prior Project HRA)/(1,000,000 gal/year N-845-6 for Prior Project) × (771,120 gal/year N-845-6 for Project)

3 Calculated as: 9.97E-06 = (3.32E-06 for N-845-22 determined in Prior Project HRA)/(1,000,000 gal/year N-845-22 for Prior Project) × (771,120 gal/year N-845-22 for Project)

4 Calculated as: 0.27 = (0.35 for N-845-22 determined in Prior Project HRA)/(1,000,000 gal/year N-845-22 for Prior Project) × (771,120 gal/year N-845-22 for Project)

11 *See* Email from Camille Sears cited in Comment III.D.

As shown, even when accounting for only eight major emissions units at the 3003 Navy Drive site – five existing emissions units (gasoline storage tanks N845-5, and N-845-24, organic liquid storage tank N845-4, bulk loading rack N-845-6 and associated vapor recovery unit N-845-22) and three new emissions units (denatured ethanol storage tank N845-28, gasoline storage tank N-845-29, and ethanol bulk offloading rack (N-845-30) – the cumulative acute hazard index for the Facility, ≥1.61, by far exceeds the District's significance threshold of 1.0. Thus, the cumulative acute health risks associated with the Facility are significant and have never undergone CEQA review.

IV. Typographical Errors in Engineering Evaluation

The Engineering Evaluation and appendices contain a number of typographical errors, including:

- The Engineering Evaluation repeatedly and incorrectly refers to Sections VII.D.4, VII.D.6, and V.II.7where the correct citations would be Sections III.D.4, III.D.6, and I.II.7.[145]
- The Engineering Evaluation, Appendix J, Tables 4 and 5 both have the same caption "On-site Locomotive Travel Exhaust Emissions at Half Throttle." Table 5 instead presents locomotive exhaust emissions for idling on site.

V. Conclusions and Recommendation

As discussed in Comment II, the Draft ATCs for the proposed modifications at the Tesoro Facility do not comply with the Provisions of the Federal and State Clean Air Acts because they a) fail to require BACT; b) underestimate VOC emissions; and c) fail to include enforceable permit conditions for emissions of VOCs and HAPs from storage tanks.

As discussed in Comment III, the District improperly exempts the Project from CEQA review because a) the scope of the Project is inconsistent with a Class 1 exemption under CEQA Guidelines §15301 for existing facilities; b) the potential increase in tanker truck trips would result in potentially significant criteria pollutant emissions and traffic impacts; c) locomotive exhaust emissions of NOx at the new denatured ethanol off-loading rack would exceed the District's CEQA threshold of significance for these pollutants; d) incremental cancer risks associated with locomotive exhaust emission at the new denatured ethanol off-loading rack would exceed the

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[145] *See* 2/21/17 Engineering Evaluation, pp. 16, 23, 24, and 28.

District's CEQA threshold of significance for cancer risks; and e) cumulative impacts due to successive modifications at the Facility exceed the District's respective significance thresholds. In sum, our analyses of the record indicate the Project would result in significant impacts on air quality, public health, and traffic.

Sincerely,

Petra Pless, D.Env.

Phyllis Fox, Ph.D., PE

Phyllis Fox, Ph.D, PE
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Dr. Fox has over 40 years of experience in the field of environmental engineering, including air pollution control (BACT, BART, MACT, LAER, RACT), greenhouse gas emissions and control, cost effectiveness analyses, water quality and water supply investigations, hydrology, hazardous waste investigations, environmental permitting, nuisance investigations (odor, noise), environmental impact reports, CEQA/NEPA documentation, risk assessments, and litigation support.

EDUCATION

Ph.D. Environmental/Civil Engineering, University of California, Berkeley, 1980.
M.S. Environmental/Civil Engineering, University of California, Berkeley, 1975.
B.S. Physics (with high honors), University of Florida, Gainesville, 1971.

REGISTRATION

Registered Professional Engineer: Arizona (2001-2014: #36701; retired), California (2002-present; CH 6058), Florida (2001-2016; #57886; retired), Georgia (2002-2014; #PE027643; retired), Washington (2002-2014; #38692; retired), Wisconsin (2005-2014; #37595-006; retired)
Board Certified Environmental Engineer, American Academy of Environmental Engineers, Certified in Air Pollution Control (DEE #01-20014), 2002-present (retired)
Qualified Environmental Professional (QEP), Institute of Professional Environmental Practice (2001-2015: QEP #02-010007, retired).

PROFESSIONAL HISTORY

Environmental Management, Principal, 1981-present
Lawrence Berkeley National Laboratory, Principal Investigator, 1977-1981
University of California, Berkeley, Program Manager, 1976-1977
Bechtel, Inc., Engineer, 1971-1976, 1964-1966

PROFESSIONAL AFFILIATIONS

American Chemical Society (1981-2010)
Phi Beta Kappa (1970-present)
Sigma Pi Sigma (1970-present)

Who's Who Environmental Registry, PH Publishing, Fort Collins, CO, 1992.

Who's Who in the World, Marquis Who's Who, Inc., Chicago, IL, 11th Ed., p. 371, 1993-present.
Who's Who of American Women, Marquis Who's Who, Inc., Chicago, IL, 13th Ed., p. 264, 1984-present.
Who's Who in Science and Engineering, Marquis Who's Who, Inc., New Providence, NJ, 5th Ed., p. 414, 1999-present.
Who's Who in America, Marquis Who's Who, Inc., 59th Ed., 2005.
Guide to Specialists on Toxic Substances, World Environment Center, New York, NY, p. 80, 1980.
National Research Council Committee on Irrigation-Induced Water Quality Problems (Selenium), Subcommittee on Quality Control/Quality Assurance (1985-1990).
National Research Council Committee on Surface Mining and Reclamation, Subcommittee on Oil Shale (1978-80)

REPRESENTATIVE EXPERIENCE

Performed environmental and engineering investigations, as outlined below, for a wide range of industrial and commercial facilities including: petroleum refineries and upgrades thereto; reformulated fuels projects; refinery upgrades to process heavy sour crudes, including tar sands and light sweet crudes from the Eagle Ford and Bakken Formations; petroleum, gasoline and ethanol distribution terminals; coal, coke, and ore/mineral export terminals; LNG export, import, and storage terminals; crude-by-rail projects; shale oil plants; crude oil/condensate marine and rail terminals; coal gasification and liquefaction plants; oil and gas production, including conventional, thermally enhanced, hydraulic fracking, and acid stimulation techniques; underground storage tanks; pipelines; compressor stations; gasoline stations; landfills; railyards; hazardous waste treatment facilities; nuclear, hydroelectric, geothermal, wood, biomass, waste, tire-derived fuel, gas, oil, coke and coal-fired power plants; transmission lines; airports; hydrogen plants; petroleum coke calcining plants; coke plants; activated carbon manufacturing facilities; asphalt plants; cement plants; incinerators; flares; manufacturing facilities (e.g., semiconductors, electronic assembly, aerospace components, printed circuit boards, amusement park rides); lanthanide processing plants; ammonia plants; nitric acid plants; urea plants; food processing plants; almond hulling facilities; composting facilities; grain processing facilities; grain elevators; ethanol production facilities; soy bean oil extraction plants; biodiesel plants; paint formulation plants; wastewater treatment plants; marine terminals and ports; gas processing plants; steel mills; iron nugget production facilities; pig iron plant, based on blast furnace technology; direct reduced iron plant; acid regeneration facilities; railcar refinishing facility; battery manufacturing plants; pesticide manufacturing and repackaging facilities; pulp and paper mills; olefin plants; methanol plants; ethylene crackers; desalination plants; selective catalytic reduction (SCR) systems; selective noncatalytic reduction (SNCR) systems; halogen acid furnaces; contaminated property redevelopment projects (e.g., Mission Bay, Southern Pacific Railyards, Moscone Center expansion, San Diego Padres Ballpark); residential developments; commercial office parks,

campuses, and shopping centers; server farms; transportation plans; and a wide range of mines including sand and gravel, hard rock, limestone, nacholite, coal, molybdenum, gold, zinc, and oil shale.

EXPERT WITNESS/LITIGATION SUPPORT

- For the California Attorney General, assist in determining compliance with probation terms in the matter of People v. Chevron USA.
- For plaintiffs, assist in developing Petitioners' proof brief for National Parks Conservation Association et al v. U.S. EPA, Petition for Review of Final Administrative Action of the U.S. EPA, In the U.S. Court of Appeals for the Third Circuit, Docket No. 14-3147.
- For plaintiffs, expert witness in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1997-2000) at the Cemex cement plant in Lyons, Colorado. Reviewed produced documents, prepared expert and rebuttal reports on PSD applicability based on NOx emission calculations for a collection of changes considered both individually and collectively. Deposed August 2011. *United States v. Cemex, Inc.*, In U.S. District Court for the District of Colorado (Civil Action No. 09-cv-00019-MSK-MEH). Case settled June 13, 2013.
- For plaintiffs, in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1988 – 2000) at James De Young Units 3, 4, and 5. Reviewed produced documents, analyzed CEMS and EIA data, and prepared netting and BACT analyses for NOx, SO2, and PM10 (PSD case). Expert report February 24, 2010 and affidavit February 20, 2010. *Sierra Club v. City of Holland, et al.*, U.S. District Court, Western District of Michigan (Civil Action 1:08-cv-1183). Case settled. Consent Decree 1/19/14.
- For plaintiffs, in civil action alleging failure to obtain MACT permit, expert on potential to emit hydrogen chloride (HCl) from a new coal-fired boiler. Reviewed record, estimated HCl emissions, wrote expert report June 2010 and March 2013 (Cost to Install a Scrubber at the Lamar Repowering Project Pursuant to Case-by-Case MACT), deposed August 2010 and March 2013. *Wildearth Guardian et al. v. Lamar Utilities Board,* Civil Action No. 09-cv-02974, U.S. District Court, District of Colorado. Case settled August 2013.
- For plaintiffs, expert witness on permitting, emission calculations, and wastewater treatment for coal-to-gasoline plant. Reviewed produced documents. Assisted in preparation of comments on draft minor source permit. Wrote two affidavits on key issues in case. Presented direct and rebuttal testimony 10/27 - 10/28/10 on permit enforceability and failure to properly calculate potential to emit, including underestimate of flaring emissions and omission of VOC and CO emissions from wastewater treatment, cooling tower, tank roof landings, and malfunctions. *Sierra Club, Ohio Valley Environmental Coalition, Coal River*

Mountain Watch, West Virginia Highlands Conservancy v. John Benedict, Director, Division of Air Quality, West Virginia Department of Environmental Protection and TransGas Development System, LLC, Appeal No. 10-01-AQB. Virginia Air Quality Board remanded the permit on March 28, 2011 ordering reconsideration of potential to emit calculations, including: (1) support for assumed flare efficiency; (2) inclusion of startup, shutdown and malfunction emissions; and (3) inclusion of wastewater treatment emissions in potential to emit calculations.

- For plaintiffs, expert on BACT emission limits for gas-fired combined cycle power plant. Prepared declaration in support of CBE's Opposition to the United States' Motion for Entry of Proposed Amended Consent Decree. Assisted in settlement discussions. *U.S. EPA, Plaintiff, Communities for a Better Environment, Intervenor Plaintiff, v. Pacific Gas & Electric Company, et al.*, U.S. District Court, Northern District of California, San Francisco Division, Case No. C-09-4503 SI.
- Technical expert in confidential settlement discussions with large coal-fired utility on BACT control technology and emission limits for NOx, SO2, PM, PM2.5, and CO for new natural gas fired combined cycle and simple cycle turbines with oil backup. (July 2010). Case settled.
- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1998-99) at Gallagher Units 1 and 3. Reviewed produced documents, prepared expert and rebuttal reports on historic and current-day BACT for SO2, control costs, and excess emissions of SO2. Deposed 11/18/09. *United States et al. v. Cinergy, et al.*, In U.S. District Court for the Southern District of Indiana, Indianapolis Division, Civil Action No. IP99-1693 C-M/S. Settled 12/22/09.
- For plaintiffs, expert witness on MACT, BACT for NOx, and enforceability in an administrative appeal of draft state air permit issued for four 300-MW pet-coke-fired CFBs. Reviewed produced documents and prepared prefiled testimony. Deposed 10/8/09 and 11/9/09. Testified 11/10/09. *Application of Las Brisas Energy Center, LLC for State Air Quality Permit*; before the State Office of Administrative Hearings, Texas. Permit remanded 3/29/10 as LBEC failed to meet burden of proof on a number of issues including MACT. Texas Court of Appeals dismissed an appeal to reinstate the permit. The Texas Commission on Environmental Quality and Las Brisas Energy Center, LLC sought to overturn the Court of Appeals decision but moved to have their appeal dismissed in August 2013.
- For defense, expert witness in unlawful detainer case involving a gasoline station, minimart, and residential property with contamination from leaking underground storage tanks. Reviewed agency files and inspected site. Presented expert testimony on July 6, 2009, on causes of, nature and extent of subsurface contamination. *A. Singh v. S. Assaedi,* in Contra Costa County Superior Court, CA. Settled August 2009.

- For plaintiffs, expert witness on netting and enforceability for refinery being upgraded to process tar sands crude. Reviewed produced documents. Prepared expert and rebuttal reports addressing use of emission factors for baseline, omitted sources including coker, flares, tank landings and cleaning, and enforceability. Deposed. *In the Matter of Objection to the Issuance of Significant Source Modification Permit No. 089-25484-00453 to BP Products North America Inc., Whiting Business Unit, Save the Dunes Council, Inc., Sierra Club., Inc., Hoosier Environmental Council et al., Petitioners, B. P. Products North American, Respondents/Permittee,* before the Indiana Office of Environmental Adjudication. Case settled.
- For plaintiffs, expert witness on BACT, MACT, and enforceability in appeal of Title V permit issued to 600 MW coal-fired power plant burning Powder River Basin coal. Prepared technical comments on draft air permit. Reviewed record on appeal, drafted BACT, MACT, and enforceability pre-filed testimony. Drafted MACT and enforceability pre-filed rebuttal testimony. Deposed March 24, 2009. Testified June 10, 2009. *In Re: Southwestern Electric Power Company*, Arkansas Pollution Control and Ecology Commission, Consolidated Docket No. 08-006-P. Recommended Decision issued December 9, 2009 upholding issued permit. Commission adopted Recommended Decision January 22, 2010.
- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1989-1992) at Wabash Units 2, 3 and 5. Reviewed produced documents, prepared expert and rebuttal report on historic and current-day BACT for NOx and SO2, control costs, and excess emissions of NOx, SO2, and mercury. Deposed 10/21/08. *United States et al. v. Cinergy, et al.*, In U.S. District Court for the Southern District of Indiana, Indianapolis Division, Civil Action No. IP99-1693 C-M/S. Testified 2/3/09. Memorandum Opinion & Order 5-29-09 requiring shutdown of Wabash River Units 2, 3, 5 by September 30, 2009, run at baseline until shutdown, and permanently surrender SO2 emission allowances.
- For plaintiffs, expert witness in liability phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for three historic modifications (1997-2001) at two portland cement plants involving three cement kilns. Reviewed produced documents, analyzed CEMS data covering subject period, prepared netting analysis for NOx, SO_2 and CO, and prepared expert and rebuttal reports. *United States v. Cemex California Cement,* In U.S. District Court for the Central District of California, Eastern Division, Case No. ED CV 07-00223-GW (JCRx). Settled 1/15/09.
- For intervenors Clean Wisconsin and Citizens Utility Board, prepared data requests, reviewed discovery and expert report. Prepared prefiled direct, rebuttal and surrebuttal testimony on cost to extend life of existing Oak Creek Units 5-8 and cost to address future regulatory requirements to determine whether to control or shutdown one or more of the units. Oral testimony 2/5/08. Application for a Certificate of Authority to Install Wet Flue Gas Desulfurization and Selective Catalytic Reduction Facilities and Associated Equipment

for Control of Sulfur Dioxide and Nitrogen Oxide Emissions at Oak Creek Power Plant Units 5, 6, 7 and 8, WPSC Docket No. 6630-CE-299.

- For plaintiffs, expert witness on alternatives analysis and BACT for NOx, SO2, total PM10, and sulfuric acid mist in appeal of PSD permit issued to 1200 MW coal fired power plant burning Powder River Basin and/or Central Appalachian coal (Longleaf). Assisted in drafting technical comments on NOx on draft permit. Prepared expert disclosure. Presented 8+ days of direct and rebuttal expert testimony. Attended all 21 days of evidentiary hearing from 9/5/07 – 10/30/07 assisting in all aspects of hearing. *Friends of the Chatahooche and Sierra Club v. Dr. Carol Couch, Director, Environmental Protection Division of Natural Resources Department, Respondent, and Longleaf Energy Associates, Intervener.* ALJ Final Decision 1/11/08 denying petition. ALJ Order vacated & remanded for further proceedings, Fulton County Superior Court, 6/30/08. Court of Appeals of GA remanded the case with directions that the ALJ's final decision be vacated to consider the evidence under the correct standard of review, July 9, 2009. The ALJ issued an opinion April 2, 2010 in favor of the applicant. Final permit issued April 2010.
- For plaintiffs, expert witness on diesel exhaust in inverse condemnation case in which Port expanded maritime operations into residential neighborhoods, subjecting plaintiffs to noise, light, and diesel fumes. Measured real-time diesel particulate concentrations from marine vessels and tug boats on plaintiffs' property. Reviewed documents, depositions, DVDs, and photographs provided by counsel. Deposed. Testified October 24, 2006. *Ann Chargin, Richard Hackett, Carolyn Hackett, et al. v. Stockton Port District*, Superior Court of California, County of San Joaquin, Stockton Branch, No. CV021015. Judge ruled for plaintiffs.
- For plaintiffs, expert witness on NOx emissions and BACT in case alleging failure to obtain necessary permits and install controls on gas-fired combined-cycle turbines. Prepared and reviewed (applicant analyses) of NOx emissions, BACT analyses (water injection, SCR, ultra low NOx burners), and cost-effectiveness analyses based on site visit, plant operating records, stack tests, CEMS data, and turbine and catalyst vendor design information. Participated in negotiations to scope out consent order. *United States v. Nevada Power.* Case settled June 2007, resulting in installation of dry low NOx burners (5 ppm NOx averaged over 1 hr) on four units and a separate solar array at a local business.
- For plaintiffs, expert witness in appeal of PSD permit issued to 850 MW coal fired boiler burning Powder River Basin coal (Iatan Unit 2) on BACT for particulate matter, sulfuric acid mist and opacity and emission calculations for alleged historic violations of PSD. Assisted in drafting technical comments, petition for review, discovery requests, and responses to discovery requests. Reviewed produced documents. Prepared expert report on BACT for particulate matter. Assisted with expert depositions. Deposed February 7, 8, 27, and 28, 2007. *In Re PSD Construction Permit Issued to Great Plains Energy, Kansas City Power & Light – Iatan Generating Station, Sierra Club v. Missouri Department of Natural Resources,*

Great Plains Energy, and Kansas City Power & Light. Case settled March 27, 2007, providing offsets for over 6 million ton/yr of CO2 and lower NOx and SO_2 emission limits.

- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications of coal-fired boilers and associated equipment. Reviewed produced documents, prepared expert report on cost to retrofit 24 coal-fired power plants with scrubbers designed to remove 99% of the sulfur dioxide from flue gases. Prepared supplemental and expert report on cost estimates and BACT for SO2 for these 24 complaint units. Deposed 1/30/07 and 3/14/07. *United States and State of New York et al. v. American Electric Power*, In U.S. District Court for the Southern District of Ohio, Eastern Division, Consolidated Civil Action Nos. C2-99-1182 and C2-99-1250. Settlement announced 10/9/07.
- For plaintiffs, expert witness on BACT, enforceability, and alternatives analysis in appeal of PSD permit issued for a 270-MW pulverized coal fired boiler burning Powder River Basin coal (City Utilities Springfield Unit 2). Reviewed permitting file and assisted counsel draft petition and prepare and respond to interrogatories and document requests. Reviewed interrogatory responses and produced documents. Assisted with expert depositions. Deposed August 2005. Evidentiary hearings October 2005. *In the Matter of Linda Chipperfield and Sierra Club v. Missouri Department of Natural Resources.* Missouri Supreme Court denied review of adverse lower court rulings August 2007.
- For plaintiffs, expert witness in civil action relating to plume touchdowns at AEP's Gavin coal-fired power plant. Assisted counsel draft interrogatories and document requests. Reviewed responses to interrogatories and produced documents. Prepared expert report "Releases of Sulfuric Acid Mist from the Gavin Power Station." The report evaluates sulfuric acid mist releases to determine if AEP complied with the requirements of CERCLA Section 103(a) and EPCRA Section 304. This report also discusses the formation, chemistry, release characteristics, and abatement of sulfuric acid mist in support of the claim that these releases present an imminent and substantial endangerment to public health under Section 7002(a)(1)(B) of the Resource Conservation and Recovery Act ("RCRA"). *Citizens Against Pollution v. Ohio Power Company*, In the U.S. District Court for the Southern District of Ohio, Eastern Division, Civil Action No. 2-04-cv-371. Case settled 12-8-06.
- For petitioners, expert witness in contested case hearing on BACT, enforceability, and emission estimates for an air permit issued to a 500-MW supercritical Power River Basin coal-fired boiler (Weston Unit 4). Assisted counsel prepare comments on draft air permit and respond to and draft discovery. Reviewed produced file, deposed (7/05), and prepared expert report on BACT and enforceability. Evidentiary hearings September 2005. *In the Matter of an Air Pollution Control Construction Permit Issued to Wisconsin Public Service Corporation for the Construction and Operation of a 500 MW Pulverized Coal-fired Power Plant Known as Weston Unit 4 in Marathon County, Wisconsin*, Case No. IH-04-21. The Final Order, issued 2/10/06, lowered the NOx BACT limit from 0.07 lb/MMBtu to 0.06

lb/MMBtu based on a 30-day average, added a BACT SO2 control efficiency, and required a 0.0005% high efficiency drift eliminator as BACT for the cooling tower. The modified permit, including these provisions, was issued 3/28/07. Additional appeals in progress.

- For plaintiffs, adviser on technical issues related to Citizen Suit against U.S. EPA regarding failure to update New Source Performance Standards for petroleum refineries, 40 CFR 60, Subparts J, VV, and GGG. *Our Children's Earth Foundation and Sierra Club v. U.S. EPA et al.* Case settled July 2005. CD No. C 05-00094 CW, U.S. District Court, Northern District of California – Oakland Division. Proposed revisions to standards of performance for petroleum refineries published 72 FR 27178 (5/14/07).
- For interveners, reviewed proposed Consent Decree settling Clean Air Act violations due to historic modifications of boilers and associated equipment at two coal-fired power plants. In response to stay order, reviewed the record, selected one representative activity at each of seven generating units, and analyzed to identify CAA violations. Identified NSPS and NSR violations for NOx, SO_2, PM/PM10, and sulfuric acid mist. Summarized results in an expert report. *United States of America, and Michael A. Cox, Attorney General of the State of Michigan, ex rel. Michigan Department of Environmental Quality, Plaintiffs, and Clean Wisconsin, Sierra Club, and Citizens' Utility Board, Intervenors, v. Wisconsin Electric Power Company, Defendant*, U.S. District Court for the Eastern District of Wisconsin, Civil Action No. 2:03-CV-00371-CNC. Order issued 10-1-07 denying petition.
- For a coalition of Nevada labor organizations (ACE), reviewed preliminary determination to issue a Class I Air Quality Operating Permit to Construct and supporting files for a 250-MW pulverized coal-fired boiler (Newmont). Prepared about 100 pages of technical analyses and comments on BACT, MACT, emission calculations, and enforceability. Assisted counsel draft petition and reply brief appealing PSD permit to U.S. EPA Environmental Appeals Board (EAB). Order denying review issued 12/21/05. *In re Newmont Nevada Energy Investment, LLC, TS Power Plant*, PSD Appeal No. 05-04 (EAB 2005).
- For petitioners and plaintiffs, reviewed and prepared comments on air quality and hazardous waste based on negative declaration for refinery ultra low sulfur diesel project located in SCAQMD. Reviewed responses to comments and prepared responses. Prepared declaration and presented oral testimony before SCAQMD Hearing Board on exempt sources (cooling towers) and calculation of potential to emit under NSR. Petition for writ of mandate filed March 2005. Case remanded by Court of Appeals to trial court to direct SCAQMD to re-evaluate the potential environmental significance of NOx emissions resulting from the project in accordance with court's opinion. California Court of Appeals, Second Appellate Division, on December 18, 2007, affirmed in part (as to baseline) and denied in part. *Communities for a Better Environment v. South Coast Air Quality Management District and ConocoPhillips and Carlos Valdez et al v. South Coast Air Quality Management District and ConocoPhillips.* Certified for partial publication 1/16/08. Appellate Court opinion upheld by CA Supreme Court 3/15/10. *(2010) 48 Cal.4th 310.*

- For amici seeking to amend a proposed Consent Decree to settle alleged NSR violations at Chevron refineries, reviewed proposed settlement, related files, subject modifications, and emission calculations. Prepared declaration on emission reductions, identification of NSR and NSPS violations, and BACT/LAER for FCCUs, heaters and boilers, flares, and sulfur recovery plants. *U.S. et al. v. Chevron U.S.A.*, Northern District of California, Case No. C 03-04650. Memorandum and Order Entering Consent Decree issued June 2005. Case No. C 03-4650 CRB.
- For petitioners, prepared declaration on enforceability of periodic monitoring requirements, in response to EPA's revised interpretation of 40 CFR 70.6(c)(1). This revision limited additional monitoring required in Title V permits. 69 FR 3203 (Jan. 22, 2004). *Environmental Integrity Project et al. v. EPA* (U.S. Court of Appeals for the District of Columbia). Court ruled the Act requires all Title V permits to contain monitoring requirements to assure compliance. *Sierra Club v. EPA*, 536 F.3d 673 (D.C. Cir. 2008).
- For interveners in application for authority to construct a 500 MW supercritical coal-fired generating unit before the Wisconsin Public Service Commission, prepared pre-filed written direct and rebuttal testimony with oral cross examination and rebuttal on BACT and MACT (Weston 4). Prepared written comments on BACT, MACT, and enforceability on draft air permit for same facility.
- For property owners in Nevada, evaluated the environmental impacts of a 1,450-MW coal-fired power plant proposed in a rural area adjacent to the Black Rock Desert and Granite Range, including emission calculations, air quality modeling, comments on proposed use permit to collect preconstruction monitoring data, and coordination with agencies and other interested parties. Project cancelled.
- For environmental organizations, reviewed draft PSD permit for a 600-MW coal-fired power plant in West Virginia (Longview). Prepared comments on permit enforceability; coal washing; BACT for SO_2 and PM10; Hg MACT; and MACT for HCl, HF, non-Hg metallic HAPs, and enforceability. Assist plaintiffs draft petition appealing air permit. Retained as expert to develop testimony on MACT, BACT, offsets, enforceability. Participate in settlement discussions. Case settled July 2004.
- For petitioners, reviewed record produced in discovery and prepared affidavit on emissions of carbon monoxide and volatile organic compounds during startup of GE 7FA combustion turbines to successfully establish plaintiff standing. *Sierra Club et al. v. Georgia Power Company* (Northern District of Georgia).
- For building trades, reviewed air quality permitting action for 1500-MW coal-fired power plant before the Kentucky Department for Environmental Protection (Thoroughbred).
- For petitioners, expert witness in administrative appeal of the PSD/Title V permit issued to a 1500-MW coal-fired power plant. Reviewed over 60,000 pages of produced documents, prepared discovery index, identified and assembled plaintiff exhibits. Deposed. Assisted

counsel in drafting discovery requests, with over 30 depositions, witness cross examination, and brief drafting. Presented over 20 days of direct testimony, rebuttal and sur-rebuttal, with cross examination on BACT for NOx, SO_2, and PM/PM10; MACT for Hg and non-Hg metallic HAPs; emission estimates for purposes of Class I and II air modeling; risk assessment; and enforceability of permit limits. Evidentiary hearings from November 2003 to June 2004. *Sierra Club et al. v. Natural Resources & Environmental Protection Cabinet, Division of Air Quality and Thoroughbred Generating Company et al.* Hearing Officer Decision issued August 9, 2005 finding in favor of plaintiffs on counts as to risk, BACT (IGCC/CFB, NOx, SO_2, Hg, Be), single source, enforceability, and errors and omissions. Assist counsel draft exceptions. Cabinet Secretary issued Order April 11, 2006 denying Hearing Offer's report, except as to NOx BACT, Hg, 99% SO2 control and certain errors and omissions.

- For citizens group in Massachusetts, reviewed, commented on, and participated in permitting of pollution control retrofits of coal-fired power plant (Salem Harbor).
- Assisted citizens group and labor union challenge issuance of conditional use permit for a 317,000 ft^2 discount store in Honolulu without any environmental review. In support of a motion for preliminary injunction, prepared 7-page declaration addressing public health impacts of diesel exhaust from vehicles serving the Project. In preparation for trial, prepared 20-page preliminary expert report summarizing results of diesel exhaust and noise measurements at two big box retail stores in Honolulu, estimated diesel PM10 concentrations for Project using ISCST, prepared a cancer health risk assessment based on these analyses, and evaluated noise impacts.
- Assisted environmental organizations to challenge the DOE Finding of No Significant Impact (FONSI) for the Baja California Power and Sempra Energy Resources Cross-Border Transmissions Lines in the U.S. and four associated power plants located in Mexico (DOE EA-1391). Prepared 20-page declaration in support of motion for summary judgment addressing emissions, including CO_2 and NH_3, offsets, BACT, cumulative air quality impacts, alternative cooling systems, and water use and water quality impacts. Plaintiff's motion for summary judgment granted in part. U.S. District Court, Southern District decision concluded that the Environmental Assessment and FONSI violated NEPA and the APA due to their inadequate analysis of the potential controversy surrounding the project, water impacts, impacts from NH_3 and CO_2, alternatives, and cumulative impacts. *Border Power Plant Working Group v. Department of Energy and Bureau of Land Management*, Case No. 02-CV-513-IEG (POR) (May 2, 2003).
- For Sacramento school, reviewed draft air permit issued for diesel generator located across from playfield. Prepared comments on emission estimates, enforceability, BACT, and health impacts of diesel exhaust. Case settled. BUG trap installed on the diesel generator.
- Assisted unions in appeal of Title V permit issued by BAAQMD to carbon plant that manufactured coke. Reviewed District files, identified historic modifications that should have triggered PSD review, and prepared technical comments on Title V permit. Reviewed

responses to comments and assisted counsel draft appeal to BAAQMD hearing board, opening brief, motion to strike, and rebuttal brief. Case settled.

- Assisted California Central Coast city obtain controls on a proposed new city that would straddle the Ventura-Los Angeles County boundary. Reviewed several environmental impact reports, prepared an air quality analysis, a diesel exhaust health risk assessment, and detailed review comments. Governor intervened and State dedicated the land for conservation purposes April 2004.
- Assisted Central California city to obtain controls on large alluvial sand quarry and asphalt plant proposing a modernization. Prepared comments on Negative Declaration on air quality, public health, noise, and traffic. Evaluated process flow diagrams and engineering reports to determine whether proposed changes increased plant capacity or substantially modified plant operations. Prepared comments on application for categorical exemption from CEQA. Presented testimony to County Board of Supervisors. Developed controls to mitigate impacts. Assisted counsel draft Petition for Writ. Case settled June 2002. Substantial improvements in plant operations were obtained including cap on throughput, dust control measures, asphalt plant loadout enclosure, and restrictions on truck routes.
- Assisted oil companies on the California Central Coast in defending class action citizen's lawsuit alleging health effects due to emissions from gas processing plant and leaking underground storage tanks. Reviewed regulatory and other files and advised counsel on merits of case. Case settled November 2001.
- Assisted oil company on the California Central Coast in defending property damage claims arising out of a historic oil spill. Reviewed site investigation reports, pump tests, leachability studies, and health risk assessments, participated in design of additional site characterization studies to assess health impacts, and advised counsel on merits of case. Prepare health risk assessment.
- Assisted unions in appeal of Initial Study/Negative Declaration ("IS/ND") for an MTBE phaseout project at a Bay Area refinery. Reviewed IS/ND and supporting agency permitting files and prepared technical comments on air quality, groundwater, and public health impacts. Reviewed responses to comments and final IS/ND and ATC permits and assisted counsel to draft petitions and briefs appealing decision to Air District Hearing Board. Presented sworn direct and rebuttal testimony with cross examination on groundwater impacts of ethanol spills on hydrocarbon contamination at refinery. Hearing Board ruled 5 to 0 in favor of appellants, remanding ATC to district to prepare an EIR.
- Assisted Florida cities in challenging the use of diesel and proposed BACT determinations in prevention of significant deterioration (PSD) permits issued to two 510-MW simple cycle peaking electric generating facilities and one 1,080-MW simple cycle/combined cycle facility. Reviewed permit applications, draft permits, and FDEP engineering evaluations, assisted counsel in drafting petitions and responding to discovery. Participated in settlement discussions. Cases settled or applications withdrawn.

- Assisted large California city in federal lawsuit alleging peaker power plant was violating its federal permit. Reviewed permit file and applicant's engineering and cost feasibility study to reduce emissions through retrofit controls. Advised counsel on feasible and cost-effective NOx, SOx, and PM10 controls for several 1960s diesel-fired Pratt and Whitney peaker turbines. Case settled.
- Assisted coalition of Georgia environmental groups in evaluating BACT determinations and permit conditions in PSD permits issued to several large natural gas-fired simple cycle and combined-cycle power plants. Prepared technical comments on draft PSD permits on BACT, enforceability of limits, and toxic emissions. Reviewed responses to comments, advised counsel on merits of cases, participated in settlement discussions, presented oral and written testimony in adjudicatory hearings, and provided technical assistance as required. Cases settled or won at trial.
- Assisted construction unions in review of air quality permitting actions before the Indiana Department of Environmental Management ("IDEM") for several natural gas-fired simple cycle peaker and combined cycle power plants.
- Assisted coalition of towns and environmental groups in challenging air permits issued to 523 MW dual fuel (natural gas and distillate) combined-cycle power plant in Connecticut. Prepared technical comments on draft permits and 60 pages of written testimony addressing emission estimates, startup/shutdown issues, BACT/LAER analyses, and toxic air emissions. Presented testimony in adjudicatory administrative hearings before the Connecticut Department of Environmental Protection in June 2001 and December 2001.
- Assisted various coalitions of unions, citizens groups, cities, public agencies, and developers in licensing and permitting of over 110 coal, gas, oil, biomass, and pet coke-fired power plants generating over 75,000 MW of electricity. These included base-load, combined cycle, simple cycle, and peaker power plants in Alaska, Arizona, Arkansas, California, Colorado, Georgia, Florida, Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio, Oklahoma, Oregon, Texas, West Virginia, Wisconsin, and elsewhere. Prepared analyses of and comments on applications for certification, preliminary and final staff assessments, and various air, water, wastewater, and solid waste permits issued by local agencies. Presented written and oral testimony before various administrative bodies on hazards of ammonia use and transportation, health effects of air emissions, contaminated property issues, BACT/LAER issues related to SCR and SCONOx, criteria and toxic pollutant emission estimates, MACT analyses, air quality modeling, water supply and water quality issues, and methods to reduce water use, including dry cooling, parallel dry-wet cooling, hybrid cooling, and zero liquid discharge systems.
- Assisted unions, cities, and neighborhood associations in challenging an EIR issued for the proposed expansion of the Oakland Airport. Reviewed two draft EIRs and prepared a health risk assessment and extensive technical comments on air quality and public health impacts. The California Court of Appeals, First Appellate District, ruled in favor of appellants and

plaintiffs, concluding that the EIR "2) erred in using outdated information in assessing the emission of toxic air contaminants (TACs) from jet aircraft; 3) failed to support its decision not to evaluate the health risks associated with the emission of TACs with meaningful analysis," thus accepting my technical arguments and requiring the Port to prepare a new EIR. See *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (August 30, 2001) 111 Cal.Rptr.2d 598.

- Assisted lessor of former gas station with leaking underground storage tanks and TCE contamination from adjacent property. Lessor held option to purchase, which was forfeited based on misrepresentation by remediation contractor as to nature and extent of contamination. Remediation contractor purchased property. Reviewed regulatory agency files and advised counsel on merits of case. Case not filed.
- Advised counsel on merits of several pending actions, including a Proposition 65 case involving groundwater contamination at an explosives manufacturing firm and two former gas stations with leaking underground storage tanks.
- Assisted defendant foundry in Oakland in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from foundry operation. Inspected and sampled plaintiff's property. Advised counsel on merits of case. Case settled.
- Assisted business owner facing eminent domain eviction. Prepared technical comments on a negative declaration for soil contamination and public health risks from air emissions from a proposed redevelopment project in San Francisco in support of a CEQA lawsuit. Case settled.
- Assisted neighborhood association representing residents living downwind of a Berkeley asphalt plant in separate nuisance and CEQA lawsuits. Prepared technical comments on air quality, odor, and noise impacts, presented testimony at commission and council meetings, participated in community workshops, and participated in settlement discussions. Cases settled. Asphalt plant was upgraded to include air emission and noise controls, including vapor collection system at truck loading station, enclosures for noisy equipment, and improved housekeeping.
- Assisted a Fortune 500 residential home builder in claims alleging health effects from faulty installation of gas appliances. Conducted indoor air quality study, advised counsel on merits of case, and participated in discussions with plaintiffs. Case settled.
- Assisted property owners in Silicon Valley in lawsuit to recover remediation costs from insurer for large TCE plume originating from a manufacturing facility. Conducted investigations to demonstrate sudden and accidental release of TCE, including groundwater modeling, development of method to date spill, preparation of chemical inventory, investigation of historical waste disposal practices and standards, and on-site sewer and storm drainage inspections and sampling. Prepared declaration in opposition to motion for summary judgment. Case settled.

- Assisted residents in east Oakland downwind of a former battery plant in class action lawsuit alleging property contamination from lead emissions. Conducted historical research and dry deposition modeling that substantiated claim. Participated in mediation at JAMS. Case settled.
- Assisted property owners in West Oakland who purchased a former gas station that had leaking underground storage tanks and groundwater contamination. Reviewed agency files and advised counsel on merits of case. Prepared declaration in opposition to summary judgment. Prepared cost estimate to remediate site. Participated in settlement discussions. Case settled.
- Consultant to counsel representing plaintiffs in two Clean Water Act lawsuits involving selenium discharges into San Francisco Bay from refineries. Reviewed files and advised counsel on merits of case. Prepared interrogatory and discovery questions, assisted in deposing opposing experts, and reviewed and interpreted treatability and other technical studies. Judge ruled in favor of plaintiffs.
- Assisted oil company in a complaint filed by a resident of a small California beach community alleging that discharges of tank farm rinse water into the sanitary sewer system caused hydrogen sulfide gas to infiltrate residence, sending occupants to hospital. Inspected accident site, interviewed parties to the event, and reviewed extensive agency files related to incident. Used chemical analysis, field simulations, mass balance calculations, sewer hydraulic simulations with SWMM44, atmospheric dispersion modeling with SCREEN3, odor analyses, and risk assessment calculations to demonstrate that the incident was caused by a faulty drain trap and inadequate slope of sewer lateral on resident's property. Prepared a detailed technical report summarizing these studies. Case settled.
- Assisted large West Coast city in suit alleging that leaking underground storage tanks on city property had damaged the waterproofing on downgradient building, causing leaks in an underground parking structure. Reviewed subsurface hydrogeologic investigations and evaluated studies conducted by others documenting leakage from underground diesel and gasoline tanks. Inspected, tested, and evaluated waterproofing on subsurface parking structure. Waterproofing was substandard. Case settled.
- Assisted residents downwind of gravel mine and asphalt plant in Siskiyou County, California, in suit to obtain CEQA review of air permitting action. Prepared two declarations analyzing air quality and public health impacts. Judge ruled in favor of plaintiffs, closing mine and asphalt plant.
- Assisted defendant oil company on the California Central Coast in class action lawsuit alleging property damage and health effects from subsurface petroleum contamination. Reviewed documents, prepared risk calculations, and advised counsel on merits of case. Participated in settlement discussions. Case settled.

- Assisted defendant oil company in class action lawsuit alleging health impacts from remediation of petroleum contaminated site on California Central Coast. Reviewed documents, designed and conducted monitoring program, and participated in settlement discussions. Case settled.
- Consultant to attorneys representing irrigation districts and municipal water districts to evaluate a potential challenge of USFWS actions under CVPIA section 3406(b)(2). Reviewed agency files and collected and analyzed hydrology, water quality, and fishery data. Advised counsel on merits of case. Case not filed.
- Assisted residents downwind of a Carson refinery in class action lawsuit involving soil and groundwater contamination, nuisance, property damage, and health effects from air emissions. Reviewed files and provided advise on contaminated soil and groundwater, toxic emissions, and health risks. Prepared declaration on refinery fugitive emissions. Prepared deposition questions and reviewed deposition transcripts on air quality, soil contamination, odors, and health impacts. Case settled.
- Assisted residents downwind of a Contra Costa refinery who were affected by an accidental release of naphtha. Characterized spilled naphtha, estimated emissions, and modeled ambient concentrations of hydrocarbons and sulfur compounds. Deposed. Presented testimony in binding arbitration at JAMS. Judge found in favor of plaintiffs.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects from several large accidents as well as routine operations. Reviewed files and prepared analyses of environmental impacts. Prepared declarations, deposed, and presented testimony before jury in one trial and judge in second. Case settled.
- Assisted business owner claiming damages from dust, noise, and vibration during a sewer construction project in San Francisco. Reviewed agency files and PM10 monitoring data and advised counsel on merits of case. Case settled.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects. Prepared declaration in opposition to summary judgment, deposed, and presented expert testimony on accidental releases, odor, and nuisance before jury. Case thrown out by judge, but reversed on appeal and not retried.
- Presented testimony in small claims court on behalf of residents claiming health effects from hydrogen sulfide from flaring emissions triggered by a power outage at a Contra Costa County refinery. Analyzed meteorological and air quality data and evaluated potential health risks of exposure to low concentrations of hydrogen sulfide. Judge awarded damages to plaintiffs.
- Assisted construction unions in challenging PSD permit for an Indiana steel mill. Prepared technical comments on draft PSD permit, drafted 70-page appeal of agency permit action to

the Environmental Appeals Board challenging permit based on faulty BACT analysis for electric arc furnace and reheat furnace and faulty permit conditions, among others, and drafted briefs responding to four parties. EPA Region V and the EPA General Counsel intervened as amici, supporting petitioners. EAB ruled in favor of petitioners, remanding permit to IDEM on three key issues, including BACT for the reheat furnace and lead emissions from the EAF. Drafted motion to reconsider three issues. Prepared 69 pages of technical comments on revised draft PSD permit. Drafted second EAB appeal addressing lead emissions from the EAF and BACT for reheat furnace based on European experience with SCR/SNCR. Case settled. Permit was substantially improved. See *In re: Steel Dynamics, Inc.*, PSD Appeal Nos. 99-4 & 99-5 (EAB June 22, 2000).

- Assisted defendant urea manufacturer in Alaska in negotiations with USEPA to seek relief from penalties for alleged violations of the Clean Air Act. Reviewed and evaluated regulatory files and monitoring data, prepared technical analysis demonstrating that permit limits were not violated, and participated in negotiations with EPA to dismiss action. Fines were substantially reduced and case closed.
- Assisted construction unions in challenging PSD permitting action for an Indiana grain mill. Prepared technical comments on draft PSD permit and assisted counsel draft appeal of agency permit action to the Environmental Appeals Board challenging permit based on faulty BACT analyses for heaters and boilers and faulty permit conditions, among others. Case settled.
- As part of a consent decree settling a CEQA lawsuit, assisted neighbors of a large west coast port in negotiations with port authority to secure mitigation for air quality impacts. Prepared technical comments on mobile source air quality impacts and mitigation and negotiated a $9 million CEQA mitigation package. Represented neighbors on technical advisory committee established by port to implement the air quality mitigation program. Program successfully implemented.
- Assisted construction unions in challenging permitting action for a California hazardous waste incinerator. Prepared technical comments on draft permit, assisted counsel prepare appeal of EPA permit to the Environmental Appeals Board. Participated in settlement discussions on technical issues with applicant and EPA Region 9. Case settled.
- Assisted environmental group in challenging DTSC Negative Declaration on a hazardous waste treatment facility. Prepared technical comments on risk of upset, water, and health risks. Writ of mandamus issued.
- Assisted several neighborhood associations and cities impacted by quarries, asphalt plants, and cement plants in Alameda, Shasta, Sonoma, and Mendocino counties in obtaining mitigations for dust, air quality, public health, traffic, and noise impacts from facility operations and proposed expansions.

- For over 100 industrial facilities, commercial/campus, and redevelopment projects, developed the record in preparation for CEQA and NEPA lawsuits. Prepared technical comments on hazardous materials, solid wastes, public utilities, noise, worker safety, air quality, public health, water resources, water quality, traffic, and risk of upset sections of EIRs, EISs, FONSIs, initial studies, and negative declarations. Assisted counsel in drafting petitions and briefs and prepared declarations.
- For several large commercial development projects and airports, assisted applicant and counsel prepare defensible CEQA documents, respond to comments, and identify and evaluate "all feasible" mitigation to avoid CEQA challenges. This work included developing mitigation programs to reduce traffic-related air quality impacts based on energy conservation programs, solar, low-emission vehicles, alternative fuels, exhaust treatments, and transportation management associations.

SITE INVESTIGATION/REMEDIATION/CLOSURE

- Technical manager and principal engineer for characterization, remediation, and closure of waste management units at former Colorado oil shale plant. Constituents of concern included BTEX, As, 1,1,1-TCA, and TPH. Completed groundwater monitoring programs, site assessments, work plans, and closure plans for seven process water holding ponds, a refinery sewer system, and processed shale disposal area. Managed design and construction of groundwater treatment system and removal actions and obtained clean closure.
- Principal engineer for characterization, remediation, and closure of process water ponds at a former lanthanide processing plant in Colorado. Designed and implemented groundwater monitoring program and site assessments and prepared closure plan.
- Advised the city of Sacramento on redevelopment of two former railyards. Reviewed work plans, site investigations, risk assessment, RAPS, RI/FSs, and CEQA documents. Participated in the development of mitigation strategies to protect construction and utility workers and the public during remediation, redevelopment, and use of the site, including buffer zones, subslab venting, rail berm containment structure, and an environmental oversight plan.
- Provided technical support for the investigation of a former sanitary landfill that was redeveloped as single family homes. Reviewed and/or prepared portions of numerous documents, including health risk assessments, preliminary endangerment assessments, site investigation reports, work plans, and RI/FSs. Historical research to identify historic waste disposal practices to prepare a preliminary endangerment assessment. Acquired, reviewed, and analyzed the files of 18 federal, state, and local agencies, three sets of construction field notes, analyzed 21 aerial photographs and interviewed 14 individuals associated with operation of former landfill. Assisted counsel in defending lawsuit brought by residents

alleging health impacts and diminution of property value due to residual contamination. Prepared summary reports.

- Technical oversight of characterization and remediation of a nitrate plume at an explosives manufacturing facility in Lincoln, CA. Provided interface between owners and consultants. Reviewed site assessments, work plans, closure plans, and RI/FSs.
- Consultant to owner of large western molybdenum mine proposed for NPL listing. Participated in negotiations to scope out consent order and develop scope of work. Participated in studies to determine premining groundwater background to evaluate applicability of water quality standards. Served on technical committees to develop alternatives to mitigate impacts and close the facility, including resloping and grading, various thickness and types of covers, and reclamation. This work included developing and evaluating methods to control surface runoff and erosion, mitigate impacts of acid rock drainage on surface and ground waters, and stabilize nine waste rock piles containing 328 million tons of pyrite-rich, mixed volcanic waste rock (andesites, rhyolite, tuff). Evaluated stability of waste rock piles. Represented client in hearings and meetings with state and federal oversight agencies.

REGULATORY (PARTIAL LIST)

- In March 2017, reviewed Negative Declaration for Ellmore geothermal facility in Imperial County, California and prepared summary of issues.
- In March 2017, prepared response to Phillips 66 Company's Appeal of the San Luis Obispo County Planning Commission's Decision Denying the Rail Spur Extension Project Proposed for the Santa Maria Refinery.
- In February 2017, prepared comments on Kalama draft Title V permit for 10,000 MT/day methanol production and marine export facility in Kalama, Washington.
- In December 2016, prepared comments on draft Title V Permit for Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana, responding to EPA Order addressing enforceability issues.
- In November 2016, prepared comments on Initial Study/Mitigated Negative Declaration for the AES Battery Energy Storage Facility, Long Beach, CA.
- In November 2016, prepared comments on Campo Verde Battery Energy Storage System Draft Environmental Impact Report.
- In October 2016, prepared comments on Title V Permit for NuStar Terminal Operations Partnership L.P, Stockton, CA.
- In October 2016, prepared expert report, Technical Assessment of Achieving the 40 CFR Part 423 Zero Discharge Standard for Bottom Ash Transport Water at the Belle River Power

Plant, East China, Michigan. Reported resulted in a 2 year reduction in compliance date for elimination of bottom ash transport water. 1/30/17 DEQ Letter.

- In September 2016, prepared comments on Proposed Title V Permit and Environmental Assessment Statement, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana.
- In September 2016, prepared response to "Further Rebuttal in Support of Appeal of Planning Commission Resolution No. 16-1, Denying Use Permit Application 12PLN-00063 and Declining to Certify Final Environmental Impact Report for the Valero Benicia Crude-by-Rail Project.
- In August 2016, reviewed and prepared comments on manuscript: Hutton et al., Freshwater Flows to the San Francisco Bay-Delta Estuary over Nine Decades: Trends Evaluation.
- In August/September 2016, prepared comments on Mitigated Negative Declaration for the Chevron Long Wharf Maintenance and Efficiency Project.
- In July 2016, prepared comments on the Ventura County APCD Preliminary Determination of Compliance and the California Energy Commission Revised Preliminary Staff Assessment for the Puente Power Project.
- In June 2016, prepared comments on an Ordinance (1) Amending the Oakland Municipal Code to Prohibit the Storage and Handling of Coal and Coke at Bulk Material Facilities or Terminals Throughout the City of Oakland and (2) Adopting CEQA Exemption Findings and supporting technical reports. Council approved Ordinance on an 8 to 0 vote on June 27, 2016.
- In May 2016, prepared comments on Draft Title V Permit and Draft Environmental Impact Report for the Tesoro Los Angeles Refinery Integration and Compliance Project.
- In March 2016, prepared comments on Valero's Appeal of Planning Commission's Denial of Valero Crude-by-Rail Project
- In February 2016, prepared comments on Final Environmental Impact Report, Santa Maria Rail Spur Project.
- In February 2016, prepared comments on Final Environmental Impact Report, Valero Benicia Crude by Rail Project.
- In January 2016, prepared comments on Draft Programmatic Environmental Impact Report for the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.
- In November 2015, prepared comments on Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance – 2015(C) (Focused on Oil and Gas Local Permitting), November 2015.

- In October 2015, prepared comments on Revised Draft Environmental Report, Valero Benicia Crude by Rail Project.
- In September 2015, prepared report, "Environmental, Health and Safety Impacts of the Proposed Oakland Bulk and Oversized Terminal, and presented oral testimony on September 21, 2015 before Oakland City Council on behalf of the Sierra Club.
- In September 2015, prepared comments on revisions to two chapters of EPA's Air Pollution Control Cost Manual: Docket ID No. EPA-HQ-OAR-2015-0341.
- In June 2015, prepared comments on DEIR for the CalAm Monterey Peninsula Water Supply Project.
- In April 2015, prepared comments on proposed Title V Operating Permit Revision and Prevention of Significant Deterioration Permit for Arizona Public Service's Ocotillo Power Plant Modernization Project (5 GE LMS100 105-MW simple cycle turbines operated as peakers), in Tempe, Arizona; Final permit appealed to EAB.
- In March 2015, prepared "Comments on Proposed Title V Air Permit, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana". Client filed petition objecting to the permit. EPA granted majority of issues. In the Matter of Yuhuang Chemical Inc. Methanol Plant, St. James Parish, Louisiana, Permit No. 2560-00295-V0, Issue by the Louisiana Department of Environmental Quality, Petition No. VI-2015-03, Order Responding to the Petitioners' Request for Objection to the Issuance of a Title V Operating Permit, September 1, 2016.
- In February 2015, prepared compilation of BACT cost effectiveness values in support of comments on draft PSD Permit for Bonanza Power Project.
- In January 2015, prepared cost effectiveness analysis for SCR for a 500-MW coal fire power plant, to address unpermitted upgrades in 2000.
- In January 2015, prepared comments on Revised Final Environmental Impact Report for the Phillips 66 Propane Recovery Project. *Communities for a Better Environment et al. v. Contra Costa County et al. Contra Costa County (Superior Court, Contra Costa County, Case No. MSN15-0301, December 1, 2016).*
- In December 2014, prepared "Report on Bakersfield Crude Terminal Permits to Operate." In response, the U.S. EPA cited the Terminal for 10 violations of the Clean Air Act.
- In December 2014, prepared comments on Revised Draft Environmental Impact Report for the Phillips 66 Propane Recovery Project.
- In November 2014, prepared comments on Revised Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project and Crude Unloading Project, Santa Maria, CA to allow the import of tar sands crudes.
- In November 2014, prepared comments on Draft Environmental Impact Report for Phillips 66 Ultra Low Sulfur Diesel Project, responding to the California Supreme Court Decision,

Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310.

- In November 2014, prepared comments on Draft Environmental Impact Report for the Tesoro Avon Marine Oil Terminal Lease Consideration.
- In October 2014, prepared: "Report on Hydrogen Cyanide Emissions from Fluid Catalytic Cracking Units", pursuant to the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 79 FR 36880.
- In October 2014, prepared technical comments on Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.
- In October 2014, prepared technical comments on the Title V Permit Renewal and three De Minimus Significant Revisions for the Tesoro Logistics Marine Terminal in the SCAQMD.
- In September 2014, prepared technical comments on the Draft Environmental Impact Report for the Valero Crude by Rail Project.
- In August 2014, for EPA Region 6, prepared technical report on costing methods for upgrades to existing scrubbers at coal-fired power plants.
- In July 2014, prepared technical comments on Draft Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.
- In June 2014, prepared technical report on Initial Study and Draft Negative Declaration for the Tesoro Logistics Storage Tank Replacement and Modification Project.
- In May 2014, prepared technical comments on Intent to Approve a new refinery and petroleum transloading operation in Utah.
- In March and April 2014, prepared declarations on air permits issued for two crude-by-rail terminals in California, modified to switch from importing ethanol to importing Bakken crude oils by rail and transferring to tanker cars. Permits were issued without undergoing CEQA review. One permit was upheld by the San Francisco Superior Court as statute of limitations had run. The Sacramento Air Quality Management District withdrew the second one due to failure to require BACT and conduct CEQA review.
- In March 2014, prepared technical report on Negative Declaration for a proposed modification of the air permit for a bulk petroleum and storage terminal to the allow the import of tar sands and Bakken crude oil by rail and its export by barge, under the New York State Environmental Quality Review Act (SEQRA).

- In February 2014, prepared technical report on proposed modification of air permit for midwest refinery upgrade/expansion to process tar sands crudes.
- In January 2014, prepared cost estimates to capture, transport, and use CO2 in enhanced oil recovery, from the Freeport LNG project based on both Selexol and Amine systems.
- In January 2014, prepared technical report on Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project, Santa Maria, CA. Comments addressed project description (piecemealing, crude slate), risk of upset analyses, mitigation measures, alternative analyses and cumulative impacts.
- In November 2013, prepared technical report on the Phillips 66 Propane Recovery Project, Rodeo, CA. Comments addressed project description (piecemealing, crude slate) and air quality impacts.
- In September 2013, prepared technical report on the Draft Authority to Construct Permit for the Casa Diablo IV Geothermal Development Project Environmental Impact Report and Declaration in Support of Appeal and Petition for Stay, U.S. Department of the Interior, Board of Land Appeals, Appeal of Decision Record for the Casa Diablo IV Geothermal Development Project.
- In September 2013, prepared technical report on Effluent Limitation Guidelines for Best Available Technology Economically Available (BAT) for Bottom Ash Transport Waters from Coal-Fired Power Plants in the Steam Electric Power Generating Point Source Category.
- In July 2013, prepared technical report on Initial Study/Mitigated Negative Declaration for the Valero Crude by Rail Project, Benicia, California, Use Permit Application 12PLN-00063.
- In July 2013, prepared technical report on fugitive particulate matter emissions from coal train staging at the proposed Coyote Island Terminal, Oregon, for draft Permit No. 25-0015-ST-01.
- In July 2013, prepared technical comments on air quality impacts of the Finger Lakes LPG Storage Facility as reported in various Environmental Impact Statements.
- In July 2013, prepared technical comments on proposed Greenhouse Gas PSD Permit for the Celanese Clear Lake Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June/July 2013, prepared technical comments on proposed Draft PSD Preconstruction Permit for Greenhouse Gas Emission for the ExxonMobil Chemical Company Baytown Olefins Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June 2013, prepared technical report on a Mitigated Negative Declaration for a new rail terminal at the Valero Benicia Refinery to import increased amounts of "North American"

crudes. Comments addressed air quality impacts of refining increased amounts of tar sands crudes.

- In June 2013, prepared technical report on Draft Environmental Impact Report for the California Ethanol and Power Imperial Valley 1 Project.
- In May 2013, prepared comments on draft PSD permit for major expansion of midwest refinery to process 100% tar sands crudes, including a complex netting analysis involving debottlenecking, piecemealing, and BACT analyses.
- In April 2013, prepared technical report on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Keystone XL Pipeline on air quality impacts from refining increased amount of tar sands crudes at Refineries in PADD 3.
- In October 2012, prepared technical report on the Environmental Review for the Coyote Island Terminal Dock at the Port of Morrow on fugitive particulate matter emissions.
- In October 2012-October 2014, review and evaluate Flint Hills West Application for an expansion/modification for increased (Texas, Eagle Ford Shale) crude processing and related modification, including netting and BACT analysis. Assist in settlement discussions.
- In February 2012, prepared comments on BART analysis in PA Regional Haze SIP, 77 FR 3984 (Jan. 26, 2012). On Sept. 29, 2015, a federal appeals court overturned the U.S. EPA's approval of this plan, based in part on my comments, concluding "..we will vacate the 2014 Final Rule to the extent it approved Pennsylvania's source-specific BART analysis and remand to the EPA for further proceedings consistent with this Opinion." Nat'l Parks Conservation Assoc. v. EPA, 3d Cir., No. 14-3147, 9/19/15.
- Prepared cost analyses and comments on New York's proposed BART determinations for NOx, SO2, and PM and EPA's proposed approval of BART determinations for Danskammer Generating Station under New York Regional Haze State Implementation Plan and Federal Implementation Plan, 77 FR 51915 (August 28, 2012).
- Prepared cost analyses and comments on NOx BART determinations for Regional Haze State Implementation Plan for State of Nevada, 77 FR 23191 (April 18, 2012) and 77 FR 25660 (May 1, 2012).
- Prepared analyses of and comments on New Source Performance Standards for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 FR 22392 (April 13, 2012).
- Prepared comments on CASPR-BART emission equivalency and NOx and PM BART determinations in EPA proposed approval of State Implementation Plan for Pennsylvania Regional Haze Implementation Plan, 77 FR 3984 (January 26, 2012).
- Prepared comments and statistical analyses on hazardous air pollutants (HAPs) emission controls, monitoring, compliance methods, and the use of surrogates for acid gases, organic

HAPs, and metallic HAPs for proposed National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 76 FR 24976 (May 3, 2011).

- Prepared cost analyses and comments on NOx BART determinations and emission reductions for proposed Federal Implementation Plan for Four Corners Power Plant, 75 FR 64221 (October 19, 2010).
- Prepared cost analyses and comments on NOx BART determinations for Colstrip Units 1- 4 for Montana State Implementation Plan and Regional Haze Federal Implementation Plan, 77 FR 23988 (April 20, 2010).
- For EPA Region 8, prepared report: Revised BART Cost Effectiveness Analysis for Tail-End Selective Catalytic Reduction at the Basin Electric Power Cooperative Leland Olds Station Unit 2 Final Report, March 2011, in support of 76 FR 58570 (Sept. 21, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Selective Catalytic Reduction at the Public Service Company of New Mexico San Juan Generating Station, November 2010, in support of 76 FR 52388 (Aug. 22, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Flue Gas Desulfurization at Coal-Fired Electric Generating Units in Oklahoma: Sooner Units 1 & 2, Muskogee Units 4 & 5, Northeastern Units 3 &4, October 2010, in support of 76 FR 16168 (March 26, 2011). My work was upheld in: *State of Oklahoma v. EPA*, App. Case 12-9526 (10th Cri. July 19, 2013).
- Identified errors in N_2O emission factors in the Mandatory Greenhouse Gas Reporting Rule, 40 CFR 98, and prepared technical analysis to support Petition for Rulemaking to Correct Emissions Factors in the Mandatory Greenhouse Gas Reporting Rule, filed with EPA on 10/28/10.
- Assisted interested parties develop input for and prepare comments on the Information Collection Request for Petroleum Refinery Sector NSPS and NESHAP Residual Risk and Technology Review, 75 FR 60107 (9/29/10).
- Technical reviewer of EPA's "Emission Estimation Protocol for Petroleum Refineries," posted for public comments on CHIEF on 12/23/09, prepared in response to the City of Houston's petition under the Data Quality Act (March 2010).
- Prepared comments on SCR cost effectiveness for EPA's Advanced Notice of Proposed Rulemaking, Assessment of Anticipated Visibility Improvements at Surrounding Class I Areas and Cost Effectiveness of Best Available Retrofit Technology for Four Corners Power Plant and Navajo Generating Station, 74 FR 44313 (August 28, 2009).
- Prepared comments on Proposed Rule for Standards of Performance for Coal Preparation and Processing Plants, 74 FR 25304 (May 27, 2009).

- Prepared comments on draft PSD permit for major expansion of midwest refinery to process up to 100% tar sands crudes. Participated in development of monitoring and controls to mitigate impacts and in negotiating a Consent Decree to settle claims in 2008.
- Reviewed and assisted interested parties prepare comments on proposed Kentucky air toxic regulations at 401 KAR 64:005, 64:010, 64:020, and 64:030 (June 2007).
- Prepared comments on proposed Standards of Performance for Electric Utility Steam Generating Units and Small Industrial-Commercial-Industrial Steam Generating Units, 70 FR 9706 (February 28, 2005).
- Prepared comments on Louisville Air Pollution Control District proposed Strategic Toxic Air Reduction regulations.
- Prepared comments and analysis of BAAQMD Regulation, Rule 11, Flare Monitoring at Petroleum Refineries.
- Prepared comments on Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electricity Utility Steam Generating Units (MACT standards for coal-fired power plants).
- Prepared Authority to Construct Permit for remediation of a large petroleum-contaminated site on the California Central Coast. Negotiated conditions with agencies and secured permits.
- Prepared Authority to Construct Permit for remediation of a former oil field on the California Central Coast. Participated in negotiations with agencies and secured permits.
- Prepared and/or reviewed hundreds of environmental permits, including NPDES, UIC, Stormwater, Authority to Construct, Prevention of Significant Deterioration, Nonattainment New Source Review, Title V, and RCRA, among others.
- Participated in the development of the CARB document, *Guidance for Power Plant Siting and Best Available Control Technology*, including attending public workshops and filing technical comments.
- Performed data analyses in support of adoption of emergency power restoration standards by the California Public Utilities Commission for "major" power outages, where major is an outage that simultaneously affects 10% of the customer base.
- Drafted portions of the Good Neighbor Ordinance to grant Contra Costa County greater authority over safety of local industry, particularly chemical plants and refineries.
- Participated in drafting BAAQMD Regulation 8, Rule 28, Pressure Relief Devices, including participation in public workshops, review of staff reports, draft rules and other technical materials, preparation of technical comments on staff proposals, research on availability and costs of methods to control PRV releases, and negotiations with staff.

- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and cost of low-leak technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pumps and Compressors, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak and seal-less technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of controlling tank emissions, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors at Petroleum Refinery Complexes, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 22, Valves and Flanges at Chemical Plants, etc, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pump and Compressor Seals, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability of low-leak technology, and presentation of testimony before the Board.
- Participated in the development of the BAAQMD Regulation 2, Rule 5, Toxics, including participation in public workshops, review of staff proposals, and preparation of technical comments.
- Participated in the development of SCAQMD Rule 1402, Control of Toxic Air Contaminants from Existing Sources, and proposed amendments to Rule 1401, New Source Review of Toxic Air Contaminants, in 1993, including review of staff proposals and preparation of technical comments on same.
- Participated in the development of the Sunnyvale Ordinance to Regulate the Storage, Use and Handling of Toxic Gas, which was designed to provide engineering controls for gases that are not otherwise regulated by the Uniform Fire Code.

- Participated in the drafting of the Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries, including participation in workshops, review of draft plans, preparation of technical comments on draft plans, and presentation of testimony before the SWRCB.
- Participated in developing Se permit effluent limitations for the five Bay Area refineries, including review of staff proposals, statistical analyses of Se effluent data, review of literature on aquatic toxicity of Se, preparation of technical comments on several staff proposals, and presentation of testimony before the Bay Area RWQCB.
- Represented the California Department of Water Resources in the 1991 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on a striped bass model developed by the California Department of Fish and Game.
- Represented the State Water Contractors in the 1987 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on natural flows, historical salinity trends in San Francisco Bay, Delta outflow, and hydrodynamics of the South Bay.
- Represented interveners in the licensing of over 20 natural-gas-fired power plants and one coal gasification plant at the California Energy Commission and elsewhere. Reviewed and prepared technical comments on applications for certification, preliminary staff assessments, final staff assessments, preliminary determinations of compliance, final determinations of compliance, and prevention of significant deterioration permits in the areas of air quality, water supply, water quality, biology, public health, worker safety, transportation, site contamination, cooling systems, and hazardous materials. Presented written and oral testimony in evidentiary hearings with cross examination and rebuttal. Participated in technical workshops.
- Represented several parties in the proposed merger of San Diego Gas & Electric and Southern California Edison. Prepared independent technical analyses on health risks, air quality, and water quality. Presented written and oral testimony before the Public Utilities Commission administrative law judge with cross examination and rebuttal.
- Represented a PRP in negotiations with local health and other agencies to establish impact of subsurface contamination on overlying residential properties. Reviewed health studies prepared by agency consultants and worked with agencies and their consultants to evaluate health risks.

WATER QUALITY/RESOURCES

- Directed and participated in research on environmental impacts of energy development in the Colorado River Basin, including contamination of surface and subsurface waters and modeling of flow and chemical transport through fractured aquifers.

- Played a major role in Northern California water resource planning studies since the early 1970s. Prepared portions of the Basin Plans for the Sacramento, San Joaquin, and Delta basins including sections on water supply, water quality, beneficial uses, waste load allocation, and agricultural drainage. Developed water quality models for the Sacramento and San Joaquin Rivers.
- Conducted hundreds of studies over the past 40 years on Delta water supplies and the impacts of exports from the Delta on water quality and biological resources of the Central Valley, Sacramento-San Joaquin Delta, and San Francisco Bay. Typical examples include:
    1. Evaluate historical trends in salinity, temperature, and flow in San Francisco Bay and upstream rivers to determine impacts of water exports on the estuary;
    2. Evaluate the role of exports and natural factors on the food web by exploring the relationship between salinity and primary productivity in San Francisco Bay, upstream rivers, and ocean;
    3. Evaluate the effects of exports, other in-Delta, and upstream factors on the abundance of salmon and striped bass;
    4. Review and critique agency fishery models that link water exports with the abundance of striped bass and salmon;
    5. Develop a model based on GLMs to estimate the relative impact of exports, water facility operating variables, tidal phase, salinity, temperature, and other variables on the survival of salmon smolts as they migrate through the Delta;
    6. Reconstruct the natural hydrology of the Central Valley using water balances, vegetation mapping, reservoir operation models to simulate flood basins, precipitation records, tree ring research, and historical research;
    7. Evaluate the relationship between biological indicators of estuary health and down-estuary position of a salinity surrogate (X2);
    8. Use real-time fisheries monitoring data to quantify impact of exports on fish migration;
    9. Refine/develop statistical theory of autocorrelation and use to assess strength of relationships between biological and flow variables;
    10. Collect, compile, and analyze water quality and toxicity data for surface waters in the Central Valley to assess the role of water quality in fishery declines;
    11. Assess mitigation measures, including habitat restoration and changes in water project operation, to minimize fishery impacts;
    12. Evaluate the impact of unscreened agricultural water diversions on abundance of larval fish;

13. Prepare and present testimony on the impacts of water resources development on Bay hydrodynamics, salinity, and temperature in water rights hearings;
14. Evaluate the impact of boat wakes on shallow water habitat, including interpretation of historical aerial photographs;
15. Evaluate the hydrodynamic and water quality impacts of converting Delta islands into reservoirs;
16. Use a hydrodynamic model to simulate the distribution of larval fish in a tidally influenced estuary;
17. Identify and evaluate non-export factors that may have contributed to fishery declines, including predation, shifts in oceanic conditions, aquatic toxicity from pesticides and mining wastes, salinity intrusion from channel dredging, loss of riparian and marsh habitat, sedimentation from upstream land alternations, and changes in dissolved oxygen, flow, and temperature below dams.

- Developed, directed, and participated in a broad-based research program on environmental issues and control technology for energy industries including petroleum, oil shale, coal mining, and coal slurry transport. Research included evaluation of air and water pollution, development of novel, low-cost technology to treat and dispose of wastes, and development and application of geohydrologic models to evaluate subsurface contamination from in-situ retorting. The program consisted of government and industry contracts and employed 45 technical and administrative personnel.
- Coordinated an industry task force established to investigate the occurrence, causes, and solutions for corrosion/erosion and mechanical/engineering failures in the waterside systems (e.g., condensers, steam generation equipment) of power plants. Corrosion/erosion failures caused by water and steam contamination that were investigated included waterside corrosion caused by poor microbiological treatment of cooling water, steam-side corrosion caused by ammonia-oxygen attack of copper alloys, stress-corrosion cracking of copper alloys in the air cooling sections of condensers, tube sheet leaks, oxygen in-leakage through condensers, volatilization of silica in boilers and carry over and deposition on turbine blades, and iron corrosion on boiler tube walls. Mechanical/engineering failures investigated included: steam impingement attack on the steam side of condenser tubes, tube-to-tube-sheet joint leakage, flow-induced vibration, structural design problems, and mechanical failures due to stresses induced by shutdown, startup and cycling duty, among others. Worked with electric utility plant owners/operators, condenser and boiler vendors, and architect/engineers to collect data to document the occurrence of and causes for these problems, prepared reports summarizing the investigations, and presented the results and participated on a committee of industry experts tasked with identifying solutions to prevent condenser failures.

- Evaluated the cost effectiveness and technical feasibility of using dry cooling and parallel dry-wet cooling to reduce water demands of several large natural-gas fired power plants in California and Arizona.
- Designed and prepared cost estimates for several dry cooling systems (e.g., fin fan heat exchangers) used in chemical plants and refineries.
- Designed, evaluated, and costed several zero liquid discharge systems for power plants.
- Evaluated the impact of agricultural and mining practices on surface water quality of Central Valley steams. Represented municipal water agencies on several federal and state advisory committees tasked with gathering and assessing relevant technical information, developing work plans, and providing oversight of technical work to investigate toxicity issues in the watershed.

AIR QUALITY/PUBLIC HEALTH

- Prepared or reviewed the air quality and public health sections of hundreds of EIRs and EISs on a wide range of industrial, commercial and residential projects.
- Prepared or reviewed hundreds of NSR and PSD permits for a wide range of industrial facilities.
- Designed, implemented, and directed a 2-year-long community air quality monitoring program to assure that residents downwind of a petroleum-contaminated site were not impacted during remediation of petroleum-contaminated soils. The program included real-time monitoring of particulates, diesel exhaust, and BTEX and time integrated monitoring for over 100 chemicals.
- Designed, implemented, and directed a 5-year long source, industrial hygiene, and ambient monitoring program to characterize air emissions, employee exposure, and downwind environmental impacts of a first-generation shale oil plant. The program included stack monitoring of heaters, boilers, incinerators, sulfur recovery units, rock crushers, API separator vents, and wastewater pond fugitives for arsenic, cadmium, chlorine, chromium, mercury, 15 organic indicators (e.g., quinoline, pyrrole, benzo(a)pyrene, thiophene, benzene), sulfur gases, hydrogen cyanide, and ammonia. In many cases, new methods had to be developed or existing methods modified to accommodate the complex matrices of shale plant gases.
- Conducted investigations on the impact of diesel exhaust from truck traffic from a wide range of facilities including mines, large retail centers, light industrial uses, and sports facilities. Conducted traffic surveys, continuously monitored diesel exhaust using an aethalometer, and prepared health risk assessments using resulting data.
- Conducted indoor air quality investigations to assess exposure to natural gas leaks, pesticides, molds and fungi, soil gas from subsurface contamination, and outgasing of

carpets, drapes, furniture and construction materials. Prepared health risk assessments using collected data.

- Prepared health risk assessments, emission inventories, air quality analyses, and assisted in the permitting of over 70 1 to 2 MW emergency diesel generators.
- Prepare over 100 health risk assessments, endangerment assessments, and other health-based studies for a wide range of industrial facilities.
- Developed methods to monitor trace elements in gas streams, including a continuous real-time monitor based on the Zeeman atomic absorption spectrometer, to continuously measure mercury and other elements.
- Performed nuisance investigations (odor, noise, dust, smoke, indoor air quality, soil contamination) for businesses, industrial facilities, and residences located proximate to and downwind of pollution sources.

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Phyllis Fox and Elaine Archibald, *Aquatic Toxicity and Pesticides in Surface Waters of the Central Valley*, California Urban Water Agencies (CUWA) Report, September 1997.

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Bay Valley Consultants, *Water Quality Control Plan for Sacramento, Sacramento-San Joaquin and San Joaquin Basins*, Parts I and II and Appendices A-E, 750 pp., 1974.

POST GRADUATE COURSES
(Partial)

S-Plus Data Analysis, MathSoft, 6/94.
Air Pollutant Emission Calculations, UC Berkeley Extension, 6-7/94
Assessment, Control and Remediation of LNAPL Contaminated Sites, API and USEPA, 9/94
Pesticides in the TIE Process, SETAC, 6/96
Sulfate Minerals: Geochemistry, Crystallography, and Environmental Significance, Mineralogical Society of America/Geochemical Society, 11/00.
Design of Gas Turbine Combined Cycle and Cogeneration Systems, Thermoflow, 12/00
Air-Cooled Steam Condensers and Dry- and Hybrid-Cooling Towers, Power-Gen, 12/01
Combustion Turbine Power Augmentation with Inlet Cooling and Wet Compression, Power-Gen, 12/01
CEQA Update, UC Berkeley Extension, 3/02
The Health Effects of Chemicals, Drugs, and Pollutants, UC Berkeley Extension, 4-5/02
Noise Exposure Assessment: Sampling Strategy and Data Acquisition, AIHA PDC 205, 6/02
Noise Exposure Measurement Instruments and Techniques, AIHA PDC 302, 6/02
Noise Control Engineering, AIHA PDC 432, 6/02
Optimizing Generation and Air Emissions, Power-Gen, 12/02
Utility Industry Issues, Power-Gen, 12/02
Multipollutant Emission Control, Coal-Gen, 8/03
Community Noise, AIHA PDC 104, 5/04
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McIlvaine Hot Topic Hour, SO3 Issues and Answers, 3/27/08
McIlvaine Hot Topic Hour, Mercury Control, 4/24/08
McIlvaine Hot Topic Hour, Co-Firing Biomass, 5/1/08
McIlvaine Hot Topic Hour, Coal Gasification, 6/5/08
McIlvaine Hot Topic Hour, Spray Driers vs. CFBs, 7/3/08
McIlvaine Hot Topic Hour, Air Pollution Control Cost Escalation, 9/25/08
McIlvaine Hot Topic Hour, Greenhouse Gas Strategies for Coal Fired Power Plant Operators, 10/2/08
McIlvaine Hot Topic Hour, Mercury and Toxics Monitoring, 2/5/09
McIlvaine Hot Topic Hour, Dry Precipitator Efficiency Improvements, 2/12/09
McIlvaine Hot Topic Hour, Coal Selection & Impact on Emissions, 2/26/09
McIlvaine Hot Topic Hour, 98% Limestone Scrubber Efficiency, 7/9/09
McIlvaine Hot Topic Hour, Carbon Management Strategies and Technologies, 6/24/10
McIlvaine Hot Topic Hour, Gas Turbine O&M, 7/22/10

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McIlvaine Hot Topic Hour, Fuel Impacts on SCR Catalysts, June 30, 2011.

Interest Rates, PDH P204, 3/9/12
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Understanding Concerns with Dry Sorbent Injection as a Coal Plant Pollution Control, Webinar #874-567-839 by Cleanenergy.Org, March 4, 2013
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Dr. Pless is a court-recognized expert with over 20 years of experience in environmental consulting conducting and managing interdisciplinary environmental research projects and preparing and reviewing environmental permits and other documents for U.S. and European stakeholder groups. Her broad-based experience includes air quality and air pollution control; water quality, water supply, and water pollution control; biological resources; public health and safety; noise studies; California Environmental Quality Act ("CEQA"), Clean Air Act ("CAA"), and National Environmental Policy Act ("NEPA") review; industrial ecology and risk assessment; and use of a wide range of environmental software.

EDUCATION

Doctorate in Environmental Science and Engineering (D.Env.), University of California Los Angeles, 2001

Master of Science (equivalent) in Biology (focus on Limnology), Technical University of Munich, Germany, 1991

PROFESSIONAL HISTORY

Pless Environmental, Inc., Principal, 2008–present

Environmental Consultant, Sole Proprietor, 2006–2008

Leson & Associates (previously Leson Environmental Consulting), Kensington, CA, Environmental Scientist/Project Manager, 1997–2005

University of California Los Angeles, Graduate Research Assistant/Teaching Assistant, 1994–1996

ECON Research and Development, Environmental Scientist, Ingelheim, Germany, 1992–1993

Biocontrol, Environmental Projects Manager, Ingelheim, Germany, 1991–1992

REPRESENTATIVE EXPERIENCE

Air Quality and Pollution Control

Projects include CEQA/NEPA review; CAA attainment and non-attainment new source review; prevention of significant deterioration ("PSD") and Title V permitting; control technology analyses (BACT, LAER, RACT, BARCT, BART, MACT); technology evaluations and cost-effectiveness analyses; criteria and toxic pollutant and greenhouse gas emission inventories; emission offsets; ambient and source monitoring; analysis of emissions estimates and ambient air pollutant concentration modeling. Some typical projects include:

- Provided expert support for intervention in California Energy Commission ("CEC") proceedings for numerous power plants including natural gas-fired, integrated gasification combined-cycle, geothermal (flash and binary) solar (thermal and photovoltaic) facilities with respect to air quality including emission reduction credits, hazards and hazardous materials, public health, noise, and biological resources.
- Critically reviewed and prepared technical comments on the air quality, biology, noise, water quality, and public health and safety sections of CEQA/NEPA documents for numerous commercial, residential, and industrial projects (*e.g.*, power plants, airports, residential developments, retail developments, university expansions, hospitals, refineries, slaughterhouses, asphalt plants, food processing facilities, slaughterhouses, feedlots, printing facilities, mines, quarries, landfills, and recycling facilities) and provided litigation support in a number of cases filed under CEQA.
- Critically reviewed and prepared technical comments on the air quality and public health sections of the Los Angeles Airport Master Plan (Draft, Supplement, and Final Environmental Impact Statement/Environmental Impact Report) for the City of El Segundo. Provided technical comments on the Draft and Final General Conformity Determination for the preferred alternative submitted to the Federal Aviation Administration.
- Prepared comments on proposed PSD and Title V permit best available control technology ("BACT") analysis for greenhouse gas emissions from a proposed direct reduced iron facility in Louisiana.
- Prepared technical comments on U.S. Environmental Protection Agency ("EPA")'s *Inhalation of Fugitive Dust: A Screening Assessment of the Risks Posed by Coal Combustion Waste Landfills* prepared for EPA's proposed coal combustion waste landfill rule.
- Prepared technical comments on the potential air quality impacts of the California Air Resources Board's *Proposed Actions to Further Reduce Particulate Matter at High Priority California Railyards*.
- For several California refineries, evaluated compliance of fired sources with Bay Area Air Quality Management District Rule 9-10. This required evaluation and review of hundreds of source tests to determine if refinery-wide emission caps and compliance monitoring provisions were being met.
- Critically reviewed and prepared technical comments on draft Title V permits for several refineries and other industrial facilities in California.
- Evaluated the public health impacts of locating big-box retail developments in densely populated areas in California and Hawaii. Monitored and evaluated impacts of diesel exhaust emissions and noise on surrounding residential communities.
- In conjunction with the permitting of several residential and commercial developments, conducted studies to determine baseline concentrations of diesel exhaust particulate matter using an aethalometer.
- For an Indiana steel mill, evaluated technology to control NOx and CO emissions from fired sources, including electric arc furnaces and reheat furnaces, to establish BACT. This required a comprehensive review of U.S. and European operating experience. The lowest emission levels were being achieved by steel mills using selective catalytic reduction ("SCR") and selective non-catalytic reduction ("SNCR") in Sweden and The Netherlands.

- For a California petroleum coke calciner, evaluated technology to control NOx, CO, VOCs, and PM10 emissions from the kiln and pyroscrubbers to establish BACT and LAER. This required a review of state and federal clearinghouses, working with regulatory agencies and pollution control vendors, and obtaining and reviewing permits and emissions data from other similar facilities. The best-controlled facilities were located in the South Coast Air Quality Management District.
- For a Kentucky coal-fired power plant, identified the lowest NOx levels that had been permitted and demonstrated in practice to establish BACT. Reviewed operating experience of European, Japanese, and U.S. facilities and evaluated continuous emission monitoring data. The lowest NOx levels had been permitted and achieved in Denmark and in the U.S. in Texas and New York.
- In support of efforts to lower the CO BACT level for power plant emissions, evaluated the contribution of CO emissions to tropospheric ozone formation and co-authored report on same.
- Critically reviewed and prepared technical comments on applications for certification ("AFCs") for numerous natural-gas fired, solar, biomass, and geothermal power plants in California permitted by the California Energy Commission. The comments addressed construction and operational emissions inventories and dispersion modeling, BACT determinations for combustion turbine generators, fluidized bed combustors, diesel emergency generators, etc.
- Critically reviewed and prepared technical comments on draft PSD permits for several natural gas-fired power plants in California, Indiana, and Oregon. The comments addressed emission inventories, greenhouse gas emissions, BACT, case-by-case MACT, compliance monitoring, cost-effectiveness analyses, and enforceability of permit limits.
- For a California refinery, evaluated technology to control NOx and CO emissions from CO Boilers to establish RACT/BARCT to comply with BAAQMD Rule 9-10. This required a review of BACT/RACT/LAER clearinghouses, working with regulatory agencies across the U.S., and reviewing federal and state regulations and State Implementation Plans ("SIPs"). The lowest levels were required in a South Coast Air Quality Management District rule and in the Texas SIP.
- In support of several federal lawsuits filed under the federal Clean Air Act, prepared cost-effectiveness analyses for SCR and oxidation catalysts for simple cycle gas turbines and evaluated opacity data.
- Provided litigation support for a CEQA lawsuit addressing the adequacy of pollution control equipment at a biomass cogeneration plant.
- Prepared comments and provided litigation support on several proposed regulations including the Mojave Desert Air Quality Management District Rule 1406 (fugitive dust emission reduction credits for road paving); South Coast Air Quality Management District Rule 1316, San Joaquin Valley Air Pollution Control District Rule 2201, Antelope Valley Air Quality Management District Regulation XIII, and Mojave Desert Air Quality Management District Regulation XIII (implementation of December 2002 amendments to the federal Clean Air Act).
- Critically reviewed draft permits for several ethanol plants in California, Indiana, Ohio, and Illinois and prepared technical comments.

- Reviewed state-wide average emissions, state-of-the-art control devices, and emissions standards for construction equipment and developed recommendations for mitigation measures for numerous large construction projects.
- Researched sustainable building concepts and alternative energy and determined their feasibility for residential and commercial developments, *e.g.*, regional shopping malls and hospitals.
- Provided comprehensive environmental and regulatory services for an industrial laundry chain. Facilitated permit process with the South Coast Air Quality Management District. Developed test protocol for VOC emissions, conducted field tests, and used mass balance methods to estimate emissions. Reduced disposal costs for solvent-containing waste streams by identifying alternative disposal options. Performed health risk screening for air toxics emissions. Provided permitting support. Renegotiated sewer surcharges with wastewater treatment plant. Identified new customers for shop-towel recycling services.
- Designed computer model to predict performance of biological air pollution control (biofilters) as part of a collaborative technology assessment project, co-funded by several major chemical manufacturers.
- Experience using a wide range of environmental software, including air dispersion models, air emission modeling software, database programs, and geographic information systems.

Water Quality and Pollution Control

Experience in water quality and pollution control, including surface water and ground water quality and supply studies, evaluating water and wastewater treatment technologies, and identifying, evaluating and implementing pollution controls. Some typical projects include:

- Evaluated impacts of on-shore oil drilling activities on large-scale coastal erosion in Nigeria.
- For a 500-MW combined-cycle power plant, prepared a study to evaluate the impact of proposed groundwater pumping on local water quality and supply, including a nearby stream, springs, and a spring-fed waterfall. The study was docketed with the California Energy Commission.
- For a 500-MW combined-cycle power plant, identified and evaluated methods to reduce water use and water quality impacts. These included the use of zero-liquid-discharge systems and alternative cooling technologies, including dry and parallel wet-dry cooling. Prepared cost analyses and evaluated impact of options on water resources. This work led to a settlement in which parallel wet dry cooling and a crystallizer were selected, replacing 100 percent groundwater pumping and wastewater disposal to evaporation ponds.
- For a homeowner's association, reviewed a California Coastal Commission staff report on the replacement of 12,000 linear feet of wooden bulkhead with PVC sheet pile armor. Researched and evaluated impact of proposed project on lagoon water quality, including sediment resuspension, potential leaching of additives and sealants, and long-term stability. Summarized results in technical report.

Applied Ecology, Industrial Ecology and Risk Assessment

Experience in applied ecology, industrial ecology and risk assessment, including human and ecological risk assessments, life cycle assessment, evaluation and licensing of new chemicals, and fate and transport studies of contaminants. Experienced in botanical, phytoplankton, and intertidal species identification and water chemistry analyses. Some typical projects include:

- Conducted technical, ecological, and economic assessments of product lines from agricultural fiber crops for European equipment manufacturer; co-authored proprietary client reports.
- Developed life cycle assessment methodology for industrial products, including agricultural fiber crops and mineral fibers; analyzed technical feasibility and markets for thermal insulation materials from natural plant fibers and conducted comparative life cycle assessments.
- For the California Coastal Conservancy, San Francisco Estuary Institute, Invasive Spartina Project, evaluated the potential use of a new aquatic pesticide for eradication of non-native, invasive cordgrass (*Spartina spp.*) species in the San Francisco Estuary with respect to water quality, biological resources, and human health and safety. Assisted staff in preparing an amendment to the Final EIR.
- Evaluated likelihood that organochlorine pesticide concentrations detected at a U.S. naval air station are residuals from past applications of these pesticides consistent with manufacturers' recommendations. Retained as expert witness in federal court case.
- Prepared human health risk assessments of air pollutant emissions from several industrial and commercial establishments, including power plants, refineries, and commercial laundries.
- Managed and conducted laboratory studies to license pesticides. This work included the evaluation of the adequacy and identification of deficiencies in existing physical/chemical and health effects data sets, initiating and supervising studies to fill data gaps, conducting environmental fate and transport studies, and QA/QC compliance at subcontractor laboratories. Prepared licensing applications and coordinated the registration process with German environmental protection agencies. This work led to regulatory approval of several pesticide applications in less than six months.
- Designed and implemented database on physical/chemical properties, environmental fate, and health impacts of pesticides for a major multi-national pesticide manufacturer.
- Designed and managed experimental toxicological study on potential interference of delta-9-tetrahydrocannabinol in food products with U.S. employee drug testing; co-authored peer-reviewed publication.
- Critically reviewed and prepared technical comments on applications for certification for several natural-gas fired, solar, and geothermal power plants and transmission lines in California permitted by the California Energy Commission. The comments addressed avian collisions and electrocution, construction and operational noise impacts on wildlife, risks from brine ponds, and impacts on endangered species.
- For a 180-MW geothermal power plant, evaluated the impacts of plant construction and operation on the fragile desert ecosystem in the Salton Sea area. This work included baseline noise monitoring and assessing the impact of noise, brine handling and disposal, and air emissions on local biota, public health, and welfare.

- Designed research protocols for a coastal ecological inventory in Southern California; developed sampling methodologies, coordinated field sampling, determined species abundance and distribution in intertidal zone, and conducted statistical data analyses.
- Designed and conducted limnological study on effects of physical/chemical parameters on phytoplankton succession; performed water chemistry analyses and identified phytoplankton species; co-authored two journal articles on results.

PRO BONO ACTIVITIES

Founding member of "SecondAid," a non-profit organization providing tsunami relief for the recovery of small family businesses in Sri Lanka. (www.secondaid.org.)

PUBLICATIONS & RECOMMENDATIONS

Available upon request.

ATTACHMENT B
COMMENTS FROM MEYERS | NAVE

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May 11, 2017

Via E-mail and U.S. Mail

Nick Peirce
Permit Services Manager, Northern Region
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto, California 95356

Re: CEQA Legal Opinion in Response to a March 27, 2017 Letter from Adams Broadwell Joseph & Cardozo
Facility ID # N-845, Project # N-1163274

Dear Mr. Peirce:

San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District) provided Tesoro Logistics Operations LLC (TLO) with a letter from Adams Broadwell Joseph & Cardozo (ABJC), dated March 27, 2017, pertaining to the proposed Authorities to Construct (ATCs) for Project Number N-1163274 (the Project). In the letter, ABJC requested that SJVAPCD "withdraw the Draft ATC … until it prepares an initial study and either a mitigated negative declaration or environmental impact report, as appropriate, pursuant to California Environmental Quality Act (CEQA)."

We are TLO's outside counsel for CEQA and other Project legal issues. We reviewed the comments relating to CEQA compliance in the ABJC letter. It is our legal opinion that the Air District properly relied on CEQA exemptions for the Project. None of the arguments ABJC raise have merit. Each of their legal arguments are refuted below. SJVAPCD should issue a final approval of the ATC based on CEQA exemptions since none of the issues raised by ABJC are grounds to require preparation of a negative declaration or environmental impact report.

A. EXISTING FACILITY EXEMPTION DOES NOT EXCLUDE A PETROLEUM DISTRIBUTION FACILITY

ABJC argues that, as a matter of law, a petroleum distribution facility is excluded from the existing facility exemption. They rely on one case to support their argument - *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165. The argument fails because *Azusa* does not stand for that proposition and is distinguishable. In addition, the argument is inconsistent with the plain language of the exemption.

In *Azusa*, the court ruled that a municipal waste facility located above a groundwater basin was not a "facility" covered by the exemption. The ruling was based on the specific facts presented in that case. Those facts included: the size of the proposed waste disposal (3.2 million tons); substantial evidence of an adverse effect on the underlying groundwater basin; a dispute over the extent of the existing permitted use; and state law prohibiting certain proposed uses. The narrow fact-specific nature of *Azusa* has been recognized in other cases. In particular, *Azusa* has been distinguished in other categorical exemption cases. (*Citizens for Envtl. Responsibility v. State ex rel. 14th Dist. Agric. Ass'n* (2015) 242 Cal.App.4th 555, 579–80.). In that case, the court ruled that *Azusa* only stood for the proposition that large municipal waste landfills cannot qualify for the existing facility exemption. (*Id.*) The court stated the *Azusa* case involved a special situation and the focus of the exemption analysis should be on the specific operations of the facility, not the type of facility itself. (*Id.*)

Furthermore, the Project facts relating to environmental conditions and impacts are significantly more favorable than the facts in *Azusa*. The Project is located in an industrial area, is surrounded by petroleum distribution uses, and is not adjacent to any environmentally sensitive uses. There is substantial evidence in the record that the Project will not result in significant environmental impacts.

To the extent ABJC is trying to make the general argument that *Azusa* stands for the proposition that projects with alleged "noxious uses" are not covered by the exemption, that argument has been rejected by the courts. Numerous courts have ruled that the exemption applies to uses that may result in potential environmental impacts, such as rodeos and medical waste treatment facilities. (*Citizens for Envtl. Responsibility*, *supra*, 242 Cal.App.4th 555 (rodeo not substantially different or unusual to other examples of uses under exemption); *Bloom v. McGurk* (1994) 26 Cal.App.4th 1307 (existing use exemption applies to medical waste treatment facility located in heavy industrial zone.)

ABJC's argument also is inconsistent with the language of the existing use exemption. The exemption states "the key consideration is whether the project involves negligible or no expansion of an existing use." So, the focus is not on type of facility, but on change in use. In addition, the exemption lists broad types of facilities as examples covered by the exemption. Courts have ruled that agencies have discretion to interpret the list of exempted projects broadly. For example, industrial equipment in a large car wash establishment is not substantially different from stores, offices and restaurants listed as examples in the exemption language. (*Walters v. City of Redondo Beach* (2016) 1 Cal.App.5th 809, 818.) The "including, but not limited to" language preceding the examples list and the "similar structures" language following the specific examples supports the interpretation of the exemption as covering commercial structures broadly. (*Id.*) In addition, the fact that the industrial equipment may create noise and odor impacts did not preclude the use of the exemption. (*Id.* at 817-818.) Similarly, a medical residential convalescent facility has been found similar to residential uses listed under the exemption despite the short-term care and services provided at the facility. (*Centinela Hosp. Assn. v. City of Inglewood* (1990) 225 Cal.App.3d 1586, 1599–601.) Therefore, the exemption language does not support ABJC's argument that certain types of facilities are "per se" excluded from the exemption. The

determination of the application of the exemption should be based on the particular facts regarding the project at issue.

ABJC also makes the general argument the exemption should be narrowly construed and should only apply to those activities which do not have a significant effect on the environment. (*Azusa, supra*, 52 Cal.App.4th at 1192-1193.) That argument fails based on the law and facts. Case law supports giving full force and effect to exemptions because they are specifically part of CEQA. A narrow interpretation of an exemption "to achieve harmony with CEQA's broad environmental goals" is improper and violates the intent for exemptions. (*Napa Valley Wine Train, Inc. v. Public Utilities Commission* (1990) 50 Cal.3d 370.) The language of the exemption should be interpreted in accordance with its language and given full effect. A narrow interpretation would result in the imposition of CEQA procedural and substantive requirements on types of projects that are determined to be exempt. (Pub. Resources Code § 21083.1.) The court's review of an exemption should be limited to applying the language of the exemption and determining if substantial evidence supports the agency's determination that the project falls within the exemption language. (*Bus Riders Union, et al. v. Los Angeles County Metropolitan Transportation Agency* (2009) 179 Cal.App.4th 101, 107.)

As documented in the Air District record, including this letter and the information submitted by the TLO and its consultants in response to ABJC's letters, substantial evidence in the record shows that the Project meets the elements of the exemption. In addition, the record establishes that the Project will result in less than significant impacts. Therefore, ABJC's arguments to the contrary fail.

B. PROJECT INVOLVES MINOR ALTERATION OF EXISTING FACILITIES AND NEGLIGIBLE EXPANSION OF USE

The existing use exemption states:

> Class 1 consists of the operation, . . . permitting, leasing, . . . or minor alteration of existing . . . private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of an existing use. (CEQA Guidelines § 15301.)

ABJC argues that the Project does not meet the exemption language because: (a) the Project allegedly includes "new" equipment and uses; and (b) the ethanol offloading operation is located at an allegedly "different location." These arguments are without merit because the exemption specifically allows alteration of existing facilities and the Project uses are a negligible expansion of existing uses.

1. Project is minor alteration of existing facility

ABJC claims the Project components are not "minor alterations of existing facilities." However, this argument is based on an incorrect interpretation of the exemption language. Their argument assumes that any change in the facilities is not permitted. However, the language of the exemption and case law allow alterations that increase the size of existing facilities. The exemption specifically allows "minor alterations." These alterations include additions to existing structures of 2,500 square feet or 10,000 square feet if all public services and facilities are available to the site and the site is not located in an environmentally sensitive area. (CEQA Guidelines § 15301(e).) Cases have upheld the use of the exemption for increases in facility size and changes in operations. (*City of Pasadena v. State* (1993) 14 Cal.App.4th 810 (new use requiring alteration of building covered by exemption); *Turlock Irrig. District v. Zanker* (2006) 140 Cal.App.4th 1047 (change in operations for delivery of water by existing system covered by exemption).) The change in facilities resulting from the Project fall within the exemption language. The equipment under the Project is the same type of equipment currently existing on the site: fuel tanks, delivery of fuel by transfer piping, and off-loading facilities. The Project involves replacement of existing equipment and some new equipment. Therefore, the exemption language and case law support the use of the exemption for the Project.

2. Project is negligible expansion of existing use

ABJC argues that the Project will result in an expansion of uses due to the facility alterations that are part of the Project. This argument is factually incorrect. The types of uses under the Project are the same as the existing uses. The existing uses at the Stockton Terminal include fuel storage, fuel delivery from an adjacent facility via transfer piping, fuel off-loading, and transportation of fuel off-site for delivery to customers. The Project involves these same types of uses.

The Project's ethanol off-loading system and ethanol storage tank are related to an existing use. Currently, these uses are part of the adjacent NuStar operations. Under the Project, these uses will be performed by TLO rather than NuStar. The change in operators of the use is not an expansion of the use. Currently, denatured ethanol is delivered to the Stockton Terminal from the adjacent NuStar site via transfer piping. The denatured ethanol is stored in a tank on the NuStar site. Under the new proposal, TLO will build a new denatured ethanol off-loading operation at the 2650 West Washington Street site, which is adjacent and contiguous to the Stockton Terminal. The denatured ethanol will be delivered via transfer piping from the West Washington Street site rather than via the existing transfer piping from the NuStar site. The existing denatured ethanol storage will take place on-site rather than off-site (i.e., at the Nustar's terminal). The existing denatured ethanol delivery system from NuStar to the Stockton Terminal will only be used as a backup in the event of an interruption of ethanol delivery from the West Washington Street facility. There will be no increase in the amount of fuel currently processed at the Stockton Terminal under the Project. Therefore, the proposed denatured ethanol off-loading and storage is a minor alteration of an existing use, not a new use.

3. Facility location at West Washington Street is allowed under exemption

ABJC argues that the location of the ethanol off-loading facilities at West Washington Street is not allowed under the exemption because it is "an entirely different location." The fact that some of the Project activities will take place at a location adjacent to the Stockton Terminal does not prevent the use of the existing facilities exemption. Under the United States Environmental Protection Agency (U.S. EPA) and Air District permitting regulations, the denatured ethanol off-loading operation at West Washington Street is considered to be the same site as the Stockton Terminal. The location also is adjacent to the existing Stockton Terminal, only about 500 feet away. The language of the existing use exemption does not contain any language that limits the expansion of the existing use to the same property site. In contrast, other CEQA exemptions have specific language limiting the project to the same property site. For example, the exemption for repair and replacement of existing structures specifically limits its application to new structures "located on the same site as the structure replaced." (CEQA Guidelines § 15302.) The existing use exemption does not have this same language restricting location. Under statutory interpretation rules, the absence of this language in the existing use exemption means that it is not subject to a requirement that the continued existing use be located on the same exact property site. Therefore, the continuation of the existing use on an adjacent site as proposed under the Project is allowed under the exemption.

C. CUMULATIVE IMPACT EXCEPTION TO USE OF EXEMPTION DOES NOT APPLY FOR THIS PROJECT

ABJC argues that the existing use exemption cannot be used for the Project if a significant cumulative impact would result due to "successive projects of the same type in the same place over time." (CEQA Guidelines § 15300.2(b).) They argue that, since 1995, the Air District has permitted numerous substantial modifications at the Stockton Terminal without conducting any CEQA environmental review for the permits. Therefore, they argue that the cumulative impact of the increased emissions from each of these prior projects in conjunction with the proposed Project results in significant cumulative air quality impacts. The argument is based on the allegation that if five existing emissions units and three new emissions units are considered together, the cumulative acute hazard index for the Stockton Terminal would be 1.61 which exceeds the Air District's significance threshold of 1.0. However, they present no facts to support this statement.

This argument is not supported by the law or facts. Under CEQA, the cumulative impacts under the exception language do not include past projects which are part of the existing condition. The Project impacts are only the changes to existing conditions (the "baseline" from which project impacts are measured) and past uses are excluded from the Project impacts. In addition, the CEQA review for these past projects cannot be challenged because the short statute of limitations under CEQA expired long ago. In addition, the challengers have the burden of proof to establish the exception applies. ABJC's arguments do not meet this burden of proof.

The environmental impacts from past approvals on the Project site are part of the existing conditions and are not impacts of the new Project being considered by the agency in cumulative or other impacts analysis. (*Citizens for East Shore Parks v. California State Lands Com.* (2011) 202 Cal.App.4th 549; *North Coast Rivers Alliance v. Westlands Water District* (2014) 227 Cal.App.4th 832, 874-878.) In *Citizens for East Shore Parks*, the court ruled that a petroleum company's proposed marine terminal lease extension did not need to consider cumulative impacts of the existing structures and operations (including waste water discharges) because they were part of the current condition and were not effects of the individual project under consideration. (202 Cal.App.4th at 565-566.) Similarly, cases have held that preexisting environmental problems, even if due to illegal activities, were part of the baseline conditions and not part of the analysis of impacts of the proposed Project. (*In re Bay–Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1167–1168.)

This reasoning has been adopted in cases involving the cumulative impacts exception to categorical exemptions. (*North Coast Rivers Alliance, supra,* 227 Cal.App.4th at 874-878.) The court rejected the argument that two-year, interim renewal contracts, when taken together with other past and potential future contracts for the delivery of Central Valley Project water, result in a significant cumulative impact on the environment. (*Id.*) The court ruled that the impact of these contract renewals should not include continuation of existing operations which was part of the existing condition, not part of the cumulative impacts of the lease renewal. (*Id.*) These cases support the argument that the impacts of the existing operations at the Stockton Terminal are part of the baseline and are not impacts of the Project to be considered as part of the cumulative exception analysis.

CEQA's short statute of limitations also supports this interpretation of the exception's scope. CEQA has a very short statute of limitations (30 days normally, 180 days maximum). The short timeframe for filing CEQA legal challenges is to avoid delay and uncertainty for projects and resolve challenges promptly. As the court in *Bloom* stated, it would derogate the brief statutes of limitation to construe the existing facility exemption to allow challenges to new projects to reach back and challenge existing operations for which the statue has expired. (*Bloom, supra*, 26 Cal.App.4th at 1314.) Therefore, the court rejected the opponent's argument that excluding past projects from the existing use exemption analysis "would amount to an invitation for facilities . . . to evade CEQA by beginning operation illegally [without CEQA compliance] and only later obtaining the necessary permit(s) for operation." (*Id.*) ABJC is essentially making this same argument against the Project, which the court rejected. Their argument is a belated attempt to challenge prior Air District permits long after the statute of limitations has expired

D. PROJECT NOT SUBJECT TO CEQA BECAUSE THERE IS NO POSSIBILITY OF SIGNIFICANT IMPACT WITH CERTAINTY

Projects that present *no possibility of a significant impact with certainty* are not subject to CEQA. (CEQA Guidelines § 15061(b)(3).) It is known as the "common sense" exemption. Under this exemption, the agency is allowed to perform an analysis of the project to

determine if there is a potential significant impact. The standard is whether substantial evidence supports the agency's determination of no possibility of a significant environmental impact. (*Muzzy Ranch Co. v. Solano County Airport Land Use Commission* (2007) 41 Cal.4th 372.) The agency has the burden of proof to show the exemption applies. (*Id.*) Cases have upheld the use of assessments of environmental impacts to determine if project impacts will be less than significant supporting the use of the "common sense" exception. (*CREED-21 v. City of San Diego* (2015) 234 Cal.App.4th 488; *Save Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155.) In all these cases, the courts determined that substantial evidence supported the agency's finding of no significant impacts. The courts rejected all arguments by challengers alleging significant environmental impacts. The challenges failed because they did not present substantial evidence to support their argument that significant environmental effects would occur.

The Air District assessment for the Project is consistent with the environmental assessments approved by the courts in these cases. The Air District performed an assessment of potential environmental impacts and found all impacts to be less than significant based on District thresholds. The assessment contains substantial evidence supporting the finding that the Project will not result in any possibility of a significant impact. In addition, the Air District's permitting authority and regulations contain emission limits and control requirements that prohibit a regulated source from causing a significant air quality impact. For example, all large permitted sources must completely offset emissions above the thresholds for certain pollutants through emission reduction credits (ERCs) (SJVAPCD Rule 2201). Rule 2201 also prohibits new or modified sources of emissions from causing local impacts through Risk Management Review (RMR) for the Project in accordance with District and State law standards. The RMR performed for the Project shows that its total emissions of toxic air contaminants are well below the significance threshold and will result in a less than significant impact.

ABJC disputes the Air District analysis and findings as they relate to pollutant emissions claiming that the calculations are erroneous and did not include all sources of emissions from the Project (mobile (train and truck) as well as stationary sources). They claim that the number of truck trips exceed Air District significance thresholds. They claim that locomotive trips and emissions are underestimated and would result in a significant air quality impact. They also dispute the results of the RMR. Overall, they claim that the Project exceeds District significance standards if all Project emissions are included and calculated correctly.

TLO and its consultant (Trinity Consultants) reviewed all these arguments and determined they are without merit. They submitted information to the Air District, including a letter dated May 4, 2017, providing facts and analysis to refute ABJC's arguments. Their allegations are based on erroneous facts, assumptions and methodologies. Therefore, they do not refute the substantial evidence supporting the calculated truck and locomotive trips, and pollutant emissions resulting from the Project. The Air District properly found that the emissions from the Project and traffic impacts are below CEQA significance thresholds. The Air District's determination is supported by substantial evidence in the record.

E. CONCLUSION

In our opinion, the Air District's reliance on the existing facility exemption (CEQA Guidelines § 15301) and "common sense" exemption (CEQA Guidelines § 15061(b)(3)) for issuance of the final ATCs complies with CEQA.

Sincerely,

Amrit S. Kulkarni

c: via Email Only
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ATTACHMENT C
SJVUAPCD RESPONSE TO THE COMMENTS

Public's Comments on Proposed Tesoro's Ethanol Expansion Project Draft ATC Permit: N-845-28-0, N-845-29-0, and N-845-30-0

On March 27, 2017, the District received comments from the public, Adams Broadwell Joseph & Cardozo PC, Attorneys at Law on the proposed project and draft Authorities to Construct N-845-28-0, N-845-29-0, and N-845-30-0. These comments and the District responses to each comment are given in the following section.

Comment # 1

The Air District proposes to exempt the Project from review under the California Environmental Quality Act ("CEQA) as an existing facility pursuant to CEQA Guideline sections 15301 and under CEQA's "common sense exemption," CEQA Guidelines section 15061(b)(3). As described in detail below, the District cannot exempt the Project from review under CEQA because: (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531; (2) even if a petroleum distribution terminal was a "facility," the Project involves more than a negligible expansion of the existing use; and (3) the Project would result in significant air quality, public health and traffic impacts. Thus, the Air District must withdraw the Draft ATC until it prepares an initial study and either a mitigated negative declaration or environmental impact report, as appropriate, pursuant to CEQA.

Response #1

The commenter in this introductory discussion is incorrect. The commenter is claiming that the District proposes to exempt the Project from review under the California Environmental Quality Act (CEQA). The District did not propose to exempt the project from a CEQA review. In fact, the District performed a CEQA review/assessment, which is contained in the engineering evaluation document for this project. As demonstrated in the District's CEQA review, the District made the determination that the project would not have the potential to have a significant impact, thus appropriately concluding that the project is exempt from CEQA. As such, an initial study and either a mitigated negative declaration or environmental impact report are not required.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment # 2

II. THE PROJECT IS NOT EXEMPT FROM CEQA REVIEW

The District improperly determined that the Project is exempt from environmental review under CEQA. CEQA is "an integral part of any public agency's decision making process." CEQA was enacted to require public agencies and decision makers to document and consider the environmental implications of their actions before formal decisions are made. CEQA requires an agency to conduct adequate environmental review prior to taking any discretionary action that may significantly affect the environment unless an exemption applies. Thus, CEQA's exemptions are to be construed narrowly and are not to be expanded beyond the scope of their plain language. Here, the Air District cannot exempt the Project from CEQA as an existing facility or under the common sense exemption because: (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531, (2) the Project involves more than a negligible expansion of the existing use, and (3) the Project will result in significant air quality, public health and traffic impacts.

THE PROJECT IS NOT EXEMPT FROM CEQA REVIEW

A. The Project Is Not Categorically Exempt As An Existing Facility

Under CEQA, the Secretary of California's Natural Resources Agency designated categories of projects that are accepted as having no potential to cause environmental harm. Because such projects are presumed to pose no danger to the environment, a public agency need not examine them under CEQA. The CEQA Guidelines enumerate 32 classes of categorical exemptions. Class 1, the exemption invoked by District, applies to minor alternations of existing facilities.

Class I consists of the operation, repair, maintenance, permitting, leasing, licensing or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

The Air District's Environmental Review Guidelines/Procedures for Implementing the California Environmental Quality Act adds that the existing facilities exemption applies to Air District permit actions for projects "involving negligible or no expansion of use or emissions beyond that existing at the time of the lead agency's determination," including permit actions for:

ATC applications to install air pollution control or abatement equipment and there are no possible significant environmental effects and ATC applications to alter permitted equipment or to change processes that wilt involve only negligible increases or decreases in pollutant emissions and no other possible significant environmental effects.

The Project does not qualify for an exemption as an existing facility because (1) a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 15301, and (2) even if a petroleum distribution terminal was a "facility," the Project involves more than a negligible expansion of use.

1. **A Petroleum Distribution Terminal is Not a "Facility" Under CEQA Guidelines Section 15301**

CEQA Guidelines section 15301 provides examples of "existing facilities" which might fall under the exemption, but section 15301 does not specifically speak to petroleum distribution terminals. Therefore, in determining whether a petroleum distribution terminal qualifies as an "existing facility," a court would look to other terms and provisions in the CEQA Guidelines, the environmental and public health impacts and risks associated with the terminal, and CEQA policy.

Categorical exemptions may be provided for 'classes of projects which have been determined *not* to have a significant effect on the environment.' (Pub. Resources Code, § 21084, subd. (a).) These exemptions should be construed in the light of that authorization. Hence, a term that does not have a clearly established meaning, such as the exemption for existing 'facilities,' should not be so broadly interpreted so to include a class of businesses that will not normally satisfy the statutory requirements for a categorical exemption, even if the premises on which such businesses are conducted might otherwise come within the vague concept of a 'facility."

Indeed, the CEQA Guidelines state that CEQA should be interpreted to "afford the fullest possible protection to the environment within the reasonable scope of the statutory language."

The Project cannot be characterized as a "facility" for purposes of a CEQA existing facility exemption because petroleum terminals are *not* a class of projects which have been determined not to have a significant environmental impact and petroleum terminals inherently have potentially significant environmental impacts. Thus, CEQA does not allow the Air District to apply the existing facility exemption to the Project.

Response #2

Per CEQA Guidelines, the exemption of Section 15301(e) (Existing Facilities) states "*Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of "existing facilities" itemized below are not intended to be all inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of an existing use. Examples include but are not limited to:...*" [emphasis added]. Based on that exemption, the types of facilities are not all inclusive and does

not prevent petroleum distribution terminals from being considered a facility under this exemption. The commenter's statement is incorrect when stating that the petroleum distribution terminal is not a "facility," because the type of operation is not specifically listed in CEQA guidelines.

In addition, to evaluate the petroleum distribution terminal (i.e.: bulk offloading operation) as a separate "facility" hence a separate project under CEQA would constitute "piecemealing." The terminal and the associated proposed activities are within the scope of the project and thus addressing them all as one project under CEQA is an appropriate and conservative approach. Therefore, for CEQA purposes the District evaluated the proposed project as one project. Furthermore, the bulk offloading operation and Tesoro facility is treated as one facility for District permitting purposes.

Regarding the negligible expansion comment, as explained in CEQA Guidelines, §15301, subdivision (e)(1) & (e)(2)), the exemption includes

"Additions to existing structures provided that the addition will not result in an increase of more than: (1) 50 percent of the floor area of the structures before the addition, or 2,500 square feet, whichever is less; or (2) 10,000 square feet if:

(A) The project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan and

(B) The area in which the project is located is not environmentally sensitive."

The size of the proposed project is less than the 10,000 ft^2, is in an area where all public services and facilities are available, and is not located in an environmentally sensitive area. The project will replace the existing 420,000 gallon gasoline storage tank (N-845-1-3) with a 571,068 gallon aboveground internal floating roof denatured ethanol storage tank (N-845-28-0) at the same location and install a 1,347,627 gallon gasoline tank (N-845-29-0). The footprint of the replacement tank is about 145 square feet less than the existing tank. The new gasoline tank is about 3,217 square feet. The truck offloading area is about 1,100 square feet. The railcar offloading area is about 3,400 square feet, and the pipeline pathway is about 2,000 square feet. The entire project square footage is less than 10,000 square feet, therefore, the project is within the scope of the exemption.

Additionally, the proposed project consists of operation and alteration of an existing facility. The project at hand proposes to remove an existing 420,000 gallon gasoline storage tank and replace it with a new 571,068 denatured ethanol storage tank; install a new 1,347,627 gallon gasoline storage tank and install a denatured ethanol bulk offloading operation (N-845-30-0). Therefore, any alteration of the existing facilities is minor and any expansion of the existing use is negligible and within the scope allowed under the exemption.

The commenter is claiming that the District proposes to exempt the Project from review under the California Environmental Quality Act (CEQA). The District did not propose to

exempt the project from a CEQA review. In fact, the District performed a CEQA review/assessment, which is contained in the engineering evaluation document for this project. As demonstrated in the District's CEQA review, the District made the determination that the project would not have the potential to have a significant impact, thus appropriately concluding that the project is exempt from CEQA. As such, an initial study and either a mitigated negative declaration or environmental impact report are not required.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #3

2. The Project Involves More than a Negligible Expansion of Use

The key consideration in determining the applicability of the existing facility exemption is whether the project involves negligible or no expansion of use. For a project to qualify for the existing facilities exemption, the agency's record must support the conclusion that the alteration is, in fact, minor.15 "[A] 'minor' alteration cannot be an activity that creates a reasonably possibility of a significant environmental effect."

Here, the Project does not involve repair, maintenance or minor alteration of an existing structure. Indeed, according to the Air District, the Project is a Significant Modification to the Title V permit and a Federal Major Modification under Air District Rule 2201. The Project includes the installation of ***new*** equipment (which does not constitute air pollution control or abatement equipment), including a 571,068 gallon ethanol storage tank, a 1,347,627 gallon gasoline tank, an ethanol bulk offloading operation at 2650 West Washington Street (with a throughput capacity of up to 180,000 gallons per day delivered by 21 heavy-duty tanker trucks per day with a capacity of 8,800 gallons each and denatured ethanol via rail with a capacity of up to six railcars per day/780 rail cars per year), and a new 1,000-foot pipeline for transferring denatured ethanol from the new offsite offloading operation to the new ethanol storage tank. The installation of new equipment disqualifies a project from a Class 1 exemption. Also, the Project's new offloading operation would exist at an entirely different location from Tesoro's existing facility. The Project would increase volatile organic compounds ("VOC") emissions from the storage tanks and loading racks by 2,394 lb/year (or 1.2 tons/year). The Project requires the Applicant to provide 3,591 lb/year of offsets for the increase in VOC emissions. The Project would also increase hazardous air pollutant emissions, requiring the installation of best available control technology.

Clearly, the Project does not constitute a minor alteration of an existing facility and is much more than a negligible expansion of use. Thus, the District's reliance on the Class 1 exemption is improper and violates CEQA. The District must prepare an initial study and either a mitigated negative declaration or an environmental impact report, as appropriate, before approving any permits for the Project.

Response #3

Please see Response #2.

In addition, the commenter is confused regarding Title V and Rule 2201 Federal Major Modifications. Such modifications are not an indicator as to whether or not a project will have a significant impact under CEQA. In fact, these two processes are completely independent from CEQA.

Title V is federal program that incorporates administrative requirements such as monitoring, recordkeeping, and reporting, into an operating permit. Title V actions are administrative in nature and exempt from CEQA.

A Federal Major Modification is defined in District Rule 2201, which applies to new and modified stationary sources. Rule 2201 provides mechanisms, including emission trade-offs by which ATC's may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards. Since there is an increase in stationary source VOC emissions as a result of this project, this project is a Federal Major Modification; however, this determination is completely independent from the CEQA significance determination.

When making a determination as to the applicability of CEQA, lead agencies consider the potential resulting environmental impacts primarily, instead of solely considering the physical size (square footage) of the project. For example, the resulting stationary source emissions increase for the project as demonstrated in the engineering evaluation is below one ton per year Volatile Organic Compounds (VOC), which is well below the significance threshold of 10 tons per year.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #4

B. The Project Is Not Exempt From CEQA Under The Common Sense Exemption Because It Would Result In Significant Public Health, Air Quality And Traffic Impacts

CEQA Guidelines section 15061(b)(3) provides that a project is exempt from CEQA if "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." This exemption can be used "only in those situations where its absolute and precise language clearly applies." When invoking the common sense exemption, the agency "must be *certain* that there is *no possibility* the project may cause significant environmental impacts." "If legitimate questions can be raised about whether the project might have a significant impact and there is any dispute about the possibility of such an impact, the agency cannot find with certainty that a project is exempt." In this case, the Air District does not have substantial evidence

to conclude that the Project will not result in a significant effect. On the contrary, as explained below, the Air District's own records show that the Project will result in significant air quality, public health and traffic impacts, and the Air District failed to perform a legally adequate analysis that shows otherwise. Therefore, the District could not conclude with certainty that there is no possibility the Project may cause a significant impact.

Response #4

The commenter is incorrect when stating that the District records show that the Project will result in significant air quality, public health, and traffic impacts. This Authority to Construct (ATC) project has been analyzed with the information provided and the District has concluded that the Project does not have the potential to create a significant impact (see the District's engineering evaluation for this project).

Note, due to comments received, the District revised the health risk assessment (HRA) to include non-permitted (mobile sources), even though the emissions from these mobile sources are minimal and below District screening thresholds as previously described. The resulting health risk from the entire project remains well below the CEQA significance threshold of 20 in million cancer risk, and is consistent with the previous conclusion.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #5

III. THE PROJECT WOULD RESULT IN SIGNIFICANT AIR QUALITY, PUBLIC HEALTH AND TRAFFIC IMPACTS

Substantial evidence shows that the Project would result in significant air quality, public health and traffic impacts. Thus, the Air District must withdraw the Draft Permit until it prepares an initial study and either a mitigated negative declaration or environmental impact report, as appropriate, pursuant to CEQA.

Response #5

The commenter is incorrect – there is no such evidence indicating the project results in significant impacts. This Authority to Construct (ATC) project has been analyzed with the information provided and the District has concluded that the Project does not have the potential to create a significant impact.

As discussed in the responses above, the District demonstrated in the engineering evaluation and the CEQA review/assessment that the project would not have the potential to have a significant impact, thus appropriately concluding that the project is exempt from CEQA.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #6

A. The Project Would Result in Significant Impacts From Truck Offloading

The Air District's Supplemental Application Form for CEQA Information requires project applicants to disclose whether a project would result in more than 47 heavy-duty truck one-way trips (or 23 round trips) per day. This information assists "the District in clarifying whether or not the project has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document (CEQA Guidelines §15060(a))." The Applicant claims that the Project would not result in more than 47 heavy-duty one-way (23 round) truck trips per day. The Applicant's claim is unsupported. Substantial evidence shows that the Project would result in 92 heavy-duty one-way truck trips per day (47 round trips), which far exceeds the Air District's CEQA trigger threshold.

The Draft ATC proposes a permit limit of 105 disconnects per day at the new ethanol loading rack. Dr. Fox and Dr. Pless explain that a "disconnect occurs when the flexible hoses connecting the tanker truck or railcar to the off-loading racks are uncoupled after the ethanol transfer is complete." According to the Engineering Evaluation, a tanker truck in ethanol service has five disconnects per delivery. Therefore, the Project would result in a total of 21 roundtrips, or 42 one-way trips, for trucks in ethanol service at the new denatured ethanol off-loading rack. The Engineering Evaluation, however, states that there would be an increase of only 21 one-way truck trips per day associated with the new ethanol off-loading rack. Thus, the Engineering Evaluation underestimates the number one-way truck trips by a factor of two.

Further, the Project would increase the truck trips at the existing gasoline bulk loading rack by 25 round trips per day / 50 one-way trips per day. This is because the Project includes installation of a new gasoline storage tank that is three times larger than the existing tank. This new, larger tank substantially increases storage capacity at the facility and debottlenecks the existing operational situation at the facility by allowing for an increase in product loadout at the existing bulk loading rack.

In Dr. Fox's and Dr. Pless' opinion, the Project's substantial increase in heavy-duty truck trips would result in potentially significant air quality and traffic impacts. Indeed, the Port of Stockton admits that the new ethanol truck offloading rack will result in increased traffic in an area already impacted by traffic. The Port's lease with Tesoro for the 2650 West Washington Street property states:

> As a condition of this Lease, Tenant will route all inbound and outbound truck traffic affiliated with its use and operation on Port property (and within Tenant's control) to

Navy Drive and/or the Port of Stockton Expressway in order to alleviate the traffic impacts on the residential area (Boggs Tract) to the east.

The Air District must disclose, analyze and mitigate, in a CEQA document, the Project's potentially significant traffic and air quality impacts from increased truck traffic.

Response #6

The District has reviewed the information provided by the applicant regarding the number of trips anticipated to be generated due to the project and has verified that the proposed project is below the District's conservative significance screening threshold of 47 one-way truck trips per day. The proposed project results in an additional 42 one-way truck trips (to and from) or 21 round-trips per day for this project, which is consistent with the ethanol throughput limit of 180,000 gal/day and a typical tanker truck capacity of 8,800 gallons. In addition, a quantification analysis of the total operational emissions from non-permitted sources demonstrates the emissions are below the levels of significance as well. Furthermore, as indicated in the commenter's letter, the District is proposing a permit limit of 105 disconnects per day at the new ethanol loading rack. The 105 disconnects represents 21 round-trip truck trips with 5 disconnects per trip for one day. In addition, the permit limit applies that 105 disconnects to the number of trucks and locomotive combined. As such, this permit limit inherently restricts the number of trucks and rail trips combined to no more than 42 one-way truck/rail trips per day. The resulting emissions from 21 round trips does not have the potential to result in a significant impact.

The Port's lease stipulating truck routing to Navy Drive and/or the Port of Stockton Expressway is a standard clause to direct traffic out of a residential neighborhood. This does not support the commenters' claims of a substantial increase in truck traffic; rather, it is a standard clause in Port tenant leases to keep industrial traffic limited to roadways established for the industrial complex's numerous same and similar businesses.

The commenter also incorrectly states that there is an increase of an additional 50 truck trips per day due to debottlenecking resulting in increased gasoline product load out. In actuality, the proposal is for an increase in storage capacity, but not load out throughput. The permit already limits the loadout, and this is not changing as a result of this project. There are no additional trucks trips due to load out. The additional truck trips for the project are only due to the denatured ethanol receiving, as explained above.

Comment #7

The Project Would Result in a Significant Air Quality Impacts from Locomotive Exhaust Emissions at the New Ethanol Off-loading Rack

The Project would allow delivery of ethanol via truck and rail. The Draft ATC for the new ethanol off-loading rack does not specify separate throughput limits for trucks and rail. The Draft ATC only provides combined throughput limits for both modes of delivery. The

Engineering Evaluation states that rail cars carrying denatured ethanol received at the off-loading rack would be moved on site by a locomotive at the Port of Stockton. The Engineering Evaluation provides estimates for exhaust emissions from the rail cars. Dr. Fox and Dr. Pless reviewed these estimates and found that they are incorrect and substantially underestimate emissions from locomotive movements. Specifically, as explained in detail in Dr. Fox's and Dr. Pless' comments, the emissions calculations: (1) incorrectly calculate annual emissions in pounds per year; (2) incorrectly assume that the locomotive would comply with emissions standards for Tier 2 switch locomotives; (3) incorrectly assumes that the switch locomotive would access the site only once per day; (4) incorrectly assumes that the switch locomotive would operate one hour on site; and (5) fails to calculate locomotive exhaust emissions while traveling off-site. When the emissions calculations are corrected, Dr. Fox and Dr. Pless found that the combined on-site and off-site locomotive exhaust NOx emissions from the new ethanol off-loading rack would be 11.03 tons per year, which exceeds the Air District's significance threshold of 10 tons per year. This is a significant impact that must analyzed and mitigated in a CEQA document.

Response #7

In reference to the five points made regarding emissions calculations:

Point #(1) from the comment above: after further review, the initial calculation of the annual rate was corrected and determined to be 0.43 ton of NOx per year as opposed to the incorrect 11.03 tons of NOx per year stated by the commenter. However, the corrected annual emissions did not affect the significance determination under CEQA.

Point #(2) from the comment above: Central California Traction Company (CCT), (the switching company to service the Stockton terminal), confirmed that the locomotive fleet consists of four Tier 4 Engines and three Tier 0 engines. The District used Tier 0 as a conservative assumption to calculate locomotive emissions for hourly (and daily) emissions calculations, which also results in the most conservative acute health risk impact analysis. For annual emissions, the locomotive will be combination of CCT's locomotive fleet, which consists of both Tier 4 and Tier 0 locomotive engines.

Point #(3) and (4) from the comment above: there are no new locomotive trips to the location, only a new stop for ethanol offloading which result in railcar switching. Additionally, CCT confirmed that the full rail car drop off and empty rail car pickups occur in the same trip, which is less than once per day; however, to be conservative, a once per day trip rate was used for the annual emissions analysis (365 days/year). In addition, for worst case daily locomotive emissions, it was conservatively assumed that there are potentially six switches (for a total of 6 hours per day).

Point #(5) from the comment above: as the locomotives are already traveling to the NuStar and Buckeye terminal sites, the Tesoro project will not result in any new off-site locomotive travel; therefore, there are no new locomotive trips associated with this project and it is not necessary to calculate emissions related to off-site locomotive travel time.

As previously demonstrated, the commenter is incorrect in stating that the project would result in a significant air quality impact from locomotive exhaust emissions. As such, the District appropriately concluded that the project is exempt from CEQA. It was determined the environmental impacts are not significant and thus the conclusion that the project would not have a significant impact is still valid.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #8

The Project Would Result in Significant Cancer Risks from On-site Locomotive Exhaust Emissions at the Ethanol Loading Rack

The Engineering Evaluation briefly discusses potential health risks from Project emissions of toxic air contaminants based on the results from the Air District's Risk Management Review ("RMR"). The Engineering Evaluation concludes that health risks posed by the Project are less than significant. Dr. Fox and Dr. Pless reviewed the RMR and Engineering Evaluation. They found that the Air District failed to address operational emissions from mobile sources such as truck or locomotive exhaust emissions associated with the new ethanol off-loading rack or exhaust emissions associated with the increase in truck traffic at the existing loading rack.

Ms. Camille Sears conducted a health risk assessment for locomotive exhaust diesel particulate ("DPM") emissions associated with the new denatured ethanol offloading rack. Based on Ms. Sears' modeling, Dr. Fox and Dr. Pless found that the Project's locomotive emissions at the new ethanol off-loading rack would individually and cumulatively exceed the Air District's CEQA threshold of 20 in one million (for a release height of five meters, 47.7 to 51.8 per million excess risk; for a release height of 10, 22.5 to 23.5 per million excess risk). This is a significant impact that the Air District must analyze and mitigate in a CEQA document.

Response #8

The commenter is incorrect when stating that the District records show that the Project will result in significant air quality, public health, and traffic impacts. This Authority to Construct (ATC) project has been analyzed with the information provided and the District has concluded that the Project does not have the potential to create a significant impact (see the District's engineering evaluation for this project).

Note, due to comments received, the District revised the health risk assessment (HRA) to include non-permitted (mobile sources), even though the emissions from these mobile sources are minimal and below District screening thresholds as previously described. The resulting health risk from the entire project remains well below the

CEQA significance threshold of 20 in million cancer risk, and is consistent with the previous conclusion.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #9

The Project Would Result in Significant Cumulative Air Quality and Public Health Impacts from Successive Modifications at the Facility

Under CEQA, while a project's incremental impacts may be individually limited, they may be cumulatively considerable when viewed together with past, present and reasonably foreseeable future projects. Categorical exemptions cannot apply when the cumulative impacts of successive projects of the same type in the same place, over time are significant. Here, the Project is just one of several major modifications of the facility in the past. Importantly, the Air District did not conduct CEQA review for any of these projects. Cumulatively, these modifications result in substantial increases of emissions and associated significant adverse impacts on air quality as well as significant impact in health risks, as discussed below. The Engineering Evaluation completely fails to address cumulative impacts.

Since 1995, the Air District permitted numerous substantial modifications at the facility without any of these permit modifications ever being subjected to public review under CEQA. Dr. Fox and Dr. Pless provide a list of these modifications in their comments. For example, in August 2001, the Air District permitted the removal of existing throughput limits of 50,000 gal/day at two existing gasoline storage tanks (N-845-1 and N-845-5) and an increase at the existing bulk loading rack (N-845-6) from 250,000 gal/day to 45,000 gal/day with Project ID N-1112963. Information obtained from the Air District indicates that no CEQA evaluation was performed.

Most recently, in 2012, the Air District issued authorities to construct to Tesoro authorizing, among other modifications, an increase at the organic liquids loading rack (N-845-6-3) from 450,000 gal/day to 771,120 gal/day and the installation of a new 2,231,508-gallon internal floating roof gasoline storage tank (N-845-24-0) with Project ID N-1112963. The engineering evaluation estimated the increase in VOC emissions resulting from that project at 4.7 tons/year, almost 50 percent of the Air District's significance threshold for this pollutant of 10 tons per year. The Air District exempted that project from CEQA review.

As shown in Table 3, over the course of the past 22 years, the District permitted substantial modifications at the Facility without any of these permit modifications ever undergoing public review under CEQA. Below, we discuss permitted increase in throughput at the Facility's bulk loading rack (N-845-6) and total permitted increase in the Facility's total organic liquid storage capacity.

Now, for the Project, the District intends to permit another increase in total organic liquid storage capacity from 4,319,508 gal to 6,238,196 gal, a 44 percent increase. Once again, the Air District proposes to exempt the Project from CEQA review. In other words, over the course of less than five years, the permitted throughput at the bulk loading rack (N-845-6) would increase by a total of 213 percent over 1995 permitted levels without any of these permit modifications ever undergoing CEQA review.

Further, the facility existed before CEQA was enacted in 1970 and, thus, units that existed before 1970 never underwent CEQA review unless they were modified and the Air District required CEQA review. Notably, as discussed above, the Air District did not require CEQA review for any of the substantial modifications that occurred between 1995 and present. It is therefore likely that any projects that were permitted between 1970 and 1995 also did not undergo CEQA review.

Dr. Fox and Dr. Pless provide evidence that the Project would result in significant cumulative health risks from the various emission units and non-permitted operational activities at the facility before and after implementation of the Project. Specifically, even when accounting for only eight major emissions units at the 3003 Navy Drive site — five existing emissions units (gasoline storage tanks N845-5, and N-845-24, organic liquid storage tank N845-4, bulk loading rack N-845-6 and associated vapor recovery unit N-845-22) and three new emissions units (denatured ethanol storage tank N845-28, gasoline storage tank N-845-29, and ethanol bulk offloading rack (N-845-30) — the cumulative acute hazard index for the facility (≥1.61) exceeds the Air District's significance threshold of 1.0. Thus, the Project's cumulative acute health risks are significant and must be analyzed in a CEQA document.

Response #9

Health Risk Assessment (HRA)

The commenter is incorrect and once again makes false claims. By policy, the District evaluates all, i.e. cumulative, potential health risk increases at a stationary source. Under District policy, all potential increases are evaluated, as well as evaluating the cumulative impacts of all historic increases in emissions. From District Policy 1905:

> *"For determining whether a project is approvable, the cumulative increase in health risk must be considered.*
>
> *In determining the cumulative increase in health risk, the following risks shall be considered:*
>
> 1. *Risk for new units proposed in the application that is under review,*
> 2. *Changes in risk from modifications proposed in the application that is under review, and*
> 3. *Risk changes from previously approved projects for which the District performed a health risk assessment as part of the application review process."*

As such, the health risk assessment (HRA) has accounted for all historic stationary source modifications and increases. For greatest public health protection, the HRA evaluated the maximum potential emissions from all units at the facility, including any increases in potential emissions from the current project. This procedure results in a worst-case, cumulative, health risk assessment for surrounding receptors.

In this case, for the proposed project and the entire Tesoro facility, the resulting cumulative health risk is below the District's facility threshold of 20 in a million cancer risk.

District's application of thresholds of significance for criteria pollutant

Tesoro is a petroleum distribution terminal and allowed-use by the Port of Stockton in an industrial zone within the Port of Stockton, and is situated between the Port of Stockton West Complex Development Plan and the East Complex Development Plan (i.e. development of commercial and industrial park on more than 500 acres). The project is proposed on a site that has existing terminal facilities and is located in an area surrounded by terminals and other industrial uses. The existing uses on the site include fuel storage, fuel offloading, and transportation of fuel off-site. The project involves these same types of uses. The proposal does not include uses that are different from the fuel storage and dispensing uses currently operated on the site. The operation is surrounded by similar industrial and petroleum operations.

For purposes of complying with the requirements of CEQA, the District uses the NSR offset thresholds as the thresholds of significance for criteria pollutants under CCR § 15064.7. This is an appropriate and effective means of promoting consistency in significance determinations within the environmental review process, and is applicable to both stationary and non-stationary emissions sources.

Consequently, the District's application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. The District's thresholds of significance for criteria pollutants are applied to evaluate regional impacts of project specific emissions of air pollutants.

For purposes of environmental review, CEQA requires that the District evaluate the project from a baseline of the existing environmental conditions of the project, and is prohibited from considering the environmental impacts of the existing operations. Nevertheless, in CEQA, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located [CCR §15064(h) (3)] which states:

"A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project."

Thus, if project specific emission exceed the thresholds of significance for criteria pollutants, the project would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the District is in non-attainment under applicable Federal or State ambient air quality standards.

The increase in VOC emissions associated with this project of 2,394 lb./year (1.2 tons/year), which is below the VOC threshold of significance of 10 tons/yr. Therefore, the project would not result in a considerable cumulative impact nor in a significant impact.

Notwithstanding the above, this increase in VOC emissions is required by Rule 2201 to be offset by surrendering VOC ERCs that represent actual emission reductions that have occurred in the Valley. This facility is required to offset the emissions on a 1.5 to 1 ratio, thus surrendering 3,591 lb/year of VOC ERCs. Surrendering of these ERCs provides 150% mitigation of the emission increase resulting from the project.

For the reasons stated above, the District Rule 2201 requirements, implementation of CEQA requirements, and District attainment plan efforts ensure that the proposed project will not adversely impact air quality for the local residents or any residents in the San Joaquin Valley.

In addition, Tesoro has submitted additional comments for this ATC project, and the District concurs with Tesoro's statements related to this comment (see attachment).

Comment #10

IV. THE DRAFT PERMIT DOES NOT COMPLY WITH THE FEDERAL OR STATE CLEAN AIR ACTS

The Draft ATC does not comply with the federal or state Clean Air Acts because it: (1) substantially underestimates emissions of volatile organic compounds ("VOCs"); (2) fails to identify the best available control technology ("BACT") for all five emissions units; and (4) fails to include enforceable conditions to limit VOC emissions.

Response #10

The commenter's statement that the draft permit does not comply with Federal or State Clean Air Acts is incorrect. As explained in the District's responses to Comments #11 through #16 below, the District did not underestimate emissions of VOCs from the proposed project, the District correctly applied Best Available Control Technology per District rules and policies, and the draft permits do contain enforceable permit conditions to limit VOC emissions.

Comment #11

A. The Draft ATC Is Based On Underestimated VOC Emissions

The Engineering Evaluation substantially underestimates emissions of VOCs from the new denatured ethanol and gasoline storage tanks by omitting emissions from roof landing, degassing and cleaning.

The Project involves two new internal floating roof storage tanks. These tanks function so that, when the tank contains liquid, the roof floats on the liquid, and when the tank is emptied, the roof sits on deck legs at the bottom of the tank. When the roof lands on the deck legs, evaporative losses occur. These emissions continue until the tank is refilled to a sufficient level to float the roof. These are called roof landing losses. According to Dr. Fox and Dr. Pless, tank roof landing losses are large and typically comprise 25 to 60 percent of total tank emissions. The Air District's emissions calculations for the Project completely fail to account for VOC emissions from roof landing losses.

The Air District's emissions calculations also fail to account for degassing and cleaning losses. These emissions occur when tanks are drained and degassed, and continue until the tank is refilled to a sufficient level to float the tank roof. The U.S. Environmental Protection Agency ("EPA") recommends methods to estimate emissions from degassing and cleaning losses. Further, these emissions are routinely included in emission inventories. Yet, the Air District failed to include them in its emission calculations for the Project and failed to limit these emissions through permit conditions. As a result, the Air District underestimated the Project's VOC emissions.

In short, the Draft ATC does not comply with the federal or state Clean Air Acts because it is based on underestimated VOC emissions. The Air District must withdraw the Draft ATC and prepare a revised Draft ATC that accounts for all of the Project's VOC emissions.

Response #11

Roof landings, tank degassing, and interior tank cleaning are considered maintenance activities, which are exempt from permit requirements per Section 7.3 of District Rule 2020. Emissions from permit exempt activities are not evaluated for new source review purposes.

Furthermore, the proposed floating roof tanks will only store specific organic materials with consistent properties, denatured ethanol for Tank 20 and gasoline for Tank 32. Therefore, excessive tank cleaning will not be necessary, and it is expected that the tank roofs will be landed very infrequently for tank maintenance and during unforeseen operational problems.

In fact, information provided by the applicant indicates that, on average, Tesoro conducts a roof landing, degassing, and tank cleaning event once every 10 years, so average actual emissions from such permit exempt maintenance activities is expected to be minimal.

Comment #12

B. The Air District Failed To Require BACT For All Project Emission Units

The Project is a Federal Major Modification and, therefore, requires BACT for all Project emission units for which there is an emissions increase, including the existing loading rack, the new ethanol storage tank, the new gasoline storage tank and the new ethanol bulk offloading operation. Debottlenecking the existing loading terminal will increase its throughput, triggering VOC BACT.

Section 3.10 of Air District Rule 2201 defines BACT as the most stringent emission limitation or control technique achieved in practice for such category and class of source, contained in any State Implementation Plan approved by the EPA, contained in an applicable New Source Performance Standard, or other emission limitation or control technique found by the Air Pollution Control Officer to be feasible. Here, the Air District failed to require BACT for all of the VOC emissions sources that trigger BACT. Further, the Engineering Evaluation determined that BACT for toxic emission control ("T-BACT") is required for the gasoline storage tank because emissions from this tank individually exceed the Air District's cancer risk threshold of 1 in one million. As Dr. Fox and Dr. Pless explain in their comments, the proposed BACT/T-BACT determinations for the Project's emissions sources are substantially flawed.

The Air District Failed to Require BACT for the Existing Organic Liquid Bulk Loading Rack and Vapor Recovery System

The Project will increase the amount of product loaded at the existing loading rack by increasing the throughput of the new gasoline tank. This, in turn, will increase VOC emissions. The Engineering Evaluation fails to include a BACT analysis for this loading rack and associated vapor recovery system.

The existing organic liquid bulk loading rack is a bottom loading rack equipped with dry break couplers. The captured loading vapors are vented to a carbon adsorption vapor recovery system with a minimum VOC destruction efficiency of 99 percent. The current operating permits for the existing organic liquid bulk loading rack and vapor recovery system specify an emission factor of 0.08 pounds per 1000 gallons organic liquid loaded ("lbs/1000 gal loaded"). Dr. Fox and Dr. Pless explain that this is not BACT, yet the Engineering Evaluation recommends no change in this existing emission factor.

The Bay Area Air Quality Management District ("BAAQMD"), for example, adopted a BACT VOC emission standard for truck and rail car bulk loading of 0.02 lbs/1000 gal loaded as achieved in practice, which is a factor of four less than the Engineering Evaluation's 0.08 lbs/1000 gal loaded. This standard is applicable for both gasoline and ethanol loading racks. According to Dr. Fox and Dr. Pless:

> [t]his emission level can be achieved by submerged loading with a vapor collection system vented to a thermal oxidizer or carbon absorber with vapor tank. The facility is currently equipped with carbon adsorption vapor recovery. This system could be upgraded to meet a much lower VOC emission rate by adding additional carbon columns in series with the existing unit to achieve the emission limit of 0.02 lbs/1000 gal loaded adopted by the BAAQMD. Alternatively, a thermal oxidizer could be used. Either of these would also satisfy T-BACT.

The Air District failed to require BACT for the existing bulk loading rack and associated vapor recovery system.

Response #12

The proposed project does not involve any modifications, as defined in District Rule 2201, to the existing bulk loading rack or the associated vapor recovery system. District Rule 2201, section 3.25 defines *modification* as follows:

- Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.
- Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions.
- An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions

limitation.

- A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

The proposed project does not involve a change in the hours of operation, production rate, or method of operation which necessitates a change in permit conditions for the existing bulk loading rack or the associated vapor recovery system. The proposed project does not involve a structural change or addition to the existing bulk loading rack or the associated vapory recovery system, which necessitates a change in permit conditions. The existing bulk loading rack is subject to a daily emission limit, and the proposed project does not result in an increase in emissions from the existing bulk loading rack or the associated vapor recovery system. The proposed project does not involve any changes to permit terms or conditions for the existing bulk loading rack or the associated vapor recovery system.

Therefore, as demonstrated above, the proposed project does not constitute a modification, as defined in District Rule 2201, to the existing bulk loading rack or the associated vapor recovery system.

Pursuant to section 4.1 of District Rule 2201, Best Available Control Technology (BACT) requirements can only be triggered for an existing emission unit that is being modified. Since the existing bulk loading rack and the associated vapor recovery system are not new or modified as defined in District Rule 2201, these units are not subject to BACT requirements.

Comment #13

<u>The Air District Failed to Require BACT for the New Denatured Ethanol and Gasoline Storage Tanks</u>

The Project includes two new internal floating roof tanks to store denatured ethanol and gasoline. According to the EPA, geodesic domes with a cable-supported internal floating roof are BACT for internal floating roof tanks. The Air District did not require BACT for the two new internal floating roof tanks.

The Air District misleadingly states that the tanks are covered and are, therefore, BACT. However, as Dr. Fox and Dr. Pless explain, internal floating roof tanks are open at the top and do not have a fixed roof. Internal floating roof tanks actually allow significant leakage. A geodesic dome, on the other hand, is a cover.

The Applicant argues that geodesic domes are not appropriate for the ethanol storage tank because "[a]luminum metal is known to corrode in the presence of liquids with a high ethanol content." Dr. Fox and Dr. Pless explain why the Applicant is wrong. First, corrosion is an issue for storing petroleum products in steel floating roofs, which are

proposed by the Applicant and the District as BACT for these tanks. Aluminum floating roofs and cable-supported aluminum floating roofs have actually seen good service in ethanol storage. Further, a nitrogen blanket can be used to minimize corrosion concerns. Second, many similar facilities use geodesic dome roofs and internal floating roofs to store gasoline and ethanol.

Corrosion-related failures have not been reported for these facilities. Third, the geodesic dome would not be in contact with the ethanol. Rather, the geodesic dome would be separated from the ethanol by a floating roof and substantial headspace. Further, aluminum geodesic domes can be coated with a protective layer. Finally, even assuming some corrosion could occur, the same is true for steel tank lids, which are proposed by the Applicant.

For the gasoline storage tank, the Applicant argues that geodesic domes proposed by Dr. Fox and Dr. Pless are inapplicable to the Project because they are permitted to store non-gasoline petroleum products or are significantly larger than the gasoline tank proposed. Dr. Fox and Dr. Pless explain why the Applicant is wrong. First, the Air District's own BACT Guideline 7.3.3 for tanks, covers "petroleum and petrochemical production – floating roof organic liquid storage or processing tank, equal to or greater than 471 bbl tank capacity, equal or greater than 0.5 psia." Second, many gasoline storage tanks that cover a wide range of tank sizes, including the Project's gasoline tank, are cited in the BACT Guideline, providing evidence that the subject tank controls are achieved in practice.

In sum, the Air District failed to require BACT for the Project's gasoline and denatured ethanol storage tanks, which is a welded cable-suspended internal floating roof tank with a geodesic dome.

Response #13

Tesoro has proposed to install internal floating roof tanks for the storage of denatured ethanol and gasoline. In evaluating their application, the District concluded that the proposed internal floating roof tanks satisfy District BACT requirements.

Functionally, an internal floating roof tank utilizes the same mechanisms to reduce emissions as an external floating roof tank equipped with a fixed geodesic dome roof. In both cases, the primary emission reduction mechanism is the floating roof, which significantly reduces the vapor space above the organic liquid surface. In addition, the fixed roof employed by both tank designs functions to block the wind and prevent wind induced losses from the organic liquid that "clings" to the tanks interior shell as the roof moves up and down.

Furthermore, based on information in Section 7.1.1.4 of EPA publication AP-42 Chapter 7.1 – Organic Liquid Storage Tanks[1], a domed roof is typically used as a retrofit technology for existing external floating roof tanks. In Tesoro's case, the tanks are

[1] http://www.epa.gov/ttn/chief/ap42/ch07/final/c07s01.pdf

newly constructed internal floating roof tanks. Tesoro is not proposing to retrofit any external floating roof tanks with this project.

Moreover, AP-42 Chapter 7.1 states that a domed external floating roof tank is very similar to an internal floating roof tank. Regarding domed external floating roof tanks, Chapter 7.1 goes on to say "*In the event that the floating deck is replaced with the lighter IFRT-type deck, the tank would then be considered an internal floating roof tank.*"

Finally, sample emission calculations comparing a regular fixed roof tank (which represents an uncontrolled tank), a domed external floating roof tank, and an internal floating roof tank using the same tank parameters shows that the volatile organic compound (VOC) control efficiency of an internal floating roof tank is similar to that of a domed external floating roof tank, both of which achieving a control efficiency of at least 99% compared to an uncontrolled tank.

For the above reasons, the District considers an internal floating roof tank to be equivalent to a domed external floating roof tank for BACT purposes.

Comment #14

The Air District Failed to Require BACT for the New Denatured Ethanol Truck and Rail Offloading Rack

The Project includes a new denatured ethanol truck and rail off-loading rack. After unloading is complete, the couplings between the tanker truck or rail car and the loading rack are disconnected. Some liquid remains inside the lines/couplings connecting the tanker truck/rail car and the rack. Dr. Fox and Dr. Pless explains that some of this ethanol will spill to the ground and subsequently evaporate, resulting in VOC emissions. The amount of the "leak" depends on the type of coupler -- either a camlock or a dry break coupler -- used to connect the tanker truck and railcar to the loading rack. The leaks (and resulting VOC emissions) from camlocks are significantly higher than from dry break couplers. Despite this, the Applicant proposes camlocks and the Air District improperly concluded that they satisfy BACT.

Section 3.10 of Rule 2201 defines BACT as the most stringent emission limitation or control technique that has been achieved in practice or required by any SIP for the same class or category as the source. According to Dr. Fox and Dr. Pless, the use of camlock couplers with a leak rate of 8 mL per disconnect for the ethanol offloading rack does not satisfy BACT. Rather, BACT is the use of dry break couplers and leak rate of 2 mL per disconnect.

The Applicant claims that dry break and camlock couplers are "equivalent" under the Air District's BACT Guideline 7.1.14 for Light Crude Unloading Rack. Therefore, according to the Applicant, the proposed camlock fittings with an average disconnect loss no greater than 8 mL (0.014 lb/gal) is BACT. However, the Applicant provides zero support for the 8 mL per disconnect leak rate. Further, the Applicants provides no evidence that

dry breaks and camlocks are equivalent. Indeed, both of these unsupported statements are false.

Evidence shows that dry break couplers have much lower leak rates than camlock couplers. For example, the Bakersfield Crude Terminal holds a permit issued by the Air District that includes the use of dry break couplers limited to 3.2 mL per disconnect (0.0056 lb/gal). Also, the Maryland Department of the Environment indicates that most denatured ethanol deliveries arrive in MC306/406 (DOT 406) tanker cars, which typically can be off-loaded with dry disconnect. Dry break couplers are widely used for the transfer (loading and unloading) of ethanol and numerous other substances. Thus, much lower VOC emissions have been achieved in practice for both loading and unloading of both ethanol and other similar substances and must be required here as BACT.

Response #14

Tesoro has proposed to install a denatured ethanol bulk offloading operation consisting of one railcar offloading station and one truck offloading station. As explained in the application evaluation for this project, the District concluded that the railcar offloading operation does not trigger BACT requirements.

Furthermore, the District concluded that only the hose disconnections at the denatured ethanol truck offloading station triggers BACT requirements. Therefore, the top-down BACT analysis conducted in the application evaluation for this project was limited to the VOC emissions from tank truck hose disconnections.

Bakersfield Crude Terminal, LLC currently holds District permit S-8165-3-1 for a light crude oil railcar unloading operation. This operation is strictly limited to unloading light crude oil from railcars; as such, the hose connection technology used for this railcar unloading operation has no applicability or relevance to the proposed denatured ethanol truck unloading operation.

In performing its BACT analysis, the District researched the Maryland Department of the Environment website for regulations that specifically address organic liquid transfer operations. Specifically, Title 26, Part 2, Subtitle 11, Chapter 13, Control of Gasoline and Volatile Organic Compound Storage and Handling[2] lists the following regulations:

- Regulation 04, *Loading Operations* (COMAR 26.11.13.04)[3], regulates the loading of gasoline or VOC with a TVP of 1.5 psia or greater into any tank truck or railroad tank car.
- Regulation 05, *Gasoline Leaks from Tank Trucks* (COMAR 26.11.13.05)[4], regulates the gasoline tank trucks.

[2] http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=26.11.13.*
[3] http://www.dsd.state.md.us/comar/comarhtml/26/26.11.13.04.htm
[4] http://www.dsd.state.md.us/comar/comarhtml/26/26.11.13.05.htm

Regulation 04 is applicable solely to gasoline loading operations and Regulation 05 is applicable solely to tank trucks for gasoline service. Neither of these regulations specifies any requirements for denatured ethanol, and neither of these regulations is applicable to organic liquid offloading operations, such as the one associated with this project.

It is important to reiterate that an organic liquid loading operation and an offloading operation are two distinctly different operations. The tanker truck hose connections used for organic liquid loading are different than those used for organic liquid offloading. In its analysis, the District could not find any denatured ethanol tanker trucks that utilize dry break coupler technology on the tank offloading connections and therefore the District concluded that dry break coupler was not an Achieve-In-Practice technology that could be required under the BACT analysis for this unit.

Furthermore, the California Air Resources Board (CARB) has not developed any vapor certification requirements for cargo tank truck dedicated to offloading denatured ethanol within the California. As a result, CARB has no certified requirement, such as dry break coupling devices, for denatured ethanol offloading operations. While Tesoro has full control over its own equipment and operations, it does not have the same level of control over the 3rd party tank trucks that arrive at the terminal to deliver and offload denatured ethanol. It is neither reasonably possible nor economically feasible for a bulk fueling terminal facility to require 3rd party tank trucks to retrofit their truck tank's offloading connections with dry break coupler technology for denatured ethanol offloading. Therefore, using dry break couplers for denatured ethanol tank truck offloading operations has been removed from consideration at this time.

Tesoro has proposed the use of cam lock fittings on the offloading lines, which is currently considered to be the industry standard for denatured ethanol offloading, and Tesoro has proposed to limit the excess drainage at disconnect to no more than 8 ml liquid per disconnect through good management practices, which could include (a) using a drip tray when disconnecting the hose from the truck offloading skid and the tank trucks to capture spilled denatured ethanol, (b) utilize a dry pump to evacuate hoses prior to disconnecting from the tank trucks, and (c) inspecting the hose and couplings periodically to ensure that the equipment is in good condition and prevent unplanned leaks from occurring.

Therefore, the District considers BACT for VOC emissions from hose disconnections for denatured ethanol offloading to be satisfied with the use of cam lock fittings on offloading lines and limiting the excess drainage at disconnect to no more than 8 ml liquid per disconnect through good management practices.

Comment #15

The Air District Failed to Require BACT for Fugitive Components

Dr. Fox and Dr. Pless explain that fugitive components, such as valves, connectors, pumps, compressors, drains and sampling ports present opportunities for contained vapors to leak into the atmosphere. The Project's proposed pipeline, new storage tanks and new offloading rack would contain new fugitive components. The Engineering Evaluation concludes that BACT is not required for fugitive components by improperly piecemealing the components from the equipment they support.

In evaluating the applicability of BACT, the Air District separated the fugitive components from the emission units and separately evaluated BACT for each. The Air District concluded that the fugitive components taken alone do not exceed the 0.5 lb/day threshold and thus do not trigger BACT. However, as Dr. Fox and Dr. Pless explain, these components are integral to the operation of the tanks and loading rack and thus must be subject to BACT. Alternatively, one could argue that all fugitive components should be considered as a single emission source and considered together. Under either of these scenarios, VOC emissions from fugitive components trigger BACT.

Dr. Fox and Dr. Pless explain that BACT for fugitive components is leakless components where feasible and, otherwise, a leak detection and repair ("LDAR") monitoring program coupled with a leak rate of 100 ppm achieved using the technologies identified in the BACT guidelines established by the Bay Area Air Quality Management District ("BAAQMD"). The 100 ppm leak rate is achieved in practice at many similar facilities in the BAAQMD and, thus, satisfies BACT and TBACT for fugitive equipment leaks for the Project. The Engineering Evaluation fails to evaluate or even mention either of these BACT options, let alone require either as permit conditions.

Tesoro is well aware of BACT for fugitive components. Tesoro proposes to use low-leak fugitive components at the Tesoro Savage Vancouver Energy Distribution Terminal. Tesoro's Senior Project Manager for Design and Engineering of this Terminal testified in July 2016 that the Terminal will use all low-emission valves, capable of meeting a leak rate of less than 100 ppm. He reported manufacturer data which measured VOC levels of less than 15 ppm for these valves when tested at 650 pounds per square inch ("psi") at a temperature of 350 F for over 5,000 cycles. He also testified that the terminal will use all low-emission, spiral-wound, flex-metallic gaskets.

The Draft ATCs for the two new tanks include a VOC concentration limit for gas leaks of 10,000 ppm measured using EPA Method 21. The Draft ATCs do not state which sources this leak limit apply to, (i.e. tanks or its fugitive components). However, assuming fugitive components, this trigger level for leak repair is a factor of 100 higher than the achieved-in-practice BACT level of 100 ppm.

Response #15

District Rule 2201, section 4.1 states BACT requirements shall be triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emission unit basis.

District Rule 2201, section 3.17, defines emissions unit as an identifiable operation or piece of process equipment such as a source operation which emits, may emit, or results in emissions of any affected pollutant directly or as fugitive emissions.

Furthermore, District Rule 1020, section 3.46 defines source operation as the last operation or piece of equipment which results in the separation of an air contaminant from the process materials or in the conversion of the process materials into air contaminants.

Tesoro has proposed to install two new internal floating roof storage tanks (permit units N-845-28 and N-845-29), denatured ethanol truck and railcar offloading equipment (permit unit N-845-30), and various associated transfer piping components including pumps, valves, compressors, flanges, etc.

Each of these operations is a separate permit unit and will be discussed separately below.

Denatured ethanol and gasoline storage tanks (N-845-28 and N-845-29)

Emissions from an internal floating roof storage tank consist of both working losses and breathing losses. The working losses occur as a result of the displacement of the vapor space of the tank into the atmosphere which occurs during tank filling. Breathing losses are the result of diurnal heating and cooling, caused by the changes in temperature of the contents of the tank. Both losses occur around the seals of the storage tank's internal floating roof. Per the definition of source operation above, each internal floating roof storage tank is considered a source operation, and therefore an emission unit, because the tank's internal floating roof is the point at which the organic liquid is emitted into the atmosphere as a vapor.

However, the transfer piping components such as pumps, compressors, and flanges are located at various intervals throughout the pipe network, most often near the ground level and a significant distance from the internal floating roof storage tank. Each individual piping component represents a distinct point at which organic vapor could be emitted to the atmosphere and is located at a significant distance from the internal floating roof tank. Therefore the collection of piping components associated with each internal floating roof storage tank is a separate emission unit from the internal floating roof storage tank unit.

Therefore, the District determined that the storage tank and the associated piping components are separate emission units. Since the storage tank and the associated piping components are considered separate emission units, BACT requirements are evaluated separately for each emission unit. As shown in the table below, the fugitive

piping component emissions associated with each internal floating roof storage tank are de minimis and per EPA-approved District policy, they do not trigger BACT requirements.

Equipment	Total number of components	Total Daily PE (lb-VOC/day)	BACT Triggered
Denatured ethanol storage tank associated piping components	107	0.2	No
Gasoline storage tank associated piping components	90	0.2	No

Denatured ethanol truck and railcar offloading equipment (N-845-30)

Because the liquid denatured ethanol offloaded from tanker trucks and railcars is transferred into the facility's internal floating roof tanks via a fully enclosed piping network, the only sources of emissions from the truck and railcar offloading stations are from the hose disconnections at the tanker truck offloading station and the railcar offloading station and from the transfer piping components associated with each offloading station.

Hose disconnection emissions from the denatured ethanol offloading equipment occur at the truck and railcar hose connection interfaces, and piping components emissions occur a significant distance away from each interface at various spots along the transfer piping network. For the reasons stated above in the internal floating roof storage tank discussion, the District considers the tanker truck offloading station's hose disconnection interface, the railcar offloading station's hose disconnection interface, and the piping components associated with each offloading station to be separate source operations and therefore separate emission units.

Since the railcar offloading station, the truck offloading station, and the collective piping components associated with each are considered to be separate emission units, BACT requirements are evaluated separately for each emission unit. As shown in the table below, the fugitive piping component emissions associated with the railcar offloading station and the truck offloading station tank are de minimis and per EPA-approved District policy, they do not trigger BACT requirements.

Equipment	Total number of components	Total Daily PE (lb-VOC/day)	BACT Triggered
Denatured ethanol railcar station associated piping components	47	0.1	No
Denatured ethanol truck station associated piping components	42	0.1	No

Comment #16

The Draft ATC Permit Conditions Are Unenforceable And Fail To Incorporate All Assumptions Supporting The Emission Estimates

The Draft ATC contains various conditions to limit the VOC emissions. However, according to Dr. Fox and Dr. Pless, the conditions are insufficient and fail to limit VOC and HAP emissions to the levels assumed in the Engineering Evaluation and HRA prepared for the Project. In fact, many of the errors and omissions in the Draft ATC are the same issues that served as the basis of a recent Notice of Violation issued by the EPA to the Bakersfield Crude Terminal, which is also permitted by the Air District. Thus, the Air District is well aware of the Draft ATC's shortfalls. The Draft ATC must be revised to require enforceable conditions to limit VOC emissions to those assumed in the HRA and Engineering Evaluation.

The Engineering Evaluation estimated the increase in VOC emissions from the storage tanks using the TANKS 4.09d model. However, the Draft ATC does not require the Applicant to use this model, or any other method, to actually estimate daily and annual VOC emissions. Further, the Draft ATC does not require any testing of the key input parameters used in the TANKS 4.09d model, the true vapor pressure ("TVP"), temperature and vapor molecular weight. Rather, the Air District argues that the permit limit of 11 pounds per square inch ("psia") is sufficient to limit VOC emissions. Dr. Fox and Dr. Pless explain that the Air District is wrong. The daily and annual VOC emission limits are not practically enforceable because the Draft ATC does not specify any method to determine VOC emissions nor does it require any testing to determine the key input parameters necessary to estimate VOC emissions (e.g., vapor molecular weight, temperature and TVP). Thus, there is no way to confirm that daily and annual VOC and HAP emissions are met, and the limits are not practically enforceable.

Response #16

Each draft Authority to Construct permit contains conditions limiting the daily and annual emissions from the operation and requiring the permittee to keep records to demonstrate compliance with each emissions limit specified on the permit. As required by permit condition, the records must contain each calculated emission quantity as well as each process variable used in the respective calculations/modeling. The District performed a Risk Management Review and concluded that the proposed project is compliant with all applicable District rules and regulations and no specific condition limiting the HAP emissions from the proposed equipment is required.

In addition, EPA has reviewed the District's engineering evaluation of the proposed project as well as the draft Authority to Construct permits and provided no objections to the District's emission calculation methodology, BACT determination, or the enforceability of any of the permit conditions. In fact, EPA had no comments at all on the proposed project. Therefore, no additional testing or recordkeeping requirements are necessary to enforce the daily and annual emissions from the proposed operations.

Comment #17

The Project does not qualify for a CEQA exemption because a petroleum distribution terminal is not a "facility" for purposes of a CEQA exemption pursuant to CEQA Guidelines section 10531. Even if a petroleum distribution terminal was a "facility" the Project involves more than a negligible expansion of the existing use, and the Project would result in significant air quality, public health, and traffic impacts. In addition, the Draft ATC does not comply with the federal or state Clean Air Acts. The Draft ATC fails to require best available control technology for all emissions units, underestimates tank fugitive emissions ad fails to require enforceable permit conditions for storage tank volatile organic compound and hazardous air pollutant emissions. We urge the Air District to withdraw the Draft ATC until it prepares an initial study and a mitigated negative declaration or environmental impact report, as required by CEQA, and prepares a Draft ATC that complies with the federal and state Clean Air Acts.

Response #17

As already mentioned on several occasions, the District did not propose to exempt the project from a CEQA review. In fact, the District performed a CEQA review/assessment, which is contained in the engineering evaluation document for this project. As demonstrated in the District's CEQA review, the District made the determination that the project would not have the potential to have a significant impact, thus appropriately concluding that the project is exempt from CEQA.

The commenter's incorrect conclusions are addressed in the District responses above.