DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL MINOR PERMIT

Minor Permit: AQ1086MSS03 Revision 1 **Preliminary Date – January 13, 2026**
Rescinds Permit: AQ1086MSS03

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ1086MSS03 Revision 1 to the Permittee listed below.

Permittee:	**Matanuska Electric Association** PO Box 2929 163 E. Industrial Way Palmer, Alaska 99645
Owner/Operator:	Same as Permittee
Stationary Source:	**Eklutna Generation Station**
Location:	Latitude: 61° 27’ 35.4” N; Longitude: 149° 20’ 33.9” W
Physical Address:	28705 Dena’ina Elders Road, Chugiak, Alaska 99567
Permit Contact:	Traci Bradford, (907)761-9374; traci.bradford@mea.coop
Project:	Revisions To Permit AQ1086MSS03

The Permittee submitted an application for Minor Permit AQ1086MSS03 Revision 1 under 18 AAC 50.508(6) in order to revise the terms and conditions of a Title I permit.

This permit satisfies the obligation of the Permittee to obtain a minor permit under 18 AAC 50. As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this permit.

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James R. Plosay, Manager
Air Permits Program

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Abbreviations and Acronyms

AAAQS .....Alaska Ambient Air Quality Standards
AAC.....Alaska Administrative Code
ADEC .....Alaska Department of Environmental Conservation
AOS .....Air Online Services
AS.....Alaska Statutes
ASTM.....American Society for Testing and Materials
CAA.....Clean Air Act
CO .....carbon monoxide
Department .....Alaska Department of Environmental Conservation
EPA .....US Environmental Protection Agency
EU.....emissions unit
hp.....horsepower
ID.....identification number
MMBtu/hr.....million British thermal units per hour
MR&R .....monitoring, recordkeeping, and reporting
NO_X .....nitrogen oxides
PM_{10} .....particulate matter less than or equal to a nominal 10 microns in diameter
$PM_{2.5}$.....particulate matter less than or equal to a nominal 2.5 microns in diameter
ppm .....parts per million
ppmv, ppmvd.....parts per million by volume on a dry basis
PSD .....prevention of significant deterioration
PTE.....potential to emit
SPC.....Standard Permit Condition or Standard Operating Permit Condition
SO_2 .....sulfur dioxide
The Act.....Clean Air Act
TPY .....tons per year
VOC .....volatile organic compound [as defined in 40 C.F.R. 51.100(s)]
wt% .....weight percent
$wt\%S_{fuel}$ .....weight percent of sulfur in fuel

Section 1 Emissions Unit Inventory

Emissions Unit (EU) Authorization. The Permittee is authorized to install and operate the EUs listed in Table 1 in accordance with the terms and conditions of this permit. The information in Table 1 is for identification purposes only, unless otherwise noted in the permit. The specific EU descriptions do not restrict the Permittee from replacing an EU identified in Table 1.

Table 1 – EU Inventory

EU ID	Description	Make/Model	Rating	Fuel Type	Installation Date
1	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
2	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
3	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
4	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
5	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
6	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	March 2015
7	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	February 2015
8	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	February 2015
9	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	February 2015
10	Generator Engine	Wartsila 18V50DF	17.1 MW	NG/ULSD	February 2015
11	Firewater Pump	John Deere JU6H-UFADN0	197 hp	ULSD	October 2014
12	Black Start Generator	Cummins 1000DQFAD	1,490 hp	ULSD	April 2015
13	Auxiliary Boiler	Cleaver-Brooks FLX200-1650	15.75 MMBtu/hr	NG/ULSD	October 2014
14	Auxiliary Boiler	Cleaver-Brooks FLX200-1650	15.75 MMBtu/hr	NG/ULSD	October 2014
15	Diesel Storage Tank	Rockford Corporation	436,842 gal	Diesel	November 2014
16	Diesel Storage Tank	Rockford Corporation	436,842 gal	Diesel	November 2014
17	NG Fuel Heater	Aether C5-G-30	8.3 MMBtu/hr	Natural Gas	August 2017
18	Black Start Generator	Cummins 1000DQFAD	1,490 hp	ULSD	April 2015

Notes:

NG = Natural Gas, ULSD = Ultra Low Sulfur Diesel

1. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement EU, including any applicable minor or construction permit requirements**.**

2. **Verification of Equipment Specifications and Maintenance of Equipment.** The Permittee shall install and maintain the equipment listed in Table 1 according to the manufacturer's or operator's maintenance procedures. Keep a copy of the manufacturer's or operator's maintenance procedure onsite and make records available to the Department personnel upon request. The records may be kept in electronic format.

Section 2 Fee Requirements

3. Fee Requirements. The Permittee shall pay to the Department all assessed permit fees. Fee rates are set out in 18 AAC 50.400 – 499.

4. Assessable Emissions. For each period from July 1 through the following June 30, the Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit. The quantity for which fees will be assessed is the lesser of the stationary source's

4.1 potential to emit of 872.50 TPY; or

4.2 projected annual rate of emissions, in TPY, based upon actual annual emissions for the most recent calendar year, or another 12 month period approved in writing by the Department, when demonstrated by credible evidence of actual emissions, based upon the most representative information available from one or more of the following methods:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the Department, including appropriate vendor-provided emissions factors when sufficient documentation is provided.

5. Assessable Emission Estimates. The Permittee shall comply as follows:

5.1 No later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions as determined in Condition 4.2. Submit actual emissions estimates in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-condition-i-submission-instructions/.

5.2 The Permittee shall include with the assessable emissions report all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates.

5.3 If no estimate is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in Condition 4.1.

Section 3 Owner Requested Limits (ORLs) to Avoid Classification as PSD Major

6. NO_X and PM_{10} Emission Limits for EU IDs 1 through 10. The Permittee shall limit NO_X and PM_{10} emissions from EU IDs 1 through 10 combined to no more than 220 tons per 12-month rolling period, for each pollutant. Monitor, record, and report as follows:

6.1 Install and maintain a non-resettable hour meter on each of EU IDs 1 through 10.

6.2 Monitor and record the hours of operation each month for each of EU IDs 1 through 10 when firing ULSD exclusively and when firing natural gas.

6.3 By the end of each calendar month, calculate and record the NO_X and PM_{10} emissions for each of EU IDs 1 through 10 for the previous month using hour data collected in Condition 6.2 and emissions factors below:

Table 2 – EU IDs 1 through 10 Emission Factors

EU IDs	NO_X Emission Factor	PM_{10} Emission Factor
EU IDs 1 – 10 (natural gas)	1.56 lb/hr [1]	0.48 lb/hr [2]
EU IDs 1 – 10 (ULSD exclusively)	19.95 lb/hr [3]	10.92 lb/hr [3]

Notes:
[1] Worst-case emissions factor from the 2024 source test.
[2] Worst-case emissions factor from the 2015 source test.
[3] Manufacturer data.

6.4 After Department approval of source test results from source tests conducted as required by the applicable operating permit issued to the source under 18 AAC 50 and AS 46.14.130, use the new emission factor retroactive to the date of the source test in lieu of the emission factor in Condition 6.3. If the source test is serving to provide results for representative units, ensure the use for all representative units.

6.5 By the end of each calendar month, calculate and record the combined NO_X and PM_{10} emissions for EU IDs 1 through 10 for the previous 12-month period.

6.6 Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the combined 12-month rolling NO_X and PM_{10} emissions for EU IDs 1 through 10 for each month of the reporting period.

6.7 Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, if the consecutive 12-month combined NO_X emissions or PM_{10} emissions for EU IDs 1 through 10 exceed 220 tons.

7. Operation Hour Limits for EU ID 11. The Permittee shall limit the operation of EU ID 11 to no more than 500 hours per year.

7.1 Install and maintain a non-resettable hour meter on EU ID 11.

7.2 Monitor and record the monthly hours of operation for EU ID 11.

7.3 By the end of the month, calculate and record the operating hours of EU ID 11 for the previous month.

7.4 Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the rolling 12-month hours of operation for EU ID 11.

7.5 Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, if the rolling 12-month hours of operation for EU ID 11 exceed 500 hours.

8. Operation Hour Limits for EU IDs 13 and 14. The Permittee shall limit the combined hours of operation of EU IDs 13 and 14 to no more than 1,000 hours per rolling 12-month period when firing ULSD exclusively.

8.1 The Permittee shall fire only natural gas and ULSD in EU IDs 13 and 14.

8.2 Install and maintain a non-resettable hour meter on each of EU IDs 13 and 14.

8.3 Monitor and record the monthly operating hours for each of EU IDs 13 and 14 when firing ULSD exclusively.

8.4 By the end of each month, calculate and record the combined operating hours of EU IDs 13 and 14 when firing ULSD exclusively during the previous month, then calculate the rolling 12-month combined hours for EU IDs 13 and 14 when firing ULSD exclusively.

8.5 Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the rolling 12-month combined operating hours for EU IDs 13 and 14 when firing ULSD exclusively.

8.6 Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, if the rolling 12-month combined hours of operation for EU IDs 13 and 14, when firing ULSD exclusively, exceeds 1,000 hours.

9. Control Equipment. The Permittee shall operate and maintain a combined selective catalytic reduction (SCR), ROM catalyst, and catalytic oxidation (CatOx) control equipment downstream of each of EU IDs 1 through 10 according to the manufacturer's instructions and as follows:

9.1 For the combined control equipment[1], monitor and record hourly:

a. the rate of injection of the reducing aqueous ammonia reagent into the flue gas leaving the emission unit.

[1] SCR, ROM catalyst, and CatOx with the SCR downstream of the engine, followed by the ROM catalyst, and ending with the CatOx.

b. While operating on natural gas, the 3-hour rolling average ammonia injection rate shall be no less than 1.0 gallons per hour (gal/hr) and no more than 38.5 gal/hr[2], except during startup and shutdown. Changes to the reagent and/or reagent rate of injection can be made after Department approval provided the request is accompanied by manufacturer or vendor specifications, or is recorded during a Department approved source test for NO_X emissions.

c. the temperature of the flue gas leaving the combined control equipment. The 3-hour rolling average temperature of the flue gas leaving the combined control equipment shall be no less than 536°F and no more than 997°F[3], except during startup and shutdown.

d. the pressure drop across the combined control equipment. The 3-hour rolling average pressure drop shall be no less than 1.5 inches of water and no more than 10 inches of water, except during startup and shutdown.

9.2 If any of EU IDs 1 through 10 use an annual average ratio of greater than or equal to 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis, establish operating parameters to be monitored continuously while operating on ULSD that include the ammonia injection rate, in accordance with NSPS Subpart IIII as required by the applicable operating permit issued to the source under 18 AAC 50 and AS 46.14.130.

9.3 Keep on site the necessary manufacturer-recommended spare parts, reagents, catalysts, and operation manual for the control equipment.

9.4 In case of equipment malfunction, implement manufacturer-recommended corrective actions and record:

a. complete description of the corrective action; and

b. date(s) of the corrective action.

9.5 Keep records of:

a. all control equipment system repairs;

b. hourly operating parameters established in Condition 9.1 and Condition 9.2 if applicable, dates and times each control equipment is started up or shut down;

c. system alarm logs including time and date of occurrence; and

d. receipts for all aqueous ammonia purchases (with dates and quantities).

9.6 Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, all:

[2] The minimum injection rate is from the permit application. The maximum injection rate is from the manufacturer's specifications.
[3] The temperature rates are from the manufacturer specifications.

a. control equipment malfunctions and associated corrective actions;

b. operating parameters that are outside the ranges in Condition 9.1 or Condition 9.2 if applicable; and

c. periods (starting and ending hour) during which a control equipment was not operating within the ranges established in Condition 9.1 or Condition 9.2 if applicable, while its associated generator was operating.

Section 4 Requirements to Avoid Classification as a HAP Major Source

10. Formaldehyde (CH_2O) Emission Limit. The Permittee shall limit CH_2O emissions from EU IDs 1 through 10 to no more than 9.6 TPY by operating and maintaining the control equipment described in Condition 9.

Section 5 Ambient Air Quality Protection Requirements

11. Annual NO_2 Ambient Air Quality Protection. To protect the annual nitrogen dioxide (NO_2) Alaskan ambient air quality standards (AAAQS), the Permittee shall:

11.1 **Stack Configuration.** Construct and maintain vertical, uncapped exhaust stacks for EU IDs 1 through 10, 12 through 14, and 18, except that each EU may use flapper-style rain covers or other similar designs that do not hinder the vertical momentum of their exhaust plume.

11.2 **Stack Heights.** Construct and maintain EU IDs 1 through 10 exhaust stacks with a release height of at least 30 meters above grade.

12. Annual NO_2 and 24-hr PM_{10} Ambient Air Quality Protection. To protect the annual NO_2 and 24-hr PM_{10} AAAQS, the combined operating hours for EU IDs 12 and 18 shall not exceed 1,000 hours per rolling 12-month period.

12.1 Install and maintain a non-resettable hour meter on each of EU IDs 12 and 18.

12.2 Monitor and record the hours of operation of each emissions unit and the combined hours of operation for EU IDs 12 and 18 for each month.

12.3 At the end of each month, calculate and record for the previous month, the combined hours of operation for EU ID 12 and EU ID 18 during the month, then calculate the combined 12-month rolling total hours of operation by adding the hours of operation for the previous 11 months.

12.4 Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the combined rolling 12-month hours of operation for EU IDs 12 and 18.

12.5 Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, should the combined rolling 12-month operating hours for EU IDs 12 and 18 exceed 1,000 hours.

Section 6 ORLs to Avoid Minor Permitting under 18 AAC 50.502(c)(1)(C)

13. Fuel Sulfur Requirements. The Permittee shall monitor the sulfur content of the ULSD and hydrogen sulfide (H_2S) content of the natural gas burned as follows:

13.1 The H_2S content of the natural gas burned in EU IDs 1 through 10, 13, 14, and 17 shall not exceed 20 parts per million by volume (ppmv).

a. Monitor and record the H_2S content of the natural gas monthly by obtaining and keeping a current certified letter, valid purchase contract, tariff sheet, or transportation contract from the supplier stipulating that the natural gas supplied during the month does not contain more than 20 ppmv H_2S.

b. Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the monthly H_2S content of the natural gas.

c. Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, if the H_2S content of the natural gas exceeds 20 ppmv.

13.2 The sulfur content of the diesel fuel burned in EU IDs 1 through 10, 13, and 14 when burning diesel and in EU IDs 11, 12, and 18 shall not exceed 15 parts per million by weight (ppmw) of sulfur.

a. Monitor and record monthly the sulfur content of the diesel fuel burned by obtaining and keeping a current certified letter or fuel receipts from the diesel fuel supplier that the diesel fuel supplied during the month was ULSD.

b. Report in the operating report as described by the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, the type of diesel fuel received for each shipment.

c. Report as excess emissions and permit deviation as described in the applicable operating permit issued to the stationary source under AS 46.14 and 18 AAC 50, if the fuel received was not ULSD.

Section 7 Recordkeeping, Reporting, and Certification Requirements

14. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five-years after the date of collection, including:

14.1 copies of all reports and certifications submitted pursuant to this section of the permit; and

14.2 records of all monitoring required by this permit, and information about the monitoring including:

a. the date, place, and time of sampling or measurements;

b. the date(s) analyses were performed;

c. the company or entity that performed the sampling and analyses;

d. the analytical techniques or methods used in the analyses;

e. the results of the analyses; and

f. the operating conditions that existed at the time of sampling or measurement

15. Certification. The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "*Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.*" Excess emissions reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

15.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if the person providing the electronic signature

a. uses a security procedure, as defined in AS 09.80.190, that the Department has approved; and

b. accepts or agrees to be bound by an electronic record executed or adopted with that signature.

16. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall submit to the Department one certified copy of reports, compliance certifications, and/or other submittals required by this permit. The Permittee may submit the documents electronically or by hard copy.

16.1 Submit the certified copy of reports, compliance certifications, and/or other submittals in accordance with the submission instructions on the Department's Standard Permit Conditions web page at http://dec.alaska.gov/air/air-permit/standard-conditions/standard-condition-xvii-submission-instructions/.

Section 8 Standard Permit Conditions

17. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

17.1 an enforcement action; or

17.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.

18. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

19. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

20. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

21. The permit does not convey any property rights of any sort, nor any exclusive privilege.

22. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

22.1 enter upon the premises where an emissions unit subject to this permit is located or where records required by the permit are kept;

22.2 have access to and copy any records required by this permit;

22.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

22.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 9 Permit Documentation

Date	Document Details
May 1, 2025	Application received.
October 31, 2025	Preliminary permit sent to Permittee for technical accuracy review.
November 13, 2025	Permittee's preliminary permit review documents received.
November 13, 2025	Information Request sent to Permittee.
December 15, 2025	Information Request received.
December 17, 2025	Preliminary permit sent to Permittee for 2nd technical accuracy review.
December 24, 2025	Permittee's 2nd preliminary permit review documents received.