

**Technical Analysis Report  
of the terms and conditions for  
Permit No. AQ0323MSS04**

**Alaska Department of Environmental Conservation  
Air Permits Program**

**Naknek Electric Association  
Naknek Power Plant**

**Prepared by Kwame Agyei  
ADEC AQ/APP (Juneau)**

## 1. INTRODUCTION

This Technical Analysis Report (TAR) provides the Alaska Department of Environmental Conservation's (Department's) basis for issuing Minor Source Air Quality Control Permit No. AQ0323MSS04 to Naknek Electric Association (NEA) for the Naknek Power Plant. The Department is issuing this permit under 18 AAC 50.508(6) to revise Minor Permit No. AQ0323MSS01 and under 18 AAC 50.508(5) to establish owner requested limits (ORLs). The ORLs enable the project to avoid review under Prevention of Significant Deterioration (PSD) and permitting requirements under 18 AAC 50.502(c)(3)(A). The minor permit application is dated April 11, 2016. This minor permit incorporates changes requested by NEA and revises and rescinds Condition 11 of Minor Permit No. AQ0323MSS01.

## 2. STATIONARY SOURCE IDENTIFICATION

The Naknek Power Plant is an existing facility that generates electric power by burning diesel fuel. The Standard Industrial Classification code is 4911 – Electric Services. The North American Industrial Classification System code is 221112 – Fossil Fuel Electric Power Generation. Naknek Power Plant has operated at its current location since 1976. The existing emission unit inventory consists of 12 diesel electric generators.

NEA currently operates Naknek Power Plant under Operating Permit No. AQ0323TVP03 Revision 1, Minor Permit Nos. AQ0323MSS01, AQ0323MSS02, AQ0323MSS03, and Construction Permit AQ0323CPT01 Revision 1.

## 3. APPLICATION DESCRIPTION

NEA submitted an application under 18 AAC 508(5) to establish ORLs to avoid PSD review and permit requirements under 18 AAC 50.502(c)(3)(A), and under 18 AAC 50.508(6) to revise Condition 11 of Minor Permit No. AQ0323MSS01. The application requests are as follows:

- *Authorization:* Authorize the installation of two 4,000 kW backup diesel-fired generators (EU ID 13 and 14), a temporary 1,500 kW mobile diesel-fired generator (EU IDs 13a), and a temporary 2,000 kW mobile diesel-fired generator (EU D 14a). The temporary mobile generators (EU IDs 13a and 14a) are necessary to meet their upcoming power demands. When EU IDs 13 and 14 are available, they will replace the temporary mobile generators.
- *PSD Avoidance for Review of NO<sub>x</sub> Emissions:* Restrict the combined fuel consumption from EU IDs 13 and 14 plus the equivalent diesel fuel gallons consumption from EU IDs 13a and 14a to less than 365,218 gal/yr. The restriction limits NO<sub>x</sub> emissions from EU IDs 13, 13a, 14, and 14a to less than 39.9 tpy. This enables the project to avoid review of the NO<sub>x</sub> emissions under PSD regulations in 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i).
- *PSD Avoidance for Review of SO<sub>2</sub> Emissions:* Restrict the combined fuel consumption from EU IDs 13 and 14 plus the equivalent diesel fuel gallons consumption from EU IDs 13a and 14a to less than 365,218 gal/yr and the sulfur content of the fuel they burn to no more than 0.20 percent by weight. The restriction limits SO<sub>2</sub> emissions from EU IDs 13, 13a, 14, and 14a to less than 5.2 tpy. This enables the project to avoid review of the SO<sub>2</sub> emissions under PSD regulations in 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i).

- *Minor Permit Requirements for SO<sub>2</sub> Emissions:* Restrict the combined fuel consumption from EU IDs 13 and 14 plus the equivalent diesel fuel gallons consumption from EU IDs 13a and 14a to less than 365,218 gal/yr and restrict the sulfur content of the fuel they burn to no more than 0.20 percent by weight. The restriction limits increase in potential SO<sub>2</sub> emissions to less than 5.2 tpy and enables the project to avoid review under minor permit requirements in 18 AAC 50.502(c)(3)(A)(ii).
- *Minor Permit Requirements for NO<sub>x</sub> Emissions:* Include NO<sub>x</sub> emissions from EU IDs 13, 13a, 14, and 14a in the existing 578 tpy NO<sub>x</sub> ORL in Condition 11 of Minor Permit No. AQ0323MSS01 (Condition 14 of Operating Permit No. AQ0323TVP03 Revision 1). Since there is no increase in potential NO<sub>x</sub> emissions for Naknek Power Plant, this ORL enables the project to avoid triggering minor permit requirements under 18 AAC 50.502(c)(3)(A)(iii).

NEA additionally requested that the Department incorporate the revisions (Minor Permit No. AQ0323MSS04) into Operating Permit No. AQ0323TVP03 Revision 1 by administrative amendment. The current operating permit (AQ0323TVP03 Revision) expires on March 11, 2019. The remaining life of the permit is less than three years. Per 40 C.F.R. 71.7(f)(1)(i), if the remaining term of the current permit is three or more years, the permit must be re-opened and revised if applicable requirements become applicable to a Title V source. Since none of the provisions of this permit contravenes any term of the current permit, the requirements of this permit may be incorporated into the next renewal operating permit for the stationary source without revising the current permit.

#### **4. CLASSIFICATION FINDINGS**

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

- This project is classified under 18 AAC 50.508(5) because NEA requested ORLs to limit the diesel fuel consumption of EU IDs 13, 13a, 14, and 14a and limit the fuel sulfur content of the diesel fuel they burn.
- This project is classified under 18 AAC 50.508(6) because NEA requested revisions to Condition 11 of Minor Permit No. AQ0323MSS01.

#### **5. APPLICATION REVIEW FINDINGS**

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

- NEA's application for Minor Permit No. AQ0323MSS04 for the Naknek Power Plant contains the elements listed in 18 AAC 50.540.
- Applicant requested the Department to limit the fuel consumption in EU IDs 13a, 13, 14a, and 14 to less than 365,218 gal/yr to enable the addition of the four generators avoid PSD review for NO<sub>x</sub> and SO<sub>2</sub> emissions. The restriction is sufficient to avoid PSD review for the NO<sub>x</sub> emissions, but there should also be a fuel sulfur content limit for the restriction to be sufficient to avoid PSD review of SO<sub>2</sub> emission. Therefore, the Department included a fuel sulfur content restriction in the condition for PSD avoidance for SO<sub>2</sub> emissions.
- Applicant requested the Department to limit the sulfur content of the fuel burned in EU IDs 13a, 13, 14a, and 14 to no more than 0.2 percent sulfur by weight to enable the

addition of EU IDs 13a, 13, 14a, and 14 to avoid minor permit requirements for SO<sub>2</sub> emissions under 18 AAC 50.502(c)(3)(A)(ii). There should be a fuel consumption limit as well for the restriction to be sufficient. Therefore, the Department included a fuel consumption limit in the condition that enables the project to avoid minor permit requirements for SO<sub>2</sub> emissions.

## 6. EMISSIONS SUMMARY AND PERMIT APPLICABILITY

Appendix A presents emission factors and detailed calculations of emissions with the ORLs in place. Tables 1a, 1b, and 1c present permit applicability and assessable emissions.

Table 1a shows PSD permit applicability for the installation of EU IDs 13, 13a, 14, and 14a.

**Table 1a: PSD Permit Applicability under 18 AAC 50.306 and 40 C.F.R. 52.21(b)(23)(i)**

Description	tpy						
	NO <sub>x</sub>	CO	PM-2.5	PM-10	PM	SO <sub>2</sub>	VOC
PTE for EU IDs 13, 13a, 14, 14a	39.9	4.1	0.3	0.3	0.3	5.2	1.3
PSD Major Modification Threshold	40	100	10	15	25	40	40
PSD Permit Required?	No	No	No	No	No	No	No

Table Notes:

PTE<sup>8</sup>: Potential-to-emit. The PTE is equal to the projected actual emissions

The Permittee requested a fuel consumption limit of 365,218 gal/yr for EU IDs 13a, 13, 14a, and 14 as a surrogate for limits on NO<sub>x</sub> and SO<sub>2</sub> emissions. With the fuel consumption limit in place, EU IDs 13a, 13, 14a, and 14 cannot emit more than 39.9 tpy NO<sub>x</sub>. In addition to the fuel consumption limit, if the sulfur content of the diesel fuel is no more than 0.2 percent by weight, the SO<sub>2</sub> emissions from EU IDs 13a, 13, 14a, and 14 cannot exceed 5.2 tpy. The emissions in Table 1a are based on a sulfur content of 0.2 percent by weight and 365,218 gal/yr.

Table 1b shows minor permit applicability for the installation of EU IDs 13, 13a, 14, and 14a.

**Table 1b: Minor Permit Applicability under 18 AAC 50.502(c)(3)(A)**

Description	tpy					
	NO <sub>x</sub>	CO	PM-2.5	PM-10	SO <sub>2</sub>	VOC
Existing Stationary Source PTE	925.0	268.7	15.2	15.2	112.7	25.5
Proposed Stationary Source PTE	925.0	271.8	15.5	15.5	117.8	26.8
Increase in Stationary Source PTE	0	4.1	0.3	0.3	5.2	1.3
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

Table Notes:

See Table A-1 of Appendix A in the Technical Analysis Report for the basis of the emissions in Table 1b.

Table 1c shows emission summary and assessable emissions for the stationary source.

<sup>8</sup> *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, as defined in AS 46.14.990(23).

**Table 1c: Emissions Summary and Assessable Emissions**

Description	tpy							Total
	NOx	CO	PM-2.5	PM-10	PM	SO <sub>2</sub>	VOC	
Proposed Stationary Source PTE	925.0	271.8	15.5	15.5	15.5	117.8	26.8	
Assessable Emissions	925	272	Included in PM		16	118	27	161

The assessable emissions listed under Condition 3.1 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 in quantities equal to or greater than 10 tpy.

**7. REQUIREMENT FOR INCORPORATION INTO OPERATING PERMIT**

The applicant requested the Department to incorporate the provisions of Minor Permit No. AQ0323MSS04 into the Title V operating permit for Naknek Power Plant by administrative amendment. As required by 18 AAC 50.544(a)(7), Minor Permit No. AQ0323MSS04 includes conditions required under 40 C.F.R.71, as adopted by reference in 18 AAC 50.040(j) and 18 AAC 50.326 to accommodate an owner or operator request to add the conditions of the permit to the operating permit issued to the stationary source by administrative amendment under 18 AAC 50.542(e).

**8. PERMIT CONDITIONS**

Minor permits must contain the information described in 18 AAC 50.544, as applicable for the given permit classification.

**a. Requirements for Each Minor Permit Under 18 AAC 50.508(5)**

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 the equipment covered by the ORL; and describes each permit classification that the limit allows the applicant to avoid. The ORL that enables the project to avoid review under PSD requirements is included in Section 4 of Permit No. AQ0323MSS04. The ORL that enables the project to avoid review under 18 AAC 50.502(c)(3)(A) requirements is included in Section 5 of Permit No. AQ0323MSS04.

**b. Requirements for Each Minor Permit Under 18 AAC 50.508(6)**

As required under 18 AAC 50.544(i), Minor Permit No. AQ0323MSS04 includes terms and conditions as necessary to ensure that the Permittee will construct and operate the proposed stationary source or modification in accordance with 18 AAC 50.

These requirements include, but are not limited to, each emission unit- or source-specific requirement established in the permit issued under 18 AAC 50. Table 1d below lists the requirements carried over from Minor Permit No. AQ0323MSS01 into Minor Permit No. AQ0323MSS04 to ensure continued compliance with the applicable requirements. Table 1d does not include generic conditions.

**Table 1d - Comparison of Permit No. AQ0323MSS01 Conditions to Permit No. AQ0323MSS04 Conditions<sup>9</sup>**

Permit No. AQ0323MSS01 Condition No.	Description of Requirement	Permit No. AQ0323MSS04 Condition No.	How Condition was Revised
No equivalent	PSD NO <sub>x</sub> Limit for EU IDs 13a, 13, 14a, and 14	8	New requirement
No equivalent	PSD SO <sub>2</sub> Limit for EU IDs 13a, 13, 14a, and 14	9	New requirement
No equivalent	Minor Permit SO <sub>2</sub> Limit for EU IDs 13a, 13, 14a, and 14	10	New requirement
No equivalent	Rescission of Condition 11 of AQ0323MSS01	11	New Requirement
11	578 tpy NO <sub>x</sub> ORL emissions for EU IDs 1 – 4, 8 – 10, 13 – 14a	12	Applied the 578 tpy NO <sub>x</sub> ORL to EU IDs 1 - 4, 8 - 10, 13, 13a, 14, and 14a
No equivalent	NSPS, Subpart III requirements	13 - 18	New requirements for EU IDs 13, 14
No equivalent	NESHAP, Subparts A and ZZZZ requirements	19, 20	

## 8. TECHNICAL ANALYSIS REPORT FOR PERMIT CONDITIONS

This Technical Analysis Report provides the basis for conditions as set forth in AS 46.14 and 18 AAC 50.

### Cover Page

18 AAC 50.544(a)(1) requires the Department to identify the stationary source, Permittee, and contact information for each permit issued under 18 AAC 50.542.

### Section 2: Emission Fees

#### Conditions 2 - 4, Emission Fees

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 for each minor permit issued under 18 AAC 50.542.

### Section 3: State Emission Standards and MR&Rs

The permit does not require the Permittee to demonstrate initial compliance with the state emissions standards because the permit is issued under 18 AAC 50.508(5) to establish ORLs and under 18 AAC 50.508(6) to revise an existing permit. The permit includes periodic MR&Rs to demonstrate continued compliance with the state emission standards because the Permittee requested the Department to incorporate the permit into the operating permit for the stationary source by administrative amendment. As required by 18 AAC 50.326(c)(2), 18 AAC 50.542(e),

<sup>9</sup> This table does not include all standard and general conditions.

and 40 CFR 71.7(d)(v), a Title I permit that would be incorporated into a Title V permit must satisfy the requirements of both the Title I and Title V application procedures.

#### **Conditions 5: Visible Emissions Standard**

These conditions ensure compliance with the applicable requirements in 18 AAC 50.055(a). 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes in Alaska. Diesel-fired engines have the tendency to exceed the visible emissions standards.

#### **Conditions 6, PM Standard**

These conditions ensure compliance with the applicable requirement in 18 AAC 50.055(b). This requirement applies to operation of all industrial processes and fuel burning equipment in Alaska.

#### **Condition 7, Sulfur Compound Emissions**

These conditions ensure compliance with the applicable requirement in 18 AAC 50.055(c). This requirement applies to operation of all industrial processes and fuel burning equipment in Alaska. Sulfur dioxide comes from the sulfur in the diesel fuel.

### **Section 4 : ORLs to Avoid PSD Review of the Modification**

#### **Condition 8, ORL to Avoid PSD Permitting for NO<sub>x</sub> Emissions under 18 AAC 50.306**

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 and MR&R requirements. It lists all equipment covered by the ORL and describes the classification that the limit allows the applicant to avoid.

Condition 8 contains an ORL restricting NO<sub>x</sub> emissions from EU IDs 13, 13a, 14, and 14a to less than 39.9 tpy by limiting the fuel consumption of EU IDs 13, 13a, 14, and 14a to less than 365,218 gal/yr. The fuel burned in EU IDs 13a and 14a is converted into a combined EU ID 13 and 14 fuel equivalent by applying a conversion factor. The fuel consumption limit is only a surrogate for the NO<sub>x</sub> limit. Therefore, the applicant estimated the conversion factors based on amount of fuel consumption that produces the PSD NO<sub>x</sub> avoidance limit. The conversion factors (CF) are obtained by dividing the lb NO<sub>x</sub>/gal emission factors of EU ID 13a and 14a, as applicable, by the lb NO<sub>x</sub>/gal emission factor for EU IDs 13 (or 14). The lb NO<sub>x</sub>/gal emission factors are obtained by dividing the lb NO<sub>x</sub>/hr for the emission unit obtained from the vendor data by the fuel consumption rate (gal/hr) for the emission unit obtained from the vendor data.

For EU ID 13a,  $CF = (0.400 \text{ lb/gal for EU 13a}) \div (0.218 \text{ lb/gal for EU 13}) = 1.831$

For EU ID 14a,  $CF = (0.236 \text{ lb/gal for EU 14a}) \div (0.218 \text{ lb/gal for EU 14}) = 1.083$

The ORL enables the addition of new emission units EU IDs 13, 13a, 14, and 14a to avoid a PSD permit under 18 AAC 50.306. Table 1a in the Technical Analysis Report presents the PSD permit applicability analysis..

#### **Condition 9, ORL to Avoid PSD Permitting for SO<sub>2</sub> emissions under 18 AAC 50.306**

The condition contains the fuel consumption limit in Condition 9 and the associated MR&Rs plus a fuel sulfur content limit and the associated MR&Rs. The requirements ensure the

SO<sub>2</sub> emissions from EU IDs 13a, 13, 14a, and 14 will not exceed 5.2 tpy. The PSD review avoidance limit for SO<sub>2</sub> emissions is 40 tpy.

### **Section 5: ORL to Avoid Minor Permit under 18 AAC 50.502(c)**

#### **Condition 10, ORLs to Avoid Minor Permit under 18 AAC 50.502(c)(3)(A)(ii)**

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 and MR&R. It lists the equipment covered by the ORL and describes the classification that the limit allows the applicant to avoid.

Condition 10 contains an ORL restricting the sulfur content of fuel burned in EU IDs 13, 13a, 14, and 14a to no more than 0.20 percent by weight and their fuel consumption to less than 365,218 gal/yr. The ORLs and the associated MR&Rs limits the increase in SO<sub>2</sub> PTE emissions for the stationary source to 5.2 tpy or less. See Table A-1, Appendix A. The increase is less than 10 tpy SO<sub>2</sub> and enables the project to avoid a permit requirements under 18 AAC 50.502(c)(3)(A)(ii).

#### **Condition 11, Rescission of Condition 11 of Minor Permit No. AQ0323MSS01**

Condition 11 of this permit (Minor Permit No. AQ0323MSS04) rescinds Condition 11 of Minor Permit No. AQ0323MSS04 and replaces it with Condition 12 of this permit.

#### **Conditions 12, ORLs to Avoid Minor Permit under 18 AAC 50.502(c)(3)(A)(iii)**

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 and MR&R. It lists the equipment covered by the ORL and describes the classification that the limit allows the applicant to avoid.

Condition 12 contains an ORL restricting the combined NO<sub>x</sub> emissions from EU IDs 1 – 4, 8 – 10, 13, 13a, 14, and 14a to no more than 578 tpy. The ORL included the emissions from EU IDs 13a, 13, 14a, and 14 in the existing 578 tpy limit for the stationary source. Therefore, there is no increase in the NO<sub>x</sub> PTE for the stationary source. The ORL enables the project avoid permit requirements under 18 AAC 50.502(c)(3)(A)(iii). The potential emissions of the stationary source due to the addition of the four generators increased by 4.1 tpy CO, 0.3 tpy PM, 5.2 tpy SO<sub>2</sub>, and 1.3 tpy CO.

### **Section 6: Federal Requirements**

EU IDs 13 and 14 are subject to NSPS, Subpart III because they were constructed after July 11, 2005. Under 40 C.F.R. 63.6590(a)(2)(iii), EU IDs 13 and 14 are new RICE because they were constructed after June 12, 2006. Per 40 C.F.R. 63.6590(c)(1), EU IDs 13 and 14 will comply with NESHAP, Subpart ZZZZ by complying with NSPS, Subpart III. The permit includes the federal requirements for EU IDs 13 and 14 because the Permittee requested the Department to incorporate the permit into the operating permit for the stationary source by administrative amendment. As required by 18 AAC 50.326(c)(2), 18 AAC 50.542(e), and 40 CFR 71.7(d)(v), a Title I permit that would be incorporated into a Title V permit must satisfy the requirements of both the Title I and Title V application procedures.

Per 40 C.F.R. 60.4200(e), temporary units that would be at the stationary source for less than one year and have been properly certified as meeting the standards that would be



applicable to such engines under the appropriate nonroad engine provisions are not required to meet any other provisions of NSPS, Subpart IIII. EU IDs 13a and 14a meet the requirements under 40 C.F.R. 60.4200(e). Therefore EU IDs 13a and 14a will comply with NESHAP, Subpart ZZZZ by complying with 40 C.F.R. 60.4200(e).

### **Condition 13 – 18, 40 C.F.R. 60 (NSPS), Subpart IIII Requirements**

These conditions incorporate NSPS, Subpart IIII requirements applicable to EU IDs 13 and 14.

### **Condition 19 - 20, 40 C.F.R. 63 (NESHAP), Subpart A and Subpart ZZZZ Requirements**

EU IDs 13 and 14 are subject to 40 C.F.R. 63, Subpart ZZZZ requirements and therefore subject to NESHAP, Subpart A requirements.

Condition 27 incorporates general requirements applicable to all emission units subject to NESHAP requirements. Condition 20 requires the Permittee to comply with NESHAP, Subpart ZZZZ by meeting the NSPS, Subpart IIII requirements in Conditions 13 - 18.

## **Section 7: General Recordkeeping, Reporting, and Certification Requirements**

### **Condition 21, Certification**

This condition requires the Permittee to certify any permit application, report, affirmation, or compliance certification submitted to the Department required under 18 AAC 50.205. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be certified with the stationary source report, even though it must still be submitted more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit.

### **Condition 22, Information Requests**

This condition requires the Permittee to submit requested information to the Department. Monitoring consists of receipt of the requested information.

### **Condition 23, Excess Emission and Permit Deviation Reports**

This condition requires the Permittee to comply with the applicable requirement in 18 AAC 50.235(a)(2) and 18 AAC 50.240. Also, the Permittee is required to notify the Department when emissions or operations deviate from the requirements of the permit.

This condition satisfies two state regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

### **Condition 24, Operating Reports**

This condition ensures compliance with the applicable requirement in 18 AAC 50.346(b)(6) and applies to all permits.

The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit. The reports themselves provide monitoring for compliance with this condition.

## **Section 8: Standard Permit Conditions**

### **Conditions 25 - 30, Standard Permit Conditions**

18 AAC 50.544(a)(5) requires each minor permit issued under 18 AAC 50.542 to contain standard permit conditions in 18 AAC 50.345, as applicable.

These are standard conditions that apply to all permits.

### APPENDIX A: EMISSIONS CALCULATIONS

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

**Table A-1 - Emissions Summary, in Tons per Year (tpy)**

EU ID	Description	Annual Limit	Maximum Rating	Diesel Fuel Usage Rate	NOx		CO		PM-2.5/PM-10/PM		VOC		SO <sub>2</sub>		
					EF	tpy	EF	tpy	EF	tpy	EF	tpy	tpy		
1	CAT 3512	6,000 hr	865 kW	58.4 gal/hr	0.70 lb/gal	578.0	3.07 lb/hr	150	0.31 lb/hr	0.93	0.71 lb/hr	2.13	82		
2	CAT 3512	6,000 hr	865 kW	58.4 gal/hr	0.70 lb/gal		3.07 lb/hr		0.31 lb/hr	0.93	0.71 lb/hr	2.13			
3	CAT 3512	6,000 hr	865 kW	58.4 gal/hr	0.70 lb/gal		3.07 lb/hr		0.31 lb/hr	0.93	0.71 lb/hr	2.13			
4	CAT 3516B	1,500 hr	1,322 kW	89.6 gal/hr	0.59 lb/gal		16.73 lb/hr		0.20 lb/hr	0.15	0.42 lb/hr	0.32			
8	White Superior	Unlimited	1,000 kW	68.5 gal/hr	0.47 lb/gal		7.38 lb/hr		0.94 lb/hr	4.11	0.95 lb/hr	4.14			
9	CAT 3516	Unlimited	1,135 kW	75.5 gal/hr	0.64 lb/gal		5.50 lb/hr		0.60 lb/hr	2.63	1.10 lb/hr	4.82			
10	CAT 3516	Unlimited	1,135 kW	75.5 gal/hr	0.64 lb/gal		5.50 lb/hr		0.60 lb/hr	2.63	1.10 lb/hr	4.82			
13	CAT C175-20	365,218	4,000 kW	Each 274.6 gal/hr	0.218		0.0224		2.04	0.0017	0.16	0.01 lb/gal		0.67	2.59
14	CAT C175-20	gallons	4,000 kW		lb/gal		lb/gal		2.04	lb/gal	0.16			0.67	2.59
5a	CAT 3512B	Unlimited	1,050 kW	72.1 gal/hr	24.9 lb/hr		109.06		8.8 lb/hr	38.54	0.19 lb/hr	0.83		0.33 lb/hr	1.45
6a	CAT 3512B	Unlimited	1,050 kW	72.1 gal/hr	24.9 lb/hr	109.06	8.8 lb/hr	38.54	0.19 lb/hr	0.83	0.33 lb/hr	1.45	8.97		
7a	CAT 3512B	Unlimited	1,050 kW	72.1 gal/hr	24.9 lb/hr	109.06	8.8 lb/hr	38.54	0.19 lb/hr	0.83	0.33 lb/hr	1.45	8.97		
11	CAT 3512B	55,943 gal	1,360 kW	95.6 gal/hr	0.36 lb/gal	9.94	0.03 lb/gal	0.87	0.004 lb/hr	0.11	0.017 lb/gal	0.46	0.79		
12	Cummins QST	83,500 gal	2,000 kW	72.2 gal/hr	0.24 lb/gal	9.91		1.25	0.007 lb/hr	0.29	0.004 lb/gal	0.15	2.96		
All (After installation of EU IDs 13, 13a, 14, and 14a)						925.03		271.82		15.52		26.79	117.84		
All (Before installation of EU IDs 13, 13a, 14, and 14a)						925.03		268.74		15.20		25.45	112.66		

Table Notes:

Existing emission limits not revised by this permit are used in the emission summary as follows:

Operating hour limits for EU IDs 1 – 4 come from Condition 6 of Minor Permit No. AQ0323MSS01 issued 9/20/2010

Sulfur content of EU IDs 1 – 11 limited to 0.20 percent by weight by Condition 11 of AQ0323MSS01 and Condition 8 of AQ0323MSS02 issued 4/2/2013.

Condition 19 of AQ0323CPT01 Rev 1 and Condition 13 of MSS01 limit CO emissions from EU IDs 1-4 and 8-10 to 150 tpy.

Condition 20 of CPT01 Rev 1 and Conditions 7 and 15 of MSS01 limit SO<sub>2</sub> emissions from EU IDs 1-4 and 8-10 to 82 tpy.

EU ID 11 is limited to 55,943 gal/yr by Condition 7 of Minor Permit No. AQ0323MSS02, issued 4/2/2013

NOx and CO lb/hr emission rates for EU IDs 5a – 7a are BACT limits from Permit AQ0323CPT01 Rev 1, issued 3/31/2009

SO<sub>2</sub> emissions from EU IDs 5a – 7a are based on SO<sub>2</sub> BACT that requires fuel sulfur content of 0.5 percent by weight of sulfur(Condition 23 of AQ0323CPT01, Rev 1)

Emission Factors (EF) for EU ID 8 based on factors from AP-42, Table 3.4-1

Fuel consumption limit, NOx emission limit, and SO<sub>2</sub> emission limit for EU ID 12 obtained from Condition 13 of Permit No. AQ0323MSS03 issued 7/2/2015

Other EFs for emission units are based on vendor data, source tests, or existing permits

EF for SO<sub>2</sub> based on mass balance, assuming 7.1 lb/gal and 0.20 percent sulfur by weight, unless otherwise specified.