Preliminary Determination Summary

Motiva Enterprises LLC
Permit Numbers 8404, PSDTX1062M5, PSDTX1534M2, GHGPSDTX121M1, and GHGPSDTX156

I. Applicant

Motiva Enterprises LLC
2555 Savannah Ave
Port Arthur, TX 77640-3672

II. Project Location

Port Arthur Refinery
2555 Savannah Ave
Jefferson County
Port Arthur, Texas 77640

III. Project Description

Motiva Enterprises LLC (Motiva) owns and operates the Port Arthur Refinery (PAR). Motiva proposes to expand the capacity of the Hydrotreating Unit 3 (HTU3) to 49,000 barrels per day (BPD) and Hydrotreating Unit 5 to 65,000 BPD.

Motiva also proposes to update storage tank representations, including retrospective updates to storage tank throughputs, and perform various administrative corrections to the permit Maximum Allowable Emission Rates Table (MAERT) and Special Conditions. Various Permit-by-Rule (PBR) and Standard Permit (SP) authorizations will be either incorporated by reference, incorporated by consolidation, partially consolidated into this New Source Review (NSR) Permit No. 8404, or voided.

Maintenance, Startup, and Shutdown (MSS) activities are authorized under NSR Permit No. 6056 and PBR 30 Texas Administrative Code (TAC) 106.263.

IV. Emissions

Air Contaminant	Proposed Allowable Emission Rates (tpy)
VOC	890.54
NO_x	1254.01
SO_2	411.02
CO	3127.92
$PM/PM_{10}/PM_{2.5}$	471.05/250.49/199.89
H_2SO_4	<0.01
H_2S	8.15
NH_3	0.04

MSS is not being authorized with this permitting action. All MSS activities are authorized under NSR Permit No. 6056 and PBR 30 Texas Administrative Code (TAC) 106.263.

V. Federal Applicability

The Port Arthur Refinery is located in Jefferson County, which is currently designated as an area of attainment for all criteria pollutants. Therefore, Nonattainment review is not applicable.

The Port Arthur Refinery is, however, an existing major named source with respect to PSD. The baseline period for VOC is defined as January 2016 through December 2017, while the baseline period for all other pollutants is from July 2021 through June 2023. Only the resulting project increases (Step 1) of VOC exceed the applicable major modification thresholds and require an emissions netting analysis. After netting (Step 2), the net emissions increase for VOC still exceeds the PSD significant emission rate. Therefore, this project triggers PSD review for VOC.

GHG as CO_2e project emissions increases were evaluated since PSD review is triggered for at least one other federally regulated pollutant. Storage tanks and fugitive piping components leaks are conservatively estimated as 100% of VOC emissions are methane. The resulting GHG as CO_2e project emissions increase does not exceed the applicable major modification threshold of 75,000 tpy, so PSD review is not applicable for GHG.

The following chart illustrates the annual project emissions for each pollutant and whether this pollutant triggers PSD or Nonattainment (NA) review.

Pollutant	Project Increase (tpy) [1]	NA Netting Trigger (tpy)	PSD Netting Trigger (tpy)	Netting Required Y/N	Net Emission Change (tpy) [2]	Major Mod Trigger (tpy)	PSD Triggered Y/N	NA Triggered Y/N
VOC [3]	90.71	N/A	40	Y	165.38	40	Y	N
NOx [3]	19.20	N/A	40	N	N/A	40	N	N
SO_2	8.75	N/A	40	N	N/A	40	N	N
CO	25.19	N/A	100	N	N/A	100	N	N
PM	2.95	N/A	25	N	N/A	25	N	N
PM_{10}	2.95	N/A	15	N	N/A	15	N	N
$PM_{2.5}$	2.95	N/A	10	N	N/A	10	N	N
H_2S	0.32	N/A	7	N	N/A	7	N	N
GHG as CO_2e	48,743.53	N/A	75,000	N	N/A	75,000	N	N

[1] Project Increases: Comparison of Baseline Actual to PTE (or Projected Actual) Increases only

[2] Net Emissions: Baseline Actual to PTE (or Projected Actual) for the project currently under review, Baseline Actual to PTE for all other increases and decreases within netting window.

[3] Ozone precursor. Either pollutant precursor can trigger BACT/LAER and impacts analysis, as applicable.

Note, permits PSDTX1062M5, PSDTX1534M2, GHGPSDTX121M1, and GHGPSDTX156 are all associated with both case-by-case Permit Nos. 6506 and 8404.

VI. Control Technology Review

The EPA accepts the TCEQ's three-tier approach to BACT as equivalent to the EPA's top-down approach to BACT for PSD review when the following are considered: recently issued/approved permits within the state of Texas, recently issued/approved permits in other states, and control technologies contained within the EPA's RBLC database. The TCEQ's three-tier approach and these additional considerations are used to evaluate BACT for VOC, while state minor BACT was evaluated for all other pollutants.

Source Name	EPN	Best Available Control Technology Description
Vertical fixed roof storage tanks		
Avjet (FIN TK 1524)	TML01524	Fixed roof tanks store VOC materials with vapor pressures less than 0.5 psia, the tanks are equipped with submerged fill pipe, and insulated exterior surfaces exposed to the sun are white. Tanks 2127 and 1821 are insulated tanks with the liquid maintained at temperatures of 450°F and 250°F, respectively. Temperature monitoring is implemented but not required since the vapor pressure of the stored material during routine operation will not exceed a relevant vapor pressure cutoff for BACT purposes. EPNs TAL35140, TAL35141, TML01247, and TK2040 are not modified with this project, but emission calculations are provided with the application. The Applicant provided RBLC searches that were reviewed, and the proposed BACT stated above for VOC triggering PSD review is consistent with the RBLC searches.
Avjet (FIN TK 1526)	TML01526	
Light Cracked Gas Oil (FIN TK 1552)	TST01552	
Diesel (FIN TK 1600)	TST01600	
Diesel (FIN TK 1679)	TST01679	
Diesel (FIN TK 1691)	TST01691	
Diesel (FIN TK 1712)	TST01712	
Residual oil (FIN TK 1718)	TST01718	
Hvy. Cracked Gas Oil (FIN TK 1719)	TST01719	
Cut Residual Oil (FIN TK 1821)	TVA01821	
Avjet (FIN TK 1893)	TST01893	
Avjet (FIN TK 1894)	TST01894	
Gas Oil (FIN TK 1932)	TST01932	
Gas Oil (FIN TK 1933)	TST01933	
Gas Oil (FIN TK 1934)	TST01934	
Diesel (FIN TK 2040)	TK2040	
Avjet (FIN TK 2041)	TK2041	
Neat Residual Oil (FIN TK 2127)	TK2127	
MDEA (FIN TK 2140)	TK2140	
Diesel (FIN TK 21657)	TST21657	
Avjet (FIN TK 21774)	TST21774	
Avjet (FIN TK 21775)	TST21775	
Sulfuric Acid (FIN TAL35140)	TAL35140	
Sulfuric Acid (FIN TAK35141)	TAL35141	
Internal floating roof storage tanks		
Heavy Straight Run (HSR) Gasoline (FIN TK 1671)	TST01671	The internal floating roof tanks store material with a true vapor pressure less than 11.0 psia, and the tank exterior surfaces exposed to the sun are white. TST01415 is equipped with a vapor-mounted primary seal and rim-mounted, tight
Alkylate (FIN TK 1415)	TST01415	

		fitting secondary seal. TST01671 is equipped with a mechanical-shoe primary seal and a rim-mounted secondary seal. The drain-dry design requirement is not applicable for BACT purposes since these tanks are existing tanks. The Applicant provided RBLC searches that were
External floating roof storage tanks		
Crude Oil (FIN TK 1247)	TML01247	The external floating roof (EFR) tanks store material with a true vapor pressure less than 11.0 psia, and the tank exterior surfaces exposed to the sun are white. All EFRs have a mechanical-shoe primary seal and a secondary rim-mounted seal. Slotted guide pole fittings have a gasketed sliding cover, and have at least two of the following: wiper, float, or sleeve. Tank TML19272 does not have slotted guide poles. The drain-dry requirement is not applicable for BACT purposes since all of these tanks are existing tanks. The Applicant provided RBLC searches that were reviewed, and the proposed BACT stated above for VOC triggering PSD review is consistent with the RBLC searches.
Crude Oil (FIN TK 01248)	TML01248	
Crude Oil (FIN TK 01250)	TML01250	
Crude Oil (FIN TK 01251)	TML01251	
Crude Oil (FIN TK 01252)	TML01252	
Crude Oil (FIN TK 01254)	TML01254	
AvGas (FIN TK 1475)	TST01475	
Gasoline (FIN TK 1490)	TML01490	
Gasoline (FIN TK 1510)	TST01510	
Gasoline (FIN TK 1511)	TST01511	
Heavy Straight Run (HSR) Gasoline (FIN TK 1525)	TML01525	
Gasoline (FIN TK 1553)	TST01553	
Gasoline (FIN TK 1601)	TST01601	
Crude Oil (FIN TK 1663)	TML01663	
Crude Oil (FIN TK 1698)	TML01698	
Crude Oil (FIN TK 1699)	TML01699	
HSR Gasoline (FIN TK 1767)	TML01767	
HSR Gasoline (FIN TK 1768)	TML01768	
Gasoline (FIN TK 1775)	TST01775	
Avgas (FIN TK 1787)	TST01787	
Compression Ratio (CR) Gasoline (FIN TK 1885)	TST01885	
Gasoline (FIN TK 1886)	TST01886	
Compression Ratio (CR) CR Gasoline (FIN TK 1895)	TST01895	
Crude Oil (FIN TK 1904)	TML01904	
Motor Alkylate (FIN TK 1913)	TST01913	
Catalytic Cracked gasoline	TST01920	

(FIN TK 1920)		
Crude Oil (FIN TK 1945)	TK1945	
Crude Oil (FIN TK 19272)	TML19272	
Diesel (FIN TK 1728)	TST01728	
Fugitive Piping Equipment Leaks		
HTU5 Fugitive Emissions	FHTU5	All leaks from process piping fugitive equipment in VOC service are calculated using the refinery fugitive emission factors. The 28MID+ LDAR monitoring program is used, according to historical permitting representations. The 28MID+ program is supplemented with quarterly instrument monitoring of connectors according to the 28CNTQ LDAR program. Process drains, heavy liquid service valves, and heavy liquid service flanges/connectors are also required to be monitored quarterly at a leak definition of 500 ppmv. The associated additional reduction credits are applied to these components since the concentration at saturation is greater than the leak definition, and repairs to leaking process drains can be completed. Piping components in greater than 1% by weight H_2S service specifically are monitored with 28AVO LDAR program. Inspections are performed once every 12-hour operator shift, as accommodated in NSR permit 6056. No changes are proposed for fugitive piping emissions in SO_2 and NH_3 service. The Applicant provided RBLC searches that were reviewed, and the proposed BACT stated above for VOC triggering PSD review is consistent with the RBLC searches.
HTU No. 3 Fugitive Emissions	FHTU3	
CRU No. 4 Fugitive Emissions	FCRU4	
HTU No. 2 Fugitive Emissions	FHTU2	
LCDU Fugitive Emissions	FLCDU	
Lube Hydrocracker 1 Fugitives	FLHCU	
VPS No. 2 Fugitive Emissions	FVPS2	
VPS No. 4 Fugitive Emissions	FVPS4	
FCCU No. 3 Fugitive Emissions	FFCCU3	
CDHDS2 Fugitive Emissions	FCDHDS2	
HTU No. 4 Fugitive Emissions	FHTU4	
Flare Gas Recovery Fugitive Emissions	FGR-1	
ALKY 4 Fugitive Emissions	FALKY4	
DCU 1 Fugitive Emissions	FDCU1	
WSGP Fugitive Emissions	FWSGP	
Pump House No. 27 Fugitive Emissions	FPH27	
Pump House No. 57 Fugitive Emissions	FPH57	
MPU No. 3 Fugitive Emissions	FMPU3	
FSPS3 Fugitive Emissions	FSPS3	
Thermal Oxidizer fugitives	FASTUTO	
Combustion Devices		
ASTU Thermal Oxidizer (FIN APISEP)	ASTUTO	The ASTU Thermal Oxidizer is used to control emissions from the West API Separator, which is located near the supplemental activated sludge treatment units and equalization tanks in the wastewater treatment plant area. The Separator removes organic material from wastewater collected from refinery processes. The Water9 wastewater treatment model emissions output were provided to verify the input concentrations, flowrates, and heating values for the thermal

		oxidizer. The thermal oxidizer achieves a 99.9% reduction in VOC emissions from the West API Separator. NOx emissions are limited to 0.055 lb/MMBtu, while CO emissions are limited to 50 ppmv CO at 3% O_2 (equivalent to 0.037 lb CO/MMBtu). NOx emission factors are based on stack testing performed on November 29, 2017 for the replaced, identical thermal oxidizer. NOx, CO, and VOC stack testing is required for the ASTU thermal oxidizer. Supplemental fuel for the thermal oxidizer is natural gas containing up to 5 ppm H_2S (approximately 3 grains of sulfur per 100 dry standard cubic feet). The API gas contains about 75 ppm H_2S, which is assumed to all convert to SO_2 during combustion. Good combustion practices are used. The Applicant provided RBLC searches that were reviewed, and the proposed BACT stated above for VOC triggering PSD review is consistent with the RBLC searches.
FCCU No. 3 Flare Stack Pilots	EFCCU3	This permit authorizes only the emissions from the pilot and purge/sweep gas for each flare. Motiva stated that flaring of other process gases would occur as emergency upset situations only. Each flare is considered a steam-assist flare and flares high BTU streams. The flare pilots exclusively use pipeline-quality natural gas which contains no more than 0.5 grains of sulfur/100 scf. The purge/sweep gas is refinery fuel gas, which contains no more than 0.1 grains of H_2S/100 scf. Flares will meet 40 CFR §63.670 and §63.671 of MACT Subpart CC. The Applicant provided RBLC searches that were reviewed, and the proposed BACT stated above for VOC triggering PSD review is consistent with the RBLC searches.

VII. Air Quality Analysis

The air quality analysis (AQA), as supplemented by the TCEQ Air Dispersion Modeling Team (ADMT), is acceptable for all review types and pollutants. The results are summarized below.

This project includes a retrospective review to NSR Projects 261312 and 301067. This analysis updates the permit application representations and emission rates for the refinery light and refinery heavy storage tanks. The applicant evaluated the project the same as the most recent submittal projects for the refinery light and refinery heavy storage tanks but incorporated the changes associated with this project.

A. De Minimis Analysis

The proposed project triggered PSD review for ozone. A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results for ozone indicate that the project is below the respective de minimis concentration and no further analysis is required.

The ozone De Minimis level is the EPA recommended De Minimis level. The use of the EPA recommended De Minimis level is sufficient to conclude that a proposed source will not cause or contribute to a violation of an ozone National Ambient Air Quality Standard (NAAQS) based on the analyses documented in EPA guidance and policy memoranda[1].

Table 1. Modeling Results for Ozone PSD De Minimis Analysis in Parts per Billion (ppb)

Pollutant	Averaging Time	GLCmax[2] (ppb)	De Minimis (ppb)
O_3	8-hr	0.07	1

The applicant performed an O_3 analysis as part of the PSD AQA. The applicant evaluated project emissions of O_3 precursor emissions (NO_X and VOC). For the project NO_X and VOC emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's Guideline on Air Quality Models (GAQM). Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the Harris County source, the applicant estimated an 8-hr O_3 concentration of 0.07 ppb. When the estimates of ozone concentrations from the project emissions are added together, the results are less than the De Minimis level.

B. Air Quality Monitoring

Since the project has a net emissions increase of 100 tpy or more of VOC or NO_X, the applicant evaluated ambient O_3 monitoring data to satisfy the requirements for the pre-application air quality analysis.

A background concentration for O_3 was obtained from EPA AIRS monitor 482450011 located at 623 Ellias St., Port Arthur, Jefferson County. A three-year average (2021-2023) of the annual fourth highest daily maximum 8-hr concentrations was used in the analysis (62 ppb). The use of this monitor for a background concentration of ozone is reasonable based on the proximity of the monitor to the project site (approximately one kilometer [km] to the northwest).

C. National Ambient Air Quality Standards (NAAQS) Analysis

The De Minimis analysis modeling results indicate that 8-hr ozone is below the respective de minimis concentration and no further analysis is required.

D. Increment Analysis

The proposed project triggered PSD review for ozone. A PSD increment has not been established for ozone; therefore, an increment analysis was not conducted.

[1] www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html
[2] Ground level maximum concentration

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 Texas Administrative Code Chapter 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

ADMT evaluated predicted concentrations from the proposed project to determine if emissions could adversely affect a Class I area. The nearest Class I area, Breton Wilderness, is located approximately 480 km from the proposed site.

The predicted concentrations of PM_{10}, $PM_{2.5}$, NO_2, and SO_2 for all averaging times, are all less than de minimis levels at the property line in the direction of the Breton Wilderness Class I area. The Breton Wilderness Class I area is an additional 480 km from the location where the predicted concentrations of PM_{10}, $PM_{2.5}$, NO_2, and SO_2 for all averaging times are less than de minimis. Therefore, emissions from the proposed project are not expected to adversely affect the Breton Wilderness Class I area.

F. Minor Source NSR and Air Toxics Review

Table 2. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	0.1	16.3
H_2S	1-hr	0.02	2.16

Table 3. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	0.1	7.8
PM_{10}	24-hr	0.1	5
$PM_{2.5}$	24-hr	0.1	1.2
$PM_{2.5}$	Annual	0.01	0.13
NO_2	1-hr	1	7.5
NO_2	Annual	0.05	1
CO	1-hr	2	2000

CO	8-hr	1	500

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

EPA revised the secondary SO_2 NAAQS from a 3-hr average to an annual average effective January 27, 2025. The applicant did not address this revision in the AQA. ADMT reviewed the proposed project and determined EPA's alternative demonstration approach summarized in a memorandum dated December 10, 2024, with a subject "Alternative Demonstration Approach for the 2024 Secondary Sulfur Dioxide National Ambient Air Quality Standard under the Prevention of Significant Deterioration Program", satisfies the annual average compliance requirement.

The justification for selecting EPA's interim 1-hr NO_2 and 1-hr SO_2 De Minimis levels was based on the assumptions underlying EPA's development of the 1-hr NO_2 and 1-hr SO_2 De Minimis levels. As explained in EPA guidance memoranda[3,4], EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO_2 and 1-hr SO_2 NAAQS.

The $PM_{2.5}$ De Minimis levels are EPA recommended De Minimis levels. The use of EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not cause or contribute to a violation of a $PM_{2.5}$ NAAQS based on the analyses documented in EPA guidance and policy memoranda[5].

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as MERPs. Using data associated with the worst-case source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.003 µg/m^3 and 0.0001 µg/m^3, respectively. When these estimates are added to the GLCmax listed in the table above, the results are less than the De Minimis levels.

Table 4. Generic Modeling Results

Source ID	1-hr GLCmax (µg/m^3 per lb/hr)
ASTUTO	0.84
FALKY4	3.08
FASTUTO	1.57
FCDHDS2	4.43
FCRU4	1.24
FDCU1	1.25

[3] www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf
[4] www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf
[5] www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html

FFCCU3	2.46
FGR_1	1.47
FHTU2	1.22
FHTU3	1.36
FHTU4	1.14
FHTU5	1.30
FLCDU	1.10
FLHCU	1.20
FMPU3	2.85
FPH27	3.52
FPH57	4.32
FSPS3	3.16
FVPS2	2.12
FVPS4	2.75
FWSGP	1.13
TK1415	4.02
TK1475	3.84
TK1510	4.26
TK1552	5.80
TK1679	11.92
TK1691	85.03
TK1712	14.42
TK1718	3.96

TK1787	4.88
TK1885	2.94
TK1893	14.10
TK1894	90.81
TK1913	6.67
TK1920	14.66
TK1932	9.93
TK1933	7.54
TK1934	7.65
TK2127	1.93
TK21657	5.74
TK21774	18.27
TK21775	76.42
TML1254	2.83
TML1524	6.55
TML1525	6.93
TML1526	14.51
TML1767	2.11
TML1768	2.16

Table 5. Minor NSR Results for Health Effects (New Changes)

Pollutant and CAS#	Averaging Time	GLCmax (µg/m^3)	ESL (µg/m^3)	Modeling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out
Refinery Light (distillates, hydrotreated light) 64742-47-8	1-hr	29.53	3500	Step 3: GLCmax ≤ 10% of the ESL
	Annual	N/A	350	Step 0: Long term ESL ≥ 10% of short-term ESL

Refinery Heavy (heavy coker gas oil) 64741-81-7	1-hr	65.79	1000	Step 4: Project-wide Modeling. There are no increases in MSS emissions, so the step is limited to production emissions.
	Annual	N/A	100	Step 0: Long term ESL ≥ 10% of short-term ESL
Residual Oil (Distillates [petroleum], catalytic reformer fractionator residue) 68477-31-6	1-hr	2.99	1250	Step 3: GLCmax ≤ 10% of the ESL
	Annual	N/A	125	Step 0: Long term ESL ≥ 10% of short-term ESL
Crude Oil 68410-00-4	1-hr	N/A	3500	Step 2: De Minimis Increase
	Annual	N/A	350	Step 0: Long term ESL ≥ 10% of short-term ESL
Natural Gas	1-hr	N/A	3500	Step 2: De Minimis Increase
	Annual	N/A	350	Step 0: Long term ESL ≥ 10% of short-term ESL

Table 6. Minor NSR Production Project-Related Modeling Results for Health Effects since Most Recent Site-Wide Modeling

Pollutant & CAS#[6]	Averaging Time	GLCmax (µg/m^3)	25% ESL[7] (µg/m^3)
heavy coker gas oil 64741-81-7	1-hr	66	250

Table 7. Minor NSR Production Project-Related Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax (µg/m^3)	10% ESL (µg/m^3)
heavy coker gas oil 64741-81-7	1-hr	66	100

This project includes a retrospective review to NSR Projects 261312 and 301067. This analysis updates the permit application representations and emission rates for the refinery light and refinery heavy storage tanks. The applicant evaluated the project the same as the most recent submittal projects for the refinery light and refinery heavy storage tanks but incorporated the changes associated with this project.

Table 8. Minor NSR Results for Health Effects (Retrospective Changes)

Pollutant and CAS#	Averaging Time	GLCmax (µg/m^3)	ESL (µg/m^3)	Modeling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out

[6] Chemical abstract service number
[7] Effects screening level

Refinery Light (distillates, hydrotreated light) 64742-47-8	1-hr	164.10	3500	Step 3: GLCmax ≤ 10% of the ESL
	Annual	N/A	350	Step 0: Long term ESL ≥ 10% of short-term ESL
Refinery Heavy (heavy coker gas oil) 64741-81-7	1-hr	3187	1000	Step 7: Sitewide modeling
	Annual	N/A	100	Step 0: Long term ESL ≥ 10% of short-term ESL
Residual Oil (Distillates [petroleum], catalytic reformer fractionator residue) 68477-31-6	1-hr	<0.01	125	Step 3: GLCmax ≤ 10% of the ESL
	Annual	N/A	12.5	Step 0: Long term ESL ≥ 10% of short-term ESL
Distillates (petroleum) crude oil 68410-00-4	1-hr	240.24	3500	Step 3: GLCmax ≤ 10% of the ESL
	Annual	N/A	350	Step 0: Long term ESL ≥ 10% of short-term ESL
MDEA 105-59-9	1-hr	N/A	96	Step 2: De Minimis Increase
	Annual	N/A	9.6	Step 0: Long term ESL ≥ 10% of short-term ESL

For the retrospective analysis, the applicant did not report a GLCni concentration but stated that the road along the southern property line was the nearest non-industrial land. ADMT reviewed the model predicted results along this road and supplemented the maximum predicted concentration in Table 9 and the hours of exceedance in Table 10 above. The ADMT modeling audit memo states GLCni exceedances occurs only at the northern and southern property line or the road along the northern and southern property line. Predicted concentrations at all other areas are less than the ESL.

Table 9. Retrospective Minor NSR Site-Wide Modeling Results for Health Effects

Pollutant	CAS#	Averaging Time	GLCmax (µg/m^3)	GLCmax Location	GLCni[8] (µg/m^3)	GLCni Location	ESL (µg/m^3)
heavy coker gas oil	64741-81-7	1-hr	3187	S Property Line	2647	25m S	1000

Table 10. Minor NSR Hours of Exceedance for Health Effects

Pollutant	Averaging Time	1 X ESL GLCni	2 X ESL GLCmax
heavy coker gas oil	1-hr	4	1

The ADMT modeling audit memo resulted in exceedances of 'heavy coker gas oil' at transient receptors for the retrospective GLCmax and the GLCni evaluations. The modeling

[8] Ground level non-industrial concentration

audit memo states that the GLCni exceedance occurs only at the northern and southern property line or road along the northern and southern property line. The northern and southern property lines are right next to the Savannah Avenue Road and the Highway 82, respectively. These locations are on rights-of-way. Therefore, the locations at the northern and southern property line and on the road along the northern and southern property line are considered transient receptors and not considered viable options for determination of the GLCmax and the GLCni.

ADMT supplemented maximum concentration maps at these GLCmax and GLCni locations reported by the applicant. These maps show that the actual GLCmax (at the appropriate non-transient receptor resulting in highest impacts) does not exceed two times the ESL of 1000 µg/m^3. Additionally, the modeling memo states that all concentrations for the GLCni at appropriate non-transient receptors will be lower than the ESL of 1000 µg/m^3. Therefore, when re-evaluating the retrospective GLCmax and GLCni analysis at the appropriate receptors, the results meet Tier II of the Toxicology Effects Evaluation Procedure, which requires the GLCmax to be less than or equal to two times the ESL and the GLCni to be less than the ESL. This re-evaluation does not result in any exceedance of the ESL.

VIII. Conclusion

As described above, the applicant has demonstrated that the project meets all applicable rules, regulations and requirements of the Texas and Federal Clean Air Acts. The proposed emissions are not expected to have an adverse impact on public health or the environment. The Executive Director's preliminary determination is that the permits should be issued.