Alaska Department of Environmental Conservation
Air Permits Program

TECHNICAL ANALYSIS REPORT

For the terms and conditions of
Minor Permit AQ0091MSS03 Revision 2

Issued to Hilcorp Alaska, LLC
For the Tyonek Platform

Preliminary – April 11, 2025

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1. INTRODUCTION

This Technical Analysis Report (TAR) provides the Alaska Department of Environmental Conservation's (Department's) basis for issuing Minor Permit No. AQ0091MSS03 Revision 2 to Hilcorp Alaska, LLC (Hilcorp) for the Tyonek Platform. Hilcorp submitted a minor permit application to address the temporary replacement of a crane engine, EU ID 25A, at the stationary source. The application is classified under 18 AAC 50.508(6) because such replacement requires revising the terms and conditions of Minor Permit No. AQ0091MSS03 Revision 1. The revisions include updating the emissions unit (EU) inventory, the emission factors (EFs) used in calculations of NO_x emissions, and the stationary source's Potential To Emit (PTE).

2. STATIONARY SOURCE DESCRIPTION

The Tyonek Platform is an offshore oil and gas production platform that supports equipment for the production of natural gas. The platform is located in upper Cook Inlet, approximately 40 miles west-southwest of Anchorage in 100 feet of water at mean lower low water. The platform consists of five main decks and includes facilities for natural gas production and transportation, utility systems, and crew quarters. The produced gas is transported to the Harvest pipeline for sale.

Hilcorp currently operates the Tyonek Platform under Operating Permit No. AQ0091TVP02 Revision 1 (issued originally on March 31, 2009 and revised November 1, 2016), Minor Permit No. AQ0091MSS03 Revision 1 (issued November 1, 2016) and Minor Permit No. AQ0091MSS04 (issued December 23, 2020). Operating Permit No. AQ0091TVP02 Revision 1 will expire upon issuance of the renewal Operating Permit No. AQ0091TVP03.

3. PERMIT HISTORY RELEVANT TO PROJECT

The Department issued Minor Permit No. AQ0091MSS03 on September 23, 2013 to rescind and revise Minor Permit No. AQ0091MSS01 Revision 1. Minor Permit No. AQ0091MSS03 updated the EU inventory with two new cranes (EU ID 24A and 25A) rated at 350 hp and 440 hp, respectively, and changed the respective NO_x EFs provided in the manufacturer's performance standards. The NO_x EFs in lb/gal for EU ID 24A and 25A were numerically changed from 0.62 to 0.07. The NO_x EFs in lb/hr were numerically changed from 7.9 to 1.23 for EU ID 24A and 1.48 for EU ID 25A. According to the TAR for Minor Permit No. AQ0091MSS03, the new NO_x EFs would not apply to the stationary source's operations until the current Title V permit was amended. The Permittee did not request for an amendment to the Title V permit; therefore, these changes were not carried over into the current Title V Permit No. AQ0091TVP02 Revision 1.

On November 1, 2016, the Department issued Revision 1 to Minor Permit No. AQ0091MSS03 to transfer ownership from ConocoPhillips to Hilcorp and carried over all terms and conditions of Minor Permit No. AQ0091MSS03. This permit rescinded Minor Permit No. AQ0091MSS03.

The Department is revising Minor Permit No. AQ0091MSS03 Revision 1 with the issuance of this Minor Permit No. AQ0091MSS03 Revision 2 on [DATE] by updating the EU inventory for a temporary replacement crane (noted as EU ID 25B) rated at 500 hp and updating the respective NO_x emission factor. The NO_x emission factors are used to calculate NO_x emissions to show compliance with the PSD avoidance ORL in Condition 8.

4. APPLICATION DESCRIPTION

Hilcorp submitted a minor permit application under 18 AAC 50.508(6) on December 21, 2022 for the Crane Relocation Project. The project entails temporary replacement of EU ID 25A due to spacing constraints while drilling. The minor permit application requests the following revisions to Minor Permit No. AQ0091MSS03 Revision 1:

- Update EU inventory in Table 1 to include make, model, installation date, and capacity of replacement crane (EU ID 25B).
- Add EU ID 25B to the 20.2 TPY NO_x ORL in Condition 8 to avoid PSD classification under 18 AAC 50.306.
- Revise Condition 9 of Minor Permit No. AQ0091MSS03 Revision 1 to incorporate NO_x emission factor of 0.15 lb/gallon for EU ID 25B.
- Update Table 2 to include emission rate of 3.9 lb/hr for EU ID 25B when fuel meter is not operational.
- Incorporate Minor Permit No. AQ0091MSS03 Revision 2 into the renewal Title V permit, AQ0091TVP03, through an integrated review process under 18 AAC 50.326(c)(1).

5. CLASSIFICATION FINDINGS

Based on the review of the application, the Department finds that:

- This project is classified under 18 AAC 50.508(6) because Hilcorp requested revisions to Minor Permit No. AQ0091MSS03 Revision 1.

6. APPLICATION REVIEW FINDINGS

Based on the review of the application, the Department finds that:

1. Hilcorp's minor permit application for the Tyonek Platform contains the elements listed in 18 AAC 50.540(k)(1) through (4).
2. Review of previous permitting actions indicates that EU IDs 24 and 25 were replaced in 2013, which was addressed in Minor Permit No. AQ0091MSS03. The replacement units are labelled in the Department's filing system as EU IDs 24A and 25A to indicate their replacement status. Therefore, for this application and for consistency, the replacement unit for EU ID 25A is given the ID number EU ID 25B and for EU ID 24, changed the ID number to EU ID 24A.
3. Based on the information provided in the application, replacement of EU ID 25A (a 440-hp Caterpillar C13 diesel crane engine, EPA Tier 4 Interim certified) with EU ID 25B (a 500-hp John Deere diesel crane engine, EPA Tier 3 certified) does not trigger minor permitting under 18 AAC 50.502(c)(3) nor Prevention of Significant Deterioration (PSD) Major Modification under 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i). See Table 4 and Table 5.
4. Hilcorp requests the same cap NO_x ORL of 20.2 TPY for EU IDs 20, 21, 24A, 25A, 28, 33, and 34 be retained, except with EU ID 25B replacing EU ID 25A, to continue to avoid classification as a PSD major source under 18 AAC 50.306. The new EF used for EU ID 25B (0.15 lb/gal), will be used to determine if the equation under Condition 8.1 holds.

5. EU IDs 20 and 21 are assumed to have maximum operating hours of 2,250 hr/yr each, while EU IDs 33 and 34 are assumed to have maximum operating hours of 6,547 hr/yr each. These hourly values represent when a single unit will reach the NO_x limit for purposes of calculating the emissions for other pollutants in accordance with the ADEC Technical Analysis Report for Minor Permit No. AQ0091MSS03 Revision 1, Appendix I. These operational hours are used in the PTE calculations, as shown in Appendix A.
6. The maximum allowed operations estimated for the EUs in Table 1 are equivalent to the 20.2 TPY cap NO_x ORL.
7. The stationary source's total assessable emissions will be increased from 688.13 TPY to 705.39 TPY. The Department has verified the provided calculations from the Title V renewal application, AQ0091TVP03. See Table 6.
8. The replacement crane, EU ID 25B, will be on the Tyonek Platform for the duration of the drilling. Hilcorp will conduct permit applicability to assess permitting requirements as needed to swap the cranes back after the drilling is completed.
9. The NO_x EFs for replacement EU ID 25B will not be applied to operations until the Title V permit renewal has been amended to incorporate this minor permit. Thereafter, the NO_x emission factors of 0.15 lbs/gallon and 3.9 lb/hr will be applied once the Title V permit is issued.
10. As requested by Hilcorp, the Department will include the applicable requirements of Minor Permit No. AQ0091MSS03 Revision 2 in the Title V operating permit renewal, AQ0091TVP03, using the integrated review procedures described in 18 AAC 50.326(c)(1). Because the changes on the NO_x EFs for EU ID 25B are considered significant and not compatible with those in the current Title V operating permit, Hilcorp may not operate under Minor Permit No. AQ0091MSS03 Revision 2 until the Department issues the renewed operating permit, Title V Operating Permit No. AQ0091TVP03.

7. REVISIONS TO PERMIT CONDITIONS

Table 3 below lists the requirements from Minor Permit No. AQ0091MSS03 Revision 1 that were revised in Minor Permit AQ0091MSS03 Revision 2.

Table 3 – Comparison of Minor Permit No. AQ0091MSS03 Revision 1 to Minor Permit No. AQ0091MSS03 Revision 2 Conditions[1]

Permit No. AQ0091MSS03 Revision 1 Condition No.	Description of Requirement	Permit No. AQ0091MSS03 Revision 2 Condition No.	How Condition was Revised
Table 1	Emissions Unit Inventory	Table 1	Replaced EU IDs 24 and 25 with new replacement units, EU IDs 24A and 25B, respectively. Changed EU descriptions to match Title V application, for consistency.

[1] This table includes only the conditions that have been revised in this permit action and does not include all standard and general conditions and other emissions-unit- or stationary-source-specific conditions not addressed in this permit.

Permit No. AQ0091MSS03 Revision 1 Condition No.	Description of Requirement	Permit No. AQ0091MSS03 Revision 2 Condition No.	How Condition was Revised
5.1	Assessable Emissions	3.1	Changed the stationary source's PTE from 678 TPY to 705.39 TPY.
9	Combined NOx emissions ORL for EU IDs 20, 21, 24, 25, 28, 33, and 34	8	Same limit; replaced affected EU IDs 24 and 25 with EU IDs 24A and 25B, respectively.
9.1 & Table 2	NO_x EFs for EU ID 25	8.1 & Table 2	Changed EF for replacement of EU ID 25A with EU ID 25B from 0.07 lb/gal to 0.15 lb/gal. Revised maximum NO_x emission rate of EU ID 25A with replacement EU ID 25B from 1.48 lb/hr to 3.9 lb/hr.
9.2 – 9.8	Fuel consumption and NOx emissions MR&R requirements	8.2 – 8.4	Same requirements; replaced affected EU IDs 24 and 25 with EU IDs 24A and 25B, respectively. Streamlined MR&R reporting requirements for clarity, consistency, and to address fuel consumption (Condition 8.2) and operational hours (Condition 8.3) of the EUs separately.

8. EMISSIONS SUMMARY AND PERMIT APPLICABILITY

Table 4 through Table 6 present permit applicability evaluation, PTE and assessable emissions for the stationary source's operational modifications allowed under this minor permit. Emission factors and detailed calculations for the affected EUs are provided in Table A-1 of Appendix A.

8.1. Minor Permit Applicability under 18 AAC 50.502(c)(3)(A)

Table 4 provides a summary of the potential to emit (PTE) and minor permit applicability of the stationary source under 18 AAC 50.502(c)(3)(A) for the replacement of EU ID 25A with EU ID 25B. The Permittee requests that EU ID 25B be subject to the same cap NO_x ORL of 20.2 TPY consisting of EU IDs 20, 21, 24A, 25A, 28, 33, and 34, to avoid PSD major classification. Because there are no other EUs or operations in the stationary source affected by this replacement project, the minor permit applicability and emission estimates in Table 4 are based on potential to emit (PTE) for EU ID 25A and PTE for EU ID 25B.

Table 4 – Minor Permit Applicability and PTE (TPY)

Description	PTE[1], TPY					
	NO_x[2]	CO	PM-10[3]	PM-2.5[3]	SO_2[4]	VOC
Remove EU ID 25A	20.2	0.42	0.01	0.01	3.45	0.33
Add EU ID 25B	20.2	15.75	0.90	0.90	3.92	0.90
Change in PTE	0	15.33	0.89	0.89	0.47	0.57
18 AAC 50.502(c)(3)(A) Threshold	10	N/A	10	10	10	N/A
Permit under 502(c)(3)(A) required?	**No**	**N/A**	**No**	**No**	**No**	**N/A**

Notes:

1 Existing PTEs for the stationary source are from the most current stationary source's emissions calculations

spreadsheets submitted with the Minor Permit No. AQ0091MSS03 Revision 2 application. These PTE's are based on full operations, which the EUs are allowed to run, taking into consideration the capped NO_x ORL for EU IDs 20, 21, 24A, 25A, 28, 33, and 34.

2 The Permittee requests that EU ID 25B be subject to the same cap NO_x ORL of 20.2 TPY consisting of EU IDs 20, 21, 24A, 25A, 28, 33, and 34. Therefore, there is no change on the NO_x PTE.

3 $PM_{2.5}$ emissions are conservatively assumed equal to PM_{10}.

4 The SO_2 emissions are based on the fuel sulfur content of 0.25 percent by weight ($wt\%S_{fuel}$) for liquid fuels that the stationary source is limited to for PSD major classification avoidance.

8.2. PSD Permit Applicability under 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i)

For PSD applicability, Hilcorp noted that EU ID 25B (although replacing EU ID 25A) does not meet the criteria for a "replacement" unit under PSD regulations. In accordance with 40 C.F.R. 52.21(b)(33), in order to be classified as a replacement unit, the unit must be identical to or functionally equivalent to the replacement emission unit, with no change to the basic design parameters. Because the replacement crane is of higher rating than the existing crane it is replacing, the replacement crane is considered as a *new* emissions unit and not a *replacement* unit.

The Department used the Baseline Actual Emissions (BAE) and Projected Actual Emissions (PAE) to determine PSD permit applicability. Table 5 shows PSD permit applicability for the proposed replacement project. As shown in the table, the emissions increases due to replacement of EU ID 25A with EU ID 25B would not trigger a PSD review and permit classification under 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i). The Permittee showed at Step 1 of the two-step PSD permit applicability analysis that PSD permitting was not triggered.

Table 5 – PSD Permit Applicability

EU ID 25B Emissions	NO_x	CO	PM	PM-10	PM-2.5	SO_2	VOC
BAE[1]	0	0	0	0	0	0	0
PAE[2]	17.10	15.75	0.90	0.90	0.90	3.92	0.90
Total Step 1 Project Increase	**17.10**	**15.75**	**0.90**	**0.90**	**0.90**	**3.92**	**0.90**
PSD Major Modification Threshold	**40**	**100**	**25**	**15**	**10**	**40**	**40**
PSD Permit Required?	No	No	No	No	No	No	No

Notes:

1 The BAE for the new unit, EU ID 25B, are equal to 0, per 40 C.F.R. 52.21(b)(48)(iii).

2 The PAE are equal to PTE[2] per 40 C.F.R. 52.21(b)(41)(ii)(D).

[2] As defined in AS 46.14.990(23), *Potential to Emit* or *PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

8.3. Existing and Proposed PTEs and Assessable Emissions

Table 6 shows a summary of the existing and proposed stationary source's PTEs and assessable PTE. The assessable emissions listed under Condition 3 of the permit is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit.

Table 6 – Stationary Source Potential Emissions and Assessable Emissions

Description	PTE, TPY							
	NO_x	CO	PM[1, 3]	PM_{10}[1]	$PM_{2.5}$[1]	SO_2	VOC[3]	Total
Existing PTE	368.28	221.80	14.49	14.49	14.49	55.58	27.98	688.13
Existing Assessable Emissions	368.28	221.80	14.49			55.58	27.98	688.13
Proposed PTE	368.28	237.13	15.38	15.38	15.38	56.05	28.55	705.39
Proposed Assessable Emissions	368.28	237.13	15.38			56.05	28.55	705.39
Change due to modification	0[2]	+15.33	+0.89			+0.47	+0.57	+17.26

Notes:

1 $PM_{2.5}$ and PM_{10} emissions are part of PM emissions. Therefore, the totals for PTE and assessable emissions do not include the amounts shown for $PM_{2.5}$ and PM_{10} to avoid double counting.

2 The capped 20.2 TPY NO_x ORL for EU IDs 20, 21, 24A, 25A (now 25B), 28, 33, and 34 is retained. Therefore, there is no change in NO_x PTE.

3 HAP emissions are a subset of either VOC emissions or PM_{10} emissions and are excluded from the assessable emissions total to avoid double counting. The total cumulative HAP PTE is 4.40 TPY, including the highest single HAP (Formaldehyde) at 1.79 TPY PTE.

9. PERMIT ADMINISTRATION

The Tyonek Platform currently operates under Title V Operating Permit No. AQ0091TVP02 Revision 1, Minor Permit No. AQ0091MSS03 Revision 1, and Minor Permit No. AQ0091MSS04.

The Department intends to include the applicable requirements of Minor Permit No. AQ0091MSS03 Revision 2 in the Title V operating permit renewal AQ0091TVP03 that is concurrently being processed, using the integrated review procedures described in 18 AAC 50.326(c)(1), after the EPA 45-day review period. Hilcorp may not operate under the terms and conditions of Minor Permit No. AQ0091MSS03 Revision 2 until the Department issues the Title V Operating Permit No. AQ0091TVP03.

10. PERMIT CONDITIONS

The bases for the conditions imposed in Minor Permit No. AQ0091MSS03 Revision 2 are described below.

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18 AAC 50.544(a)(1) requires the Department to identify the stationary source, Permittee, and contact information.

Section 1: Emissions Unit Inventory

Table 1 and Condition 1

The EUs authorized and/or restricted by this permit are listed in Table 1. Unless otherwise noted in this permit, the information in Table 1 is for identification purposes only. Table 1 only includes the affected EUs in this revision.

Condition 1 is a general requirement of the Permittee to comply with all applicable provisions of AS 46.14 and 18 AAC 50.

Section 2: Fee Requirements

Conditions 2 and 3

18 AAC 50.544(a)(2) requires the Department to include a requirement to pay fees in accordance with 18 AAC 50.400 – 18 AAC 50.499 in each minor permit issued under 18 AAC 50.542. The Department used the Standard Permit Condition I language for Minor Permit AQ0091MSS03 Revision 2, except as follows: The Department has modified Condition 3 by deleting the phase "in quantities 10 tons per year or greater" to match the revision made in 18 AAC 50.410 effective September 7, 2022. Beyond as noted, the Department has determined that the standard conditions adequately meet the requirements of 40 C.F.R. 71.6(a)(3).

Condition 2 rescinds the assessable emissions requirements from Minor Permit AQ0091MSS03 Revision 1 and updates it with Condition 3, as a result of replacing EU ID 25A with EU ID 25B.

Section 3: State Emission Standards

Conditions 4 through 6

Visible emissions, excluding condensed water vapor, from an industrial process or fuel-burning equipment may not reduce visibility through the effluent by more than 20 percent averaged over six consecutive minutes, under 18 AAC 50.055(a)(1).

Particulate Matter (PM) emitted from an industrial process or fuel burning equipment may not exceed 0.05 grains per cubic foot of exhaust gas (gr/dscf), averaged over three hours, under 18 AAC 50.055(b).

Sulfur compound emissions from an industrial process or fuel burning equipment may not exceed 500 ppm averaged over a period of three hours, under 18 AAC 50.055(c).

Section 4: Revisions to Previous Permit Actions

Conditions 7 and 8

Condition 7 authorizes the rescission of Minor Permit No. AQ0091MSS03 Revision 1 Condition 9 in its entirety and replacing the condition with Condition 8 of Minor Permit No. AQ0091MSS03 Revision 2.

Condition 8 imposes a combined emission limit of 20.2 TPY of NO_x from EU IDs 20, 21, 24A, 25B, 28, 33, and 34. The ORL is for avoiding classification as a PSD major. This ORL was revised from AQ0091MSS03 Revision 1 due to replacement of EU ID 25A with EU ID 25B. The new unit is included in the affected EUs to continue avoiding PSD review.

Compliance with this limit is demonstrated by not exceeding the NO_x limit as provided in the equation in Condition 8.1. If the fuel flow meter is not operational, the maximum fuel consumption rate is assumed, as described in Condition 8.3.

Table 5 shows the PSD permit applicability while Table 6 shows the stationary source's potential emissions summary before and after replacement of EU ID 25A with EU ID 25B, respectively.

Section 5: Standard Permit Conditions

Conditions 9 through 14

18 AAC 50.544(a)(5) requires each minor permit issued under 18 AAC 50.542 to contain the standard permit conditions in 18 AAC 50.345, as applicable. 18 AAC 50.345(a) clarifies that subparts (c)(1) and (2), and (d) through (o), may be applicable for a minor permit.

The Department included most of the minor permit-related standard conditions of 18 AAC 50.345 in Minor Permit AQ0091MSS03 Revision 2. The Department incorporated these standard conditions as follows:

- 18 AAC 50.345(c)(1) and (2) are incorporated as Condition 9 of Section 5 (Standard Permit Conditions); and
- 18 AAC 50.345(d) through (h) are incorporated as Conditions 10 through 14, respectively, of Section 5 (Standard Permit Conditions);

Appendix A. Emissions Calculations

Table A-1 presents details of the affected EUs, their emission factors, and potential emissions. Potential emissions are estimated using maximum annual operation allowed by the permit.

Table A-1 – Potential-to-Emit (PTE)[h] Summary, Criteria Pollutants

EU ID	Description	Maximum Rating	Max. Operation (hr/yr)	NO_x		CO		$PM_{2.5}/PM_{10}/PM$[e]		VOC		SO_2[d]	
				EF[a]	TPY	EF[b]	TPY[g]	EF[b]	TPY[g]	EF[b]	TPY[g]	EF	TPY[g]
20	TY-G-3502A	795 hp	2,250	0.45 lb/gal	20.20 (ORL)[c]	2.67 lb/hr	3.00	0.124 lb/hr	0.140	0.16 lb/hr	0.180	0.25 wt. %S	1.57
21	TY-G-3502B	795 hp	2,250	0.45 lb/gal		2.67 lb/hr	3.00	0.124 lb/hr	0.140	0.16 lb/hr	0.180		1.57
24A	TY-CR-0001	350 hp	8,760	0.07 lb/gal		0.07 lb/hr	0.31	0.0044 lb/hr	0.019	0.10 lb/hr	0.438		2.64
25A[f]	TY-CR-0002	440 hp	8,760	1.48 lb/hr		0.10 lb/hr	0.42	0.003 lb/hr	0.01	0.07 lb/hr	0.33		3.45
28	TY-C-0015	80 hp	8,760	0.58 lb/gal		0.00668 lb/hp-hr	2.34	0.0022 lb/hp-hr	0.771	0.00247 lb/hp-hr	0.865		0.652
33	TY-P-2809A	231 hp	6,547	0.51 lb/gal		1.05 lb/hr	3.44	0.254 lb/hr	0.831	0.273 lb/hr	0.894		1.39
34	TY-P-2809B	231 hp	6,547	0.51 lb/gal		1.05 lb/hr	3.44	0.254 lb/hr	0.831	0.273 lb/hr	0.894		1.39
Total PTE (Before modification)					**20.20**		**15.95**		**2.74**		**3.78**		**12.65**
20	TY-G-3502A	795 hp	2,250	0.45 lb/gal	20.20 (ORL)[c]	2.67 lb/hr	3.00	0.124 lb/hr	0.140	0.16 lb/hr	0.180	0.25 wt. %S	1.57
21	TY-G-3502B	795 hp	2,250	0.45 lb/gal		2.67 lb/hr	3.00	0.124 lb/hr	0.140	0.16 lb/hr	0.180		1.57
24A	TY-CR-0001	350 hp	8,760	0.07 lb/gal		0.07 lb/hr	0.31	0.0044 lb/hr	0.019	0.10 lb/hr	0.438		2.64
25B[f]	TY-CR-0002	500 hp	8,760	0.15 lb/gal		4.375 g/kW-hr	15.75	0.25 g/kW-hr	0.90	0.25 g/kW-hr	0.90		3.92
28	TY-C-0015	80 hp	8,760	0.58 lb/gal		0.00668 lb/hp-hr	2.34	0.0022 lb/hp-hr	0.771	0.00247 lb/hp-hr	0.865		0.652
33	TY-P-2809A	231 hp	6,547	0.51 lb/gal		1.05 lb/hr	3.44	0.254 lb/hr	0.831	0.273 lb/hr	0.894		1.39
34	TY-P-2809B	231 hp	6,547	0.51 lb/gal		1.05 lb/hr	3.44	0.254 lb/hr	0.831	0.273 lb/hr	0.894		1.39
Total PTE (After modification) – replace EU ID 25A with EU ID 25B					**20.20**		**31.28**		**3.63**		**4.35**		**13.12**
PTE (Increases due to modification)					**0**		**+15.33**		**+0.89**		**+0.57**		**+0.47**

Notes:

a NOx EFs references are as follows: (a) EPA AP-42, Table 3.4-1 for EU IDs 20 and 21; (b) Vendor Data for EU IDs 24A, 25A, 33 and 34; (c) EPA Tier 3 standard with 1.25 NTE multiplier and maximum fuel consumption rate of 25.5 gallons per hour for EU ID 25B; and (d) EPA AP-42, Table 3.3-1 for EU ID 28. EPA Tier 3 standard for NO_x + VOC is 4.0 g/kW-hr; 95% is assumed NO_x in accordance with EPA guidance.

b VOC, CO, and $PM_{2.5}$ EFs references are as follows: (a) Vendor Data for EU IDs 20, 21, 24A, 25A, 33, and 34; (b) EPA Tier 3 standard with 1.25 NTE multiplier for EU ID 25B; and (c) EPA AP-42, Table 3.3-1 for EU ID 28. EPA Tier 3 standard for NO_x + VOC is 4.0 g/kW-hr; 5% is assumed VOC in accordance with EPA guidance. EPA Tier 3 standards for CO and $PM_{2.5}$ are 3.5 g/kW-hr and 0.20 g/kW-hr, respectively.

c EU IDs 20, 21, 24A, 25A or 25B, 28, 33, and 34 have an ORL of 20.2 tons of NO_X per 12-month period (Condition 8).

d Sulfur content ($wt\%S_{fuel}$) and hydrogen sulfide concentration are limited to 0.25 $wt\%S_{fuel}$ and 200 ppmv, respectively (Condition 10.1, Minor Permit No. AQ0091MSS03, Revision 1).

e PM_{10} is conservatively assumed to equal to total PM.

f EU ID 25B will replace EU ID 25A.

g Emission calculations for CO, PM, SO_2, and VOC are based on the maximum operational hours allowed under the NO_x ORL (when a single EU has reached the NOx limit).

h This table only includes the affected EUs in this revision.