Alaska Department of Environmental Conservation
Air Permits Program

TECHNICAL ANALYSIS REPORT

For the terms and conditions of
Minor Permit AQ0307MSS05

Issued to United States Air Force
For the Eareckson Air Station

Preliminary – February 15, 2024

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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 AQ0307MSS05 to United States Air Force for the Eareckson Air Station. Their application is classified 18 AAC 50.508(6) in order to revise terms or conditions previously established in a Title I Permit.

2. STATIONARY SOURCE DESCRIPTION

The Eareckson Air Station is an existing stationary source owned and operated by the United States Air Force. The emissions unit (EU) inventory consists of diesel engines, boilers, fuel tanks, a solid waste landfill, paint spray booth, and air stripper operations. The stationary source has made several historical modifications including installation, removal, and replacements of emissions units (EUs) since 1980. EUs at the stationary source that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of the current operating permit.

The Eareckson Air Station stationary source is a Prevention of Significant Deterioration (PSD) Major Source as described in 40 C.F.R. 52.21 for having the potential to emit (PTE) more than 250 tons per year (tpy) of a regulated air pollutant, oxides of nitrogen (NO_x).

United States Air Force currently operates under Operating Permit AQ0307TVP03, Revision 2 and Minor Permit AQ0307MSS04.

3. APPLICATION DESCRIPTION

United States Air Force submitted their application on July 28, 2020 to revise their current minor permit. The requested changes are as follows:

- Revise used oil blending ratio for EUs 7 – 10;
- Revise Table 1 entries for existing EUs, and include EUs 30a, 87, 88, and 90 - 112;
- Remove the ORL hour limits on emergency engines;
- Add additional EUs to the used oil provisions;
- Add footnote concerning used oil blending; and
- Revise the method of compliance for the NO_x ORL to track kilowatt-hour production.

4. CLASSIFICATION FINDINGS

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

1. Minor Permit AQ0307MSS05 is classified under 18 AAC 50.508(6) to revise or rescind terms and conditions of a Title I permit.

5. APPLICATION REVIEW FINDINGS

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

1. United States Air Force's minor permit application for the Eareckson Air Station contains the elements listed in 18 AAC 50.540.
2. The minor permit does not need to include the *General Recordkeeping, Reporting, and Certification* conditions, or the *Standard Conditions*, except as required under 18 AAC 50.544(a)(5) since those provisions are part of the Title V Operating Permit AQ0307TVP03, Revision 2 and will be carried forward into pending Operating Permit AQ0307TVP04.

3. EUs 87, and 90 – 112 are being added to the permit as they were discovered in the 2019 on-site inspection.
4. EU 30a will be installed and replace EU 30. EU 30 will be removed upon the completion of commissioning EU 30a. The installation of EU 30a does not trigger minor permitting on an emissions basis. Therefore, the Department did not require the removal of EU 30 upon the installation and commissioning of EU 30a.
5. An addendum to the application for Operating Permit AQ0307TVP04 was received on June 9, 2021 to replace EUs 62 and 74 with EUs 62a and 74a, respectively. This change has been incorporated into Minor Permit AQ0307MSS05 as well.
6. United States Air Force requested the used oil ratio be revised in order to match the current federal requirement for fuel blend ratios. This reduces the amount of used oil in the fuel oil blend. Therefore, the Department granted this request.
7. United States Air Force requested that additional EUs be included to burn a used oil fuel blend under the ambient air quality protection conditions. The Department allowed this request without requiring an updated modeling analysis because the fuel sulfur content requirement of 0.3 wt% sulfur is still applicable when burning a used oil fuel blend. Therefore, the SO_2 ambient air quality demonstration previously used is still valid.
8. The Department did not include the "all boilers and heaters" language in Condition 5.3 and Condition 7.2 as requested in the application, electing instead to individually identify the current boiler and heater emission units. While both conditions currently list all of the source's boilers and heaters, introducing the language "all boilers and heaters" could potentially be interpreted as allowing for future emission units to burn used oil without ambient analysis demonstration. This would circumvent what the Department feels is necessary review and consideration during future applications.
9. United States Air Force requested that the Owner Requested Limit for emergency engine operations under the ambient air quality protection conditions be revoked. The Department accepted this request. PTE calculations for the emergency engine EUs 13 – 17, 27, 35, 41, 42, 50a, and 51a are based off 500 hours per year each, EUs 30, 30a, 32 – 34, 36, and 40 for 300 hours per year each, and EU 39 for 200 hours per year. USAF provided justification for using 500, 300, and 200 operating hours.
10. The request to revise the method of compliance with the NO_x ORL was accepted. The new method of tracking kW-hr produced does not alter the previous NO_x limit.
11. Potential to emit (PTE) has been adjusted from previous permitting actions to include the new potential operating hours for EUs 13 and 14, the new emission units 30a, 39, 88, 90, 93, 94, 95 – 112, the replacement of EUs 62 and 74 with 62a and 74a, and the change in horsepower for EUs 7 – 10, 27, 32, 33, 34, 42.
12. The NO_x emission factors for heater and boiler emission units (54a, 55a, 61, 62a, 63, 64, 67, 68, 70a – 75, 77 – 82, 86, and 90) were not changed from No. 2 fuel oil (24 lb/1000 gallons) to distillate oil (20 lb/1000 gallons) as indicated in the application. As these emission units continue to burn a mixture of JP-8 and used fuel oil, the Department is continuing to use the original No. 2 fuel oil emission factor.

6. EMISSIONS SUMMARY AND PERMIT APPLICABLITY

Table 2 shows the emissions summary and permit applicability with assessable emissions from the stationary source. Emission factors and detailed calculations are provided in Appendix A.

A summary of the potential to emit (PTE) and assessable PTE, as determined by the Department, is shown in Table 2 below.

The Permittee provided corrected ratings for EUs 67, 71, 72, 73, 79, and 80 in a technical review. As these rating corrections are not modifications to the emission units, the resultant changes in PTE are recorded as PTE before Modification and are not considered as Change in PTE.

Table 2 – Emissions Summary and Permit Applicability, tons per year (tpy)

Parameter	NO_x	CO	VOC	PM-2.5	PM-10	SO_2
PTE before Modification[a]	957.26	62.82	56.43	14.13	14.13	156.48
PTE after Modification	964.52	64.40	64.26	14.40	14.40	165.54
Change in PTE	7.26	1.58	7.83	0.27	0.27	9.06
18 AAC 50.502(c)(3) Permit Thresholds	10	N/A	N/A	10	10	10
502(c)(3) Applicable?	N	N/A	N/A	N	N	N
Title V Permit Thresholds	100	100	100	100	100	100
Title V Permit Required?	Y	Y	N	N	N	Y
Assessable Emissions [b]	964.52	64.40	64.26	14.40	14.40	165.54
Total Assessable [c]	1,273.12					

Table Notes:

[a] – PTE before modification is from AQ0307MSS04, previously unpermitted EUs not new to the source and corrected ratings for EUs 67, 71, 72, 73, 79, and 80.

[b] – Assessable emissions include fugitive emissions.

[c] – PM-10 emissions include PM-2.5 emissions. Therefore, PM-2.5 is not counted in total assessable emissions.

7. REVISIONS TO PERMIT CONDITIONS AQ0307MSS05.

Table 3 below lists the requirements carried over from Minor Permit AQ0307MSS04 into Minor Permit AQ0307MSS05.

Table 3 – Comparison of AQ0307MSS04 to AQ0307MSS05 Conditions[9]

Permit AQ0307MSS04 Condition No.	Description of Requirement	Permit AQ0307MSS05 Condition No.	How Condition was Revised
Table 1	EU Inventory	Table 1	Revised to update entries for various EUs, to add EUs 30a, 87, 88, and 90 – 112, and to re-add EUs 30, 39, 61, and 64 which were not decommissioned.
Table 2	EUs Being Removed	Removed	Removed.
Section 2	Emission Fees	Section 2	Revised to match the current Standard Permit Conditions (SPCs) and to reflect the new potential to emit for the stationary source.
Section 3	State Emission Standards	Section 3	Revised to match the new SPCs, include new EUs at the stationary source, and revised the used oil blend ratio for EUs 7 – 10, and to add EUs to used oil provision.
Section 4	Ambient Air Quality Protection	Section 4	Revised to include more EUs for used oil provision, and to add a footnote regarding used oil. Removed owner-requested limit on emergency engine hours of operation.
Section 6	ORLs to Avoid Permit Classifications	Section 6	Revised to add alternative NO_x ORL monitoring to track kilowatt-hour production.

8. PERMIT ADMINISTRATION

United States Air Force may operate in accordance with Minor Permit AQ0307MSS05 upon issuance of Operating Permit AQ0307TVP04.

9. PERMIT CONDITIONS

The bases for the standard and general conditions imposed in Minor Permit AQ0307MSS05 are described below.

Cover Page

18 AAC 50.544(a)(1) requires the Department to identify the stationary source, Permittee, and contact information. The Department provided this information on the cover page of the permit.

[9] This table does not include all standard and general conditions.

Section 1: Emissions Unit Inventory

The EUs authorized and/or restricted by this permit are listed in Table 1 of the permit. Unless otherwise noted in the permit, the information in Table 1 is for identification purposes only. Condition 1 is a general requirement to comply with AS 46.14 and 18 AAC 50 when installing a replacement EU.

Section 2: Fee Requirements

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. These fee requirements are more detailedly explained in the current operating permit issued to the stationary source under AS 46.14.130(b) and 18 AAC 50.

Section 3: State Emission Standards

Condition 4, Visible Emissions

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).

Condition 5, Particulate Matter (PM)

Particulate Matter 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).

Experience has shown there is a correlation between opacity and particulate matter. 20 percent visible emissions would normally comply with the 0.05 gr/dscf. As such, compliance with opacity limits is included as a surrogate method of assuring compliance with the PM standards.

Condition 6, Sulfur Compound Emissions

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).

Diesel fuel grades that requires less than 0.5 percent fuel sulfur will meet the state emissions standard.

Section 4: Ambient Air Quality Protection Requirements

Conditions 7 through 9

The conditions in this section provide enforceable terms and conditions intended to protect the Alaskan Ambient Air Quality Standards (AAAQS). 18 AAC 50.544(a)(3) and 18 AAC 50.544(a)(6) require the Department to include conditions to protect air quality, when warranted. The Department determined that conditions were warranted to protect the annually averaged nitrogen dioxide (NO_2), and the annually averaged, 24-hour, and three-hour sulfur dioxide (SO_2) AAAQS, and increments, in association with an ambient demonstration submitted in support of Construction Permit 307CP01. These conditions were subsequently carried forward into Minor Permit AQ0307MSS04, which is being rescinded and replaced by Minor Permit AQ0307MSS05.

The Permittee requested in an addendum to the AQ0307MSS05 application to remove the operating hour limits for the emergency engines. The Department's reasoning in accepting this request is discussed below.

The PTE from emergency units is typically lower than that of similar emissions units due to the nature of their operation. However, the Department does not place enforceable limitations on the emergency operation of such units based on their estimated emissions. Therefore, an applicant's approach to estimate the discrete emissions potential from emergency units warrants consideration.

The U.S. Environmental Protection Agency (EPA) issued guidance[10] regarding the estimation of potential emission from select emergency units. This guidance is framed within the Section 112 and Title V provisions of the Clean Air Act and advances a 'default' estimated value of 500 hours-per-year for relevant regulatory contexts. The Department finds EPA's underlying rationale generally sufficient to offer a defensible basis for many of its permit actions, and further welcomes applicants to use the historic emergency unit operational data to estimate PTE.

United States Air Force provided the Department historic operational data for emergency EUs 13 – 17, 27, 30, 30a, 32 – 36, 39 – 42, 50a, and 51a. A review of the data shows the maximum annual operation from any subject EUs to be no greater than 111 hours. This supports the Permittee's request to remove a previously established owner requested limit that is no longer relevant to current permitting. Drawing upon the historic hours, the Permittee conservatively estimated the potential emissions from emergency engine units as follows:

Table 4 – Emergency Engines Hours of Operation for calculating Potential to Emit

Hours per operating year, each	Emission Unit
500	13 – 17, 27, 35, 41, 42, 50a, 51a
300	30, 30a, 32 – 34, 36, 40
200	39

The Department finds United States Air Force's approach representative of the potential emissions from emergency EUs 13 – 17, 27, 30, 30a, 32 – 36, 39 – 42, 50a, and 51a, and appropriate for Minor Permit AQ0307MSS05.

Section 5: Best Available Control Technology (BACT) Requirements

Condition 10, BACT Limits and MR&R Requirements

Condition 10 provides MR&R pertaining to BACT for NO_x, CO, and SO_2. The associated limits were established in Construction Permit 307CP01 and included a determination that Selective Catalytic Reduction and Oxidation Catalyst were considered BACT for NO_x and CO, with regard to the main generator units EU IDs 5 and 6. The applicant subsequently filed for an informal appeal of the Department's BACT determination in this permit and provided detailed cost estimates on November 17, 2003. The Department, upon review of

[10] Memorandum from John S. Seitz, Director OAQPS, to EPA Division Directors: Calculating Potential to Emit (PTE) for Emergency Generators. 6 September, 1995

the applicant's submittals and cost estimates, reversed its initial BACT determination in favor of 'good combustion practices'; details of the BACT evaluations can be found in the Addendum to the TAR for Construction Permit 307CP01 Revision 1. The associated terms and conditions have been previously revised and incorporated into Minor Permit AQ0307MSS01, which was similarly revised and rescinded by Minor Permit AQ0307MSS02, which was further rescinded and replaced by AQ0307MSS04; the latter is being rescinded and replaced by Minor Permit AQ0307MSS05.

Section 6: ORLs to Avoid PSD Review for Modification

Condition 11 SO_2 Emissions Limit

18 AAC 50.544(h) describes the requirements for a permit classified under 18 AAC 50.508(5). This permit describes the ORL, including specific testing, monitoring, recordkeeping, and reporting requirements; it lists all equipment covered by the ORL; and describes the classification that the limit allows the applicant to avoid.

The permit contains an ORL restricting the SO_2 emissions by limiting the fuel usage of EUs 7 – 10 to avoid a PSD major modification permit under 18 AAC 50.306.

This condition includes both a ton per year limit and a fuel limit.

Condition 12 NO_x Emissions Limit

18 AAC 50.544(h) describes the requirements for a permit classified under 18 AAC 50.508(5). This permit describes the ORL, including specific testing, monitoring, recordkeeping, and reporting requirements; it lists all equipment covered by the ORL; and describes the classification that the limit allows the applicant to avoid.

The permit contains an ORL restricting the NO_x emissions by limiting the kilowatt-hour usage of EUs 7 – 10 to avoid a PSD major modification permit under 18 AAC 50.306.

This condition includes a ton per year limit and a ¾ of the limit source test.

The permit includes an additional alternative monitoring plan for estimating kilowatt-hour operation, should the kilowatt-hour meters become inoperable.

Section 7: General Recordkeeping, Reporting, and Certification Requirements

Condition 13, Certification

18 AAC 50.205 requires the Permittee to certify any permit application, report, affirmation, or compliance certification submitted to the Department. The Department used the language in Standard Permit Condition (SPC) XVII. This requirement is reiterated as a SPC in 18 AAC 50.345(j). Minor Permit AQ0307MSS05 uses the standard condition language.

Condition 14 Submittals

Condition 14 clarifies where the Permittee should send their reports, certifications, and other submittals required by the permit. The Department used the language in SPC XVII. The Department included this condition from a practical perspective rather than a regulatory obligation.

Section 8: Standard Permit Conditions

Conditions 15 – 20, Standard Permit Conditions

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 the applicable minor permit-related standard conditions of 18 AAC 50.345 in Minor Permit AQ0307MSS05. The Department incorporated these standard conditions as follows:

- 18 AAC 50.345(c)(1) and (2) is incorporated as Condition 15 of Section 8 (Standard Permit Conditions);
- 18 AAC 50.345(d) through (h) is incorporated as Conditions 16 through 20, respectively, of Section 8 (Standard Permit Conditions); and
- As previously discussed, 18 AAC 50.345(j) is incorporated as Condition 13 of Section 7 (Recordkeeping, Reporting, and Certification Requirements).

APPENDIX A: EMISSIONS CALCULATIONS

Tables A-1 through A-3 present details of the EUs, their characteristics, and emissions. Table A-1 includes new EUs added by the AQ0307MSS05 application. Table A-2 details previous PTE of EUs that were changed in the AQ0307MSS05 application. Table A-3 lists the new PTE of the changed EUs from the AQ0307MS05 application. Potential emissions are estimated using maximum annual operation for all fuel burning equipment as defined in 18 AAC 50.990(39) subject to any operating limits.

Table A-1 – New EU Emissions Summary, in Tons Per Year (tpy)

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Operating Limits	NOx		CO		VOC		PM-2.5 / PM-10		SO_2
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	PTE (tpy)
30a	Emergency Generator	319 kW	300 hr/yr	4.48 lb/hr[1]	0.67	0.47 lb/hr[1]	0.07	0.11 lb/hr[1]	0.02	0.07 lb/hr[1]	0.01	0.15[2]
39	Emergency Generator	409 kW	200 hr/yr	0.03 lb/hr[4]	1.66	0.01 lb/hp-hr[4]	0.36	0.003 lb/hp-hr[4]	0.13	0.002 lb/hr-hr[4]	0.12	0.11[2]
88	Space Heater	0.2 MMBtu/ hr	8,760 hr/yr	20 lb/ 10^3 gal[5]	0.13	5.0 lb/ 10^3 gal[5]	0.03	0.2 lb/10^3 gal[6]	0.001	2.0 lb/ 10^3 gal[5]	0.01	0.27[2]
90	Hot Water Boiler	0.399 MMBtu/ hr	8,760 hr/yr	55.0 lb/ 10^3 gal[5]	0.30	5.0 lb/ 10^3 gal[5]	0.06	1.13 lb/10^3 gal[5]	0.01	3.7 lb/ 10^3 gal[5]	0.05	0.54[2]
93	Elastec "Smart Ash" Burn Barrel	64 lb/hr	8,760 hr/yr	2.00 lb/ton[7]	0.28	2.00 lb/ton[7]	0.28	3.00 lb/ton[7]	0.42	1.00 lb/ton[7]	0.14	0.35[7]
94	Elastec "Smart Ash" Burn Barrel	64 lb/hr	8,760 hr/yr	2.00 lb/ton[7]	0.28	2.00 lb/ton[7]	0.28	3.00 lb/ton[7]	0.42	1.00 lb/ton[7]	0.14	0.35[7]
95 – 112	Microturbine #1 - 18	0.394 MMBtu/ hr	157,680 hr/yr	2.60 lb/ MWh[8]	5. 94 total	0.41 lb/ MWh[8]	0.94 total	0.23 lb/ MWh[8]	0.53 total	0.012 lb/ 10^3 gal[9]	0.0027 total	9.52[2] total
Total Potential to Emit					**9.26**		**2.02**		**1.53**		**0.47**	**11.29**

Table Notes:

1 Mfg. Performance Spec. "Site Variation" data, 100% load
2 Mass Balance with a fuel sulfur content of 0.30 wt%
3 AP-42, Table 3.4-1
4 AP-42, Table 3.3-1
5 AP-42, Table 1.3-1
6 AP-42, Table 1.3-3
7 AP-42, Table 2.1-12
8 Manufacturer Data
9 AP-42, Table 3.1-1

Table A-2 – Previous EU Emissions Summary, in Tons Per Year (tpy)

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Operating Limits	NOx		CO		VOC		PM-2.5 / PM-10		SO_2
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	PTE (tpy)
7	Engine 1	6,169 Hp	8,760 hr/yr	95.8 lb/hr[1]	874.2	4.94 lb/hr[1]	45.10	0.001 lb/hp-hr[3]	36.10	0.89 lb/hr[1]	8.10	71.70[2]
8	Engine 2	6,169 Hp	8,760 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
9	Engine 3	6,169 Hp	731 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
10	Engine 4	6,169 Hp	0 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
13	Firewater Pump	188 Hp	1,000 hr/yr	0.03 lb/hp-hr[4]	2.91	0.01 lb/hp-hr[4]	0.63	0.002 lb/hp-hr[4]	0.23	0.002 lb/hp-hr[4]	0.21	0.20[2]
14	Firewater Pump	235 Hp	1,000 hr/yr	0.03 lb/hp-hr[4]	3.64	0.01 lb/hp-hr[4]	0.78	0.002 lb/hp-hr[4]	0.29	0.002 lb/hp-hr[4]	0.26	0.25[2]
27	EB Generator	54 Hp	500 hr/yr	0.03 lb/hp-hr[4]	0.42	0.01 lb/hp-hr[4]	0.09	0.002 lb/hp-hr[4]	0.03	0.002 lb/hp-hr[4]	0.03	0.03[2]
32	EB Generator	469 Hp	300 hr/yr	0.03 lb/hp-hr[4]	2.18	0.01 lb/hp-hr[4]	0.47	0.002 lb/hp-hr[4]	0.17	0.002 lb/hp-hr[4]	0.15	0.15[2]
33	EB Generator	469 Hp	300 hr/yr	0.03 lb/hp-hr[4]	2.18	0.01 lb/hp-hr[4]	0.47	0.002 lb/hp-hr[4]	0.17	0.002 lb/hp-hr[4]	0.15	0.15[2]
34	EB Generator	379 Hp	300 hr/yr	0.03 lb/hp-hr[4]	1.76	0.01 lb/hp-hr[4]	0.38	0.002 lb/hp-hr[4]	0.14	0.002 lb/hp-hr[4]	0.13	0.12[2]
42	EB Generator	670 Hp	500 hr/yr	0.02 lb/hp-hr[3]	4.02	0.01 lb/hp-hr[3]	0.92	0.001 lb/hp-hr[3]	0.11	0.001 lb/hp-hr[3]	0.12	0.002[2]
62	Process Heater	4.184 MMBtu/hr	8,760 hr/yr	24 lb/10^3 gal[5]	3.16	5.0 lb/10^3 gal[5]	0.66	0.34 lb/10^3 gal[5]	0.04	2.0 lb/10^3 gal[5]	0.26	5.62[2]
74	Process Heater	8.369 MMBtu/hr	8,760 hr/yr	24 lb/10^3 gal[5]	6.33	5.0 lb/10^3 gal[5]	1.32	0.34 lb/10^3 gal[5]	0.09	2.0 lb/10^3 gal[5]	0.53	11.23[2]
Total Potential to Emit					**900.8**		**50.82**		**37.37**		**9.94**	**89.45**

Table Notes:

1 2015 Source Test, Blended Fuel, 43% load
2 Mass Balance with a fuel sulfur content of 0.30 wt%
3 AP-42, Table 3.4-1
4 AP-42, Table 3.3-1
5 AP-42, Table 1.3-1

Table A-3 – Changed EU Emissions Summary, in Tons Per Year (tpy)

EU ID	Unit ID/ Description	Maximum Rating or Capacity	Operating Limits	NOx		CO		VOC		PM-2.5 / PM-10		SO_2
				EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	EF	PTE (tpy)	PTE (tpy)
7	Engine 1	7,268 Hp	8,760 hr/yr	95.8 lb/hr[1]	874.2	4.94 lb/hr[1]	45.08	0.001 lb/hp-hr[3]	42.55	0.89 lb/hr[1]	8.11	71.70[2]
8	Engine 2	7,268 Hp	8,760 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
9	Engine 3	7,268 Hp	731 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
10	Engine 4	7,268 Hp	0 hr/yr	95.8 lb/hr[1]		4.94 lb/hr[1]		0.001 lb/hp-hr[3]		0.89 lb/hr[1]		
13	Firewater Pump	188 Hp	500 hr/yr	0.03 lb/hp-hr[4]	1.46	0.01 lb/hp-hr[4]	0.31	0.002 lb/hp-hr[4]	0.12	0.002 lb/hp-hr[4]	0.10	0.10[2]
14	Firewater Pump	235 Hp	500 hr/yr	0.03 lb/hp-hr[4]	1.82	0.01 lb/hp-hr[4]	0.39	0.002 lb/hp-hr[4]	0.15	0.002 lb/hp-hr[4]	0.13	0.13[2]
27	EB Generator	74 Hp	500 hr/yr	0.03 lb/hp-hr[4]	0.57	0.01 lb/hp-hr[4]	0.12	0.002 lb/hp-hr[4]	0.05	0.002 lb/hp-hr[4]	0.04	0.04[2]
32	EB Generator	540 Hp	300 hr/yr	0.03 lb/hp-hr[4]	2.51	0.01 lb/hp-hr[4]	0.54	0.002 lb/hp-hr[4]	0.20	0.002 lb/hp-hr[4]	0.18	0.17[2]
33	EB Generator	540 Hp	300 hr/yr	0.03 lb/hp-hr[4]	2.51	0.01 lb/hp-hr[4]	0.54	0.002 lb/hp-hr[4]	0.20	0.002 lb/hp-hr[4]	0.18	0.17[2]
34	EB Generator	417 Hp	300 hr/yr	0.03 lb/hp-hr[4]	1.94	0.01 lb/hp-hr[4]	0.42	0.002 lb/hp-hr[4]	0.15	0.002 lb/hp-hr[4]	0.14	0.13[2]
42	EB Generator	900 Hp	500 hr/yr	0.02 lb/hp-hr[3]	5.40	0.01 lb/hp-hr[3]	1.24	0.001 lb/hp-hr[3]	0.14	0.001 lb/hp-hr[3]	0.16	0.002[2]
62a	Process Heater	5.5 MMBtu/hr	8,760 hr/yr	24 lb/10^3 gal[5]	4.16	5.0 lb/10^3 gal[5]	0.87	0.34 lb/10^3 gal[5]	0.06	2.0 lb/10^3 gal[5]	0.35	7.38[2]
74a	Process Heater	5.5 MMBtu/hr	8,760 hr/yr	24 lb/10^3 gal[5]	4.16	5.0 lb/10^3 gal[5]	0.87	0.34 lb/10^3 gal[5]	0.06	2.0 lb/10^3 gal[5]	0.35	7.38[2]
Total Potential to Emit					**898.8**		**50.38**		**43.67**		**9.74**	**87.22**

Table Notes:

1 2015 Source Test, Blended Fuel, 43% load
2 Mass Balance with a fuel sulfur content of 0.30 wt%
3 AP-42, Table 3.4-1
4 AP-42, Table 3.3-1
5 AP-42, Table 1.3-1