EVALUATION REPORT FOR PERMIT TO CONSTRUCT

APPLICANT'S NAME: CHEVRON USA, INC.

ID NO.: 800032

MAILING ADDRESS
601 S. VAIL AVE.
MONTEBELLO, CA 90640

CONTACT: JOHN DALTON
TESH SPECIALIST

EQUIPMENT ADDRESS
SAME

EQUIPMENT DESCRIPTION
MODIFICATION TO: STORAGE TANK NO. 886, 35'-0" DIA. X 32'-0" H., DOUBLE DECK, DOMED EXTERNAL FLOATING ROOF, 5,500 BARREL CAPACITY, WELDED SHELL, WITH A METALLIC SHOE PRIMARY SEAL, A RIM MOUNTED SECONDARY SEAL;
BY THE ADDITION OF: AN EXTERNAL GEODESIC DOME.

BACKGROUND:
Tank 886 was constructed in 1984 for use as a crude oil pipeline surge tank. AN522923 was filed to change the storage contents for Tank 886 from crude oil to transmix. Transmix is a combination of varying grades of petroleum products such as gasoline, diesel and crude oil that is created during the pipeline transportation process. The storage tank is located at Chevron's Montebello Bulk Terminal. Chevron has also filed AN538998 to add transmix loading capability to loading rack # 1 at that facility. The Chevron Montebello Terminal is a Title V facility; it is not a RECLAIM facility. There are no K-12 schools within 1000 ft of this facility. A search of the AQMD Compliance data base indicates that no Notice of Violation or Notice to Comply have been issued to the facility in the past 10 years.

PROCESS DESCRIPTION:
Chevron's Montebello Terminal receives crude oil, gasoline and diesel by pipeline, temporarily stores these fuels in tanks, and loads them into trucks for distribution to local service stations. The crude oil is sent on by pipeline to the refinery for further processing. In addition, the Terminal receives (by truck) and stores ethanol. The ethanol is used as the oxygenating agent when mixed into gasoline during truck loading.

The Montebello Terminal proposes to change the contents of Tank 886 from crude oil to transmix. Transmix or transportation mix is created in the pipeline at the interface between different products that are pumped through the pipeline. When the commodity transported in the pipeline is changed, the interface mixture is diverted into storage tanks so that the delivered commodity is not contaminated. The transmix is then loaded into trucks and returned to the refinery for reprocessing.

A throughput limit of 65,100 bbl/month is proposed with a maximum Reid Vapor Pressure limit of 13 psi. The Reid Vapor Pressure limit corresponds to the maximum gasoline specifications.

An external geodesic dome will be added to meet BACT requirements for this tank modification.

CALCULATIONS**:**

Tank 886 is currently operating under permit no. M45708 (AN121229, see attachment #1). There are no throughput limits or storage commodity specified on the permit. A review of the engineering file (attachment #2) for AN121229 indicates that NSR emissions for Tank 886 were calculated assuming crude oil with a TVP of 11 psia as the storage product and an average throughput of 474,500 bbl/year. The current application seeks to increase the throughput to 65,100 bbl/month. Storage tank emissions are estimated using the EPA Tanks 4.09d program. The original emission calculations for Tank 886 will be updated using the Tanks 4.09d program and compared to the emissions from the proposed changes to commodity and throughput. Any increase in emissions will require offsets. Since there is no "transmix" commodity in the Tanks 4.09d program, gasoline will be used as a "worst case" surrogate. RVP 13 gasoline is the maximum vapor pressure based on the standard CARB formulation requirements.

The Tanks 4.09d ROG calculations are summarized below (Full calculations in attachment #3).

Table 1 – VOC emissions from Tank 886

Month	EFT – Crude Oil	EFT – Transmix	Increase with Transmix	Domed EFT – Transmix	Increase with Transmix & Domed Tank	
Jan	138.78	192.68	53.90	58.44	-80.34	lb/month
Feb	142.71	200.08	57.37	59.74	-82.97	lb/month
Mar	145.88	205.84	59.96	60.67	-85.21	lb/month
Apr	146.69	206.63	59.94	62.78	-83.91	lb/month
May	147.29	207.11	59.82	64.45	-82.84	lb/month
Jun	146.07	203.69	57.62	66.95	-79.12	lb/month
Jul	149.72	208.75	59.03	70.29	-79.43	lb/month
Aug	148.87	207.06	58.19	70.47	-78.40	lb/month
Sep	145.04	200.89	55.85	68.69	-76.35	lb/month
Oct	142.86	198.33	55.47	65.47	-77.39	lb/month
Nov	140.71	195.88	55.17	61.05	-79.66	lb/month
Dec	136.67	188.93	52.26	58.35	-78.32	lb/month
Annual	1731.28	2416.16	684.88	767.35	-963.93	lb/year

For the domed tank storing transmix and a throughput of 65,100 bbl/month, the maximum VOC emissions are 70.47 lb/month in August. NSR entry is 70.47 / 30 = 2.35 lb/day / 24 = 0.10 lb/hr.

NSR : BACT & OFFSETS

BACT: There is an increase in VOC emissions greater than 1 lb/day (30 lb/month) for each month, from the proposed change in commodity and throughput from 1300 bbl/day crude oil to 65,100 bbl/month transmix. Therefore, BACT is required for this tank modification. BACT is Category A seals and an external dome. This external floating roof tank has Category A seals and an external geodesic dome will be added.

OFFSETS: With the addition of the external geodesic dome, the VOC emissions decrease in all months. No offsets are required.

HEALTH RISK ASSESSMENT:

TAC emissions were calculated by the Tanks 4.09d program using the gasoline TAC profile from Tanks 4.0d; results are summarized in Table 2.

Table 2 - Summary of TAC Emissions from Transmix (as gasoline) @ 65,100 bbl/month

	RVP 13 (lb/yr)	Total (lb/hr)
Benzene	6.04	0.000689
Ethylbenzene	2.69	0.000307
n-Hexane	4.33	0.000494
Toluene	15.6	0.001781
m-Xylene	13.29	0.001517

MICR and HAZARD INDEX for Transmix with Increased Throughput and added dome - Tier 2 Analysis

(See Risk Spreadsheets, Attachment #4)

Basis:

- Emissions calculated by EPA Tanks 4.09d Program
- Distances to receptors provided by applicant.
- TAC speciation profile for Gasoline from EPA Tanks 4.09d Program
- Emissions are assumed to be distributed evenly over 24 hours per day, 365 days per year.
- The MICR(commercial and residential) is calculated by spreadsheet using the updated risk program.

The results of the RISK Spreadsheet calculations for MICR are summarized in the following tables:

Table 3 MICR- Transmix (as gasoline) @ 65,100 bbl/month with external dome

	Emission Rate	MICR	
TAC	(lb/hr)	Sensitive/Residential	Worker/Commercial
Benzene	0.000689	2.23×10^{-8}	2.28×10^{-7}
Ethylbenzene	0.000307	8.64×10^{-10}	8.83×10^{-9}
n-Hexane	0.000494		
Toluene	0.001781		
m-Xylene	0.001517		
Totals	**n/a**	**2.32×10^{-8}**	**2.37×10^{-7}**

Variable Inputs for Risk Spreadsheet

VARIABLES			Cancer Burden			NO
Hour/Day	24	hr/day				
Day/Week	7	day/wk	X/Q for one-in-a-million:			
Week/Year	52	wk/yr	Distance (meter			
Units	lb/hr	lb/hr or ppm	Area (km2):			
Exhaust Flow Rate	N/A	scfm	Population:			
Control Efficiency	0	%	**Cancer Burden:**			
Point Source?	V	p or v	No Cancer Burden – Risk < 1 in 1 million.			
Stack Height	n/a	feet				
Area	962	sq. ft.				
Distance-Residential	540	meters				
Distance-Commercial	55	meters				
Met. Station		Pico Rivera				

HIA & HIC

HIA = [Q(lb/hr) * (X/Q)max] / Acute REL	HIA	HIC
HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL		
Target Organs		
Alimentary system (liver) - AL		8.97E-06
Bones and teeth - BN		
Cardiovascular system - CV		
Developmental - DEV	3.74E-04	1.03E-03
Endocrine system - END		8.97E-06
Eye	8.33E-05	
Hematopoietic system - HEM	3.39E-04	6.71E-04
Immune system - IMM	3.39E-04	
Kidney - KID		8.97E-06
Nervous system - NS	3.42E-05	1.15E-03
Reproductive system - REP	3.74E-04	
Respiratory system - RES	8.33E-05	4.73E-04
Skin		

RULES EVALUATION:

CEQA: The CEQA Applicability Form (400-CEQA) indicates that the project does not have any impacts which trigger the preparation of a CEQA document. The expected impacts of the project on the environment are not significant, therefore a CEQA analysis is not required.

212: Public Notice is not required since risk associated with emission of TACs due to the requested changes to the current permit is less than 1 in 1 million for MICR, HIA, & HIC and the overall facility emissions are decreased. There is no Cancer Burden. There is no school within 1000 feet. Emission increases resulting from the modification are below the allowable maximums.

401: Visible emissions are not expected.

402: There have been no Notice to Comply or Notice of Violation citations issued to the facility for the past 10 years. Compliance is expected.

463: Tank 886 is currently in compliance with Rule 463. There is no impact on Rule 463 by changing the storage commodity from Crude Oil to Transmix.

1149: Tank 886 will continue to be subject to the tank cleaning and degassing requirements of this rule. Compliance is expected.

1178: Tank 886 is not subject to Rule 1178. AER emissions for ROG at this facility are less than 20 tons/year for all years 2000 through 2011.

40CFR60 Subpart Kb

Tank 886 was constructed after July 23, 1984; and therefore subject to 40CFR60 Subpart Kb. By complying with Rule 463, Tank 886 meets or exceeds the requirements of this NSPS.

REGULATION XIII – New Source Review

1303(a): BACT. There is an increase in VOC emissions greater than 1 lb/day (30 lb/month) for each month, from the proposed change in commodity and throughput from 1300 bbl/day crude oil to 65,100 bbl/month transmix. Therefore, BACT is required for this tank modification. BACT is Category A seals and an external dome. This external floating roof tank has Category A seals and an external geodesic dome will be added. With the addition of the external dome, there is no emission increase in any month.

1303(b) Modeling: Not required.

Offsets: With the addition of the external dome, there is no increase in emissions in any month. ERCs are not required.

Compliance: This facility is in compliance with AQMD rules and regulations.

Major Polluting Facility: This is not a major modification at an existing major polluting facility; the VOC emission increase is less than one lb/day.

Rule 1401 New Source Review of Toxic Air Contaminants

Estimates for MICR ,cancer burden, andchronic HI are calculated per Rule 1401(f)(3); and acute HI is calculated per Rule 1401(f)(4), based on permit conditions. The permit conditions directly limit the annual emissions.

Rule 1401 risk calculations are found in Attachment 4.

MICR – residential	2.32×10^{-8} @ 540 meters
MICR – commercial	2.37×10^{-7} @ 55 meters
HIA & HIC	all < 1.0

1401(d)(1)(B)	Permit unit is modified with BACT, MICR is $\leq 1 \times 10^{-6}$
1401(d)(1)(C)	No cancer burden: MICR is $\leq 1 \times 10^{-6}$
1401(d)(2)	The cumulative increase in total chronic HI for any target organ system will not exceed 1.0 at any receptor location.
1401(d)(3)	The cumulative increase in total acute HI for any target organ system will not exceed 1.0 at any receptor location.
1401(d)(4)	The risk per year will not exceed 1/70 of the maximum allowable risk (1×10^{-6}) at any receptor locations in residential areas.
1401(d)(6)	Federal NSR for toxics does not apply since this is not a major stationary source per 40CFR63, Subpart A, §63.2.

1401.1: Tank 886 is not subject to Rule 1401.1; the rule does not apply to existing facilities.

40 CFR 63, subpart BBBBBB

The requirements of AQMD Rule 463 are equivalent or more stringent than this NESHAP and compliance is expected. A storage tank in compliance with the control requirements of 40CFR60 Subpart Kb is deemed in compliance with 40CFR63 Subpart BBBBBB {§63.11087(f)}

Reg XX The facility is not subject to Reg XX; this is not a RECLAIM facility.

Reg XXX The facility is subject to Reg XXX. This is a minor permit revision as defined in Rule 3000(b)(15). A minor permit revision is subject to a 45-day EPA review, Rule 3003(j) and not subject to public participation requirements, Rule 3006(b).

Rule 3000(b)(15)(A)(i)	This revision does not require or change a case-by-case evaluation of: reasonably available control technology (RACT) pursuant to Title I of the federal Clean Air Act; or maximum achievable control technology (MACT) pursuant to 40 CFR Part 63, Subpart B.
(b)(15)(A)(ii)	This revision does not violate a regulatory requirement.
(b)(15)(A)(iii)	This revision does not require any significant change in monitoring terms or conditions in the permit.
(b)(15)(A)(iv)	This revision does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit.
(b)(15)(A)(v)	This revision does not result in an emission increase of RECLAIM pollutants.
(b)(15)(A)(vi)	This revision does not result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review or a hazardous air pollutant.
(b)(15)(A)(vii)	This revision does not result in an increase in GHG emissions of >75,000 tpy CO_2e.
(b)(15)(A)(viii)	This revision does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement.
(b)(15)(A)(ix)	This revision is not an installation of a new permit unit subject to a New Source Performance Standard (NSPS) pursuant to 40 CFR Part 60, or a National Emission Standard for Hazardous Air Pollutants (NESHAP) pursuant to 40 CFR Part 61 or 40 CFR Part 63.
(b)(15)(A)(x)	This revision is not a modification or reconstruction of an existing permit unit, resulting in new or additional NSPS requirements pursuant to 40 CFR Part 60, or new or additional NESHAP requirements pursuant to 40 CFR Part 61 or 40 CFR Part 63.

CONCLUSION:

Based on the evaluation above, this tank will comply with all applicable District, State, and Federal rules and regulations. Therefore, a permit to construct is recommended upon completion of the 45-day EPA review period.

CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. UPON COMPLETION OF THE MODIFICATION, THIS TANK SHALL ONLY BE USED FOR STORAGE OF TRANSMIX. THE REID VAPOR PRESSURE OF PRODUCTS STORED IN THIS TANK SHALL NOT EXCEED RVP 13.
   [RULE 1303(b)(2)-OFFSET]

4. UPON COMPLETION OF THE MODIFICATION, THE THROUGHPUT FOR THIS TANK SHALL NOT EXCEED 65,100 BARRELS IN ANY ONE CALENDAR MONTH.
   [RULE 463, RULE 1303(b)(2)-OFFSET, 40CFR60 SUBPART Kb]

5. THE OPERATOR SHALL USE AN EXPLOSIMETER OR EQUIVALENT DEVICE TO MONITOR THE HYDROCARBON CONCENTRATION IN THE DOME VAPOR SPACE EVERY SIX MONTHS.
   [RULE 204]

6. THE HYDROCARBON CONCENTRATION IN THE VAPOR SPACE ABOVE THE INTERNAL FLOATING ROOF SHALL NOT EXCEED 30% OF THE VAPOR LOWER EXPLOSIVE LIMIT.
   [RULE 204]

7. THE OPERATOR SHALL SUBMIT TO THE DISTRICT, WITHIN 60 DAYS AFTER CONSTRUCTION IS COMPLETED, THE FINAL DRAWINGS AND/OR SPECIFICATIONS OF THE GEODESIC DOME COVER AND OTHER TANK UPGRADES TO BE INSTALLED/CONSTRUCTED.
   [RULE 1303(b)(2)-OFFSET]

8. THE OPERATOR SHALL KEEP ADEQUATE RECORDS TO SHOW COMPLIANCE WITH THE LIMITATIONS SPECIFIED IN THIS PERMIT. SUCH RECORDS SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS, AND MADE AVAILABLE TO THE EXECUTIVE OFFICER OR HIS AUTHORIZED REPRESENTATIVE UPON REQUEST.
   [RULE 463, RULE 1303(b)(2)-OFFSET, 40CFR60 SUBPART Kb]

Periodic Monitoring: NONE

Emission Limitations and Requirements:

9. THIS EQUIPMENT SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

   VOC: RULE 463
   VOC: RULE 1149
   VOC : 40CFR60 SUBPART Kb