## Appendix III.K.13.F Part 2

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# Golden Valley Electric Association (GVEA) Healy Power Plant

2012 EPA Complaint and Consent Degree

2018-Alaska Department of Environmental Conservation Air Quality Permit No: AQ0173TVP03  $\,$ 

2013 – Emissions Inventory – GVEA North Pole and Zehnder Power Plants Spreadsheets

FY2017 – Assessable Emission Estimates

Revised 2016 Point Source Emission Inventory

2017 Point Source Triennial Emission Inventory

2018 Point Source Emission Inventory - Revised

**Emission Unit 5** 

**Emission Unit 7** 

2019 Point Source Emission Inventory

Healy Power Plant Emission Inventory Spreadsheets

#### **JBER Utilities**

JBER Utilities 2017 Emissions Inventory Spreadsheet

JBER Emissions Spreadsheet

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# IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF ALASKA

UNITED STATES OF AMERICA,		
Plaintiff	)	Civil Action No. 4:12-cv-00025-RRB Consent Decree
v.	) )	
GOLDEN VALLEY ELECTRIC ASSOCIATION and ALASKA INDUSTRIAL DEVELOPMENT	) )	
AND EXPORT AUTHORITY,	)	
Defendants.	)	

#### **CONSENT DECREE**

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WHEREAS, Plaintiff, the United States of America ("the United States"), on behalf of the United States Environmental Protection Agency ("EPA"), is concurrently filing a Complaint and Consent Decree, for injunctive relief pursuant to Section 167 of the Clean Air Act ("Act" or "CAA"), 42 U.S.C. §7477, to prevent Golden Valley Electric Association, Inc. ("GVEA") and/or the Alaska Industrial Development and Export Authority ("AIDEA") (collectively the "Defendants") from violating the Prevention of Significant Deterioration ("PSD") provisions of Part C of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, and the federally enforceable Alaska State Implementation Plan ("SIP");

WHEREAS, Unit 1 at the Healy Power Plant in Healy, Alaska is a nominal 25 megawatt ("MW") coal-fired electric generating unit owned and operated by GVEA;

WHEREAS, Unit 2 at the Healy Power Plant, the Healy Clean Coal Project ("HCCP" or "Unit 2") is a nominal 50 MW coal-fired electric generating unit that is currently owned by AIDEA, with GVEA acting as the operator of the unit;

WHEREAS, Unit 2 previously went through PSD review and received an Air Quality Control Permit issued in 1993 and amended in 1994;

WHEREAS, Unit 2 was constructed in 1997 and has not been operated since 1998-1999; WHEREAS, in its Complaint, the United States alleges, *inter alia*, that Defendants intend to reactivate and/or restart HCCP or Unit 2;

WHEREAS, the Complaint further alleges that the Defendants' project at Unit 2 at the Healy Power Plant, a major emitting facility, would result in the construction of a new source or, in the alternative, a major modification of an existing source without obtaining the necessary

permits under the Act and installing and operating the state-of-the-art controls necessary under the Act to reduce air pollutants, particularly oxides of nitrogen ("NO<sub>x</sub>") emissions from Unit 2;

WHEREAS, Defendants have denied and continue to deny the violations alleged in the Complaint, maintain that their construction and operation activities at the Healy Power Plant have been and remain fully permitted and in compliance with the Clean Air Act, Defendants are not liable for civil penalties or injunctive relief, and state that they are agreeing to the obligations imposed by this Consent Decree solely to avoid the costs and uncertainties of litigation;

WHEREAS, Defendants do not admit any liability to the United States or any other person, and nothing herein shall constitute an admission of liability;

WHEREAS, the Parties agree that nothing in this Consent Decree shall constitute an admission of liability in this or any other proceeding;

WHEREAS, GVEA is a small, not-for-profit rural electric power generating cooperative serving approximately 44,000 meters and with an approximate peak demand of 220 megawatts;

WHEREAS, GVEA serves the Alaskan Interior where, because of extreme climate conditions, prudent utility practice is to conduct construction and maintenance on generating and transmission facilities during summer months and where dispatch schedules may be impacted by extreme climate during winter months;

WHEREAS, GVEA is an isolated power generating system operating without connection to an interstate transmission grid;

WHEREAS, GVEA is generally not directed to supply power on an emergency basis by any governmental agency or regulatory authority, nor is GVEA subject to a Regional Transmission Organization or Independent System Operator;

WHEREAS, GVEA must supply electricity to the Alaskan Interior, particularly during the winter months, to protect against the loss of life and destruction of property under extreme climate conditions regardless of system upsets and malfunctions;

WHEREAS, the Parties recognize that the restart activities for Unit 2 may require up to 18 months to complete;

WHEREAS, pursuant to terms of this Consent Decree, the Defendants are taking a number of actions to mitigate emissions from the restart of Unit 2 including emission reductions at Unit 1 of the Healy Power Plant and a stove changeout project;

WHEREAS, the Parties recognize that EPA is currently reviewing the Regional Haze SIP submittal from Alaska and that EPA may consider the enforceable conditions in this Consent Decree when it takes final action on that SIP submission;

WHEREAS, the Parties believe that the emission limits established under this Consent

Decree are enforceable limits for purposes of Best Available Retrofit Technology ("BART") and
the Regional Haze SIP in Alaska;

WHEREAS, the Parties have agreed, and this Court by entering this Consent Decree finds, that this Consent Decree has been negotiated in good faith and at arm's length and that this Consent Decree is fair, reasonable, in the public interest, and consistent with the goals of the Act;

NOW, THEREFORE, with the consent of the Parties, it is hereby ORDERED, ADJUDGED, AND DECREED as follows:

#### I. JURISDICTION AND VENUE

1. This Court has jurisdiction over this action, the subject matter herein, and the Parties consenting hereto, pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, and pursuant to Section 167 of the Act, 42 U.S.C. § 7477. Venue is proper under Section 167 of

the Act, 42 U.S.C. § 7477 and under 28 U.S.C. § 1391(b) and (c). For purposes of this Consent Decree, any action to enforce this Consent Decree, and the underlying Complaint, the Defendants consent to the Court's jurisdiction over this action, to the Court's jurisdiction over the Defendants, and to venue in this district. The Defendants consent to and shall not challenge entry of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

2. For purposes of this Consent Decree, Defendants agree that the Complaint states claims upon which relief may be granted pursuant to the PSD program.

#### II. <u>APPLICABILITY</u>

- 3. Subject to Section XX (Sales or Transfers of Operational or Ownership Interests), the provisions of this Consent Decree apply to and are binding upon the Parties, their successors and assigns, and upon the Defendants' directors, officers, employees, servants, and agents.
- 4. Defendants shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Consent Decree, as well as to any vendors, suppliers, consultants, contractors, agents, and any other company or other organization retained to perform any of the work required by this Consent Decree. Notwithstanding any retention of contractors, subcontractors, or agents to perform any work required under this Consent Decree, the Defendants shall be responsible for ensuring that all work is performed in accordance with the requirements of this Consent Decree. In any action to enforce this Consent Decree, subject to Section XV (Force Majeure), Defendants shall not assert as a defense the failure of its officers, directors,

employees, servants, agents, or contractors to take actions necessary to comply with this Consent Decree.

# III. <u>DEFINITIONS</u>

- 5. Every term expressly defined by this Section shall have the meaning given that term herein. Every other term used in this Consent Decree that is also a term used under the Act or in a federal regulation implementing the Act shall mean in this Consent Decree what such term means under the Act or those regulations.
- 6. A "30-Day Rolling Average NO<sub>x</sub> Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the total pounds of NO<sub>x</sub> emitted from the Unit during the current Unit Operating Day and the previous 29 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the current Unit Operating Day and the previous 29 Unit Operating Days; and third, divide the total number of pounds of NO<sub>x</sub> emitted during the 30 Unit Operating Days by the total heat input during the 30 Unit Operating Days. A new 30-Day Rolling Average NO<sub>x</sub> Emission Rate shall be calculated for each new Unit Operating Day. Each 30-Day Rolling Average NO<sub>x</sub> Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and Malfunction.
- 7. A "30-Day Rolling Average PM Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the total pounds of PM emitted from the Unit during the current Unit Operating Day and the previous 29 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the current Unit Operating Day and the previous 29 Unit Operating Days; and third, divide the total number of pounds of PM emitted during the 30 Unit Operating Days by the total heat

input during the 30 Unit Operating Days. A new 30-Day Rolling Average PM Emission Rate shall be calculated for each new Unit Operating Day. Each 30-Day Rolling Average PM Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and Malfunction.

- 8. A "30-Day Rolling Average SO<sub>2</sub> Emission Rate" for a Unit shall be expressed in lb/mmBTU and calculated in accordance with the following procedure: first, sum the total pounds of SO<sub>2</sub> emitted from the Unit during the current Unit Operating Day and the previous 29 Unit Operating Days; second, sum the total heat input to the Unit in mmBTU during the current Unit Operating Day and the previous 29 Unit Operating Days; and third, divide the total number of pounds of SO<sub>2</sub> emitted during the 30 Unit Operating Days by the total heat input during the 30 Unit Operating Days. A new 30-Day Rolling Average SO<sub>2</sub> Emission Rate shall be calculated for each new Unit Operating Day. Each 30-Day Rolling Average SO<sub>2</sub> Emission Rate shall include all emissions that occur during all periods within any Unit Operating Day, including emissions from startup, shutdown, and Malfunction.
  - 9. "AIDEA" means the Alaska Industrial Development and Export Authority.
- 10. "Alaska SIP" means the Alaska State Implementation Plan, and any amendments thereto, as approved by EPA pursuant to Section 110 of the Act, 42 U.S.C. § 7410.
- 11. "Baghouse" means a full stream (fabric filter or membrane) particulate emissions control device.
- 12. "CEMS" or "Continuous Emission Monitoring System," means, for obligations involving the monitoring of NO<sub>x</sub>, SO<sub>2</sub>, and PM emissions under this Consent Decree, the devices defined, installed and maintained as specified by 40 C.F.R. Parts 60 and flow

monitoring devices necessary to calculate compliance with the Unit 1 and Unit 2 Annual Tonnage Limitation.

- 13. "Clean Air Act" or "Act" or "CAA" means the federal Clean Air Act, 42 U.S.C. \$\\$ 7401-7671q, and its implementing regulations.
  - 14. "Complaint" means the complaint filed by the United States in this action.
  - 15. "Consent Decree" means this Consent Decree.
- 16. "Continuously Operate" or "Continuous Operation" means that when a pollution control technology or combustion control is required to be used at a Unit pursuant to this Consent Decree (including, but not limited to, SCR, SNCR, SDA, DSI, Baghouse or TRW Slagging Combustor), it shall be operated at all times such Unit is in operation, except as otherwise provided by Section XV (Force Majeure), so as to minimize emissions to the greatest extent practicable, consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for such equipment and the Unit.
  - 17. "Date of Entry" means the date this Consent Decree is approved or signed by the United States District Court Judge.
  - 18. "Date of Lodging" means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Alaska.
  - 19. "Day" means calendar day unless otherwise specified in this Consent Decree. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday or federal holiday, the period shall run until the close of business on the next business day.
    - 20. "Defendants" means GVEA and AIDEA.

21. "Dry Sorbent Injection" or "DSI" means an add-on air pollution control system in which sorbent (e.g., Trona, hydrated lime, sodium carbonate, etc.) is injected into the flue gas stream upstream of a PM Control Device to react with and neutralize acid gases (such as SO<sub>2</sub> and hydrogen chloride) in the exhaust stream forming a dry powder material that may be removed in a primary or secondary PM Control Device.

- 22. "Emission Rate" for a given pollutant means the number of pounds of that pollutant emitted per million British thermal units of heat input (lb/mmBTU), measured in accordance with this Consent Decree.
- 23. "Environmental Mitigation Project" or "Project" means the project set forth in Section IX of this Consent Decree.
  - 24. "EPA" means the United States Environmental Protection Agency.
- 25. "First Fires Coal" or "First Firing of Coal" means the first day after which any coal of any type or quantity is combusted in Unit 2.
- 26. "Fossil Fuel" means any hydrocarbon fuel, including coal, petroleum coke, petroleum oil, or natural gas.
- 27. "GVEA" means Golden Valley Electric Association, Inc., and its wholly owned subsidiaries.
- 28. "Healy Power Plant" means, solely for purposes of this Consent Decree, the Healy Power Plant, consisting of the following pulverized coal-fired boilers designated as Unit 1 (nominally 25 MW) and Unit 2 (nominally 50 MW) and related emission control equipment, which is located in Healy, Alaska.
  - 29. "lb/mmBTU" means pound per million British thermal units.

30. "Malfunction" means a failure to operate in a normal or usual manner by any air pollution control equipment, process equipment, or a process, which is sudden, infrequent, and not reasonably preventable. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.

- 31. "Month" shall mean calendar month unless otherwise specified in this Consent Decree.
- 32. "Netting" shall mean the process of determining whether a particular physical change or change in the method of operation of a major stationary source results in a "net emissions increase," as that term is defined at 40 C.F.R. § 52.21(b)(3)(i) and in the Alaska SIP.
- 33. "NO<sub>x</sub>" means oxides of nitrogen, measured in accordance with the provisions of this Consent Decree.
- 34. "Operational or Ownership Interest" means part or all of AIDEA's or GVEA's legal or equitable ownership interest in any Unit ("Ownership Interest") or the right to be the operator (as that term is used and interpreted under the Act) of any Unit.
- 35. "Parties" means the United States of America on behalf of EPA, AIDEA and GVEA. "Party" means one of the named "Parties."
- 36. "PM" means total filterable particulate matter, measured in accordance with the provisions of this Consent Decree.
- 37. "PM CEMS" or "PM Continuous Emission Monitoring System" means, for obligations involving the monitoring of PM emissions under this Consent Decree, the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic and/or paper record of PM emissions.

38. "PM Control Device" means any device, including but not limited to, a Baghouse, which reduces emissions of PM.

- 39. "PM Emission Rate" means the number of pounds of PM emitted per million BTU of heat input (lb/mmBTU).
- 40. "Prevention of Significant Deterioration" or "PSD" means the New Source
  Review program within the meaning of Part C of Subchapter I of the Act, 42 U.S.C. §§ 74707492 and 40 C.F.R. Part 52, and corresponding provisions of the federally enforceable
  Alaska SIP.
- 41. "Project Dollars" means Defendants' expenditures and payments incurred or made in carrying out the Environmental Mitigation Project identified in Section IX (Environmental Mitigation Project) of this Consent Decree to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section IX of this Consent Decree, and (b) constitute Defendants' direct payments for such projects, or Defendants' external costs for contractors, vendors, and equipment.
- 42. "Regional Haze State Implementation Plan" or "Regional Haze SIP" means the State Implementation Plan developed pursuant to section 169A and 169B of the CAA, 42 U.S.C. §§ 7491 and 7492-7492 and 40 C.F.R. §§ 50.308 and 50.309.
- 43. "Retire" means that GVEA shall permanently shut down and cease to operate Unit 1 such that it cannot legally burn any fuel nor produce any steam for electricity production and that GVEA shall comply with applicable state and federal requirements for permanently retiring a coal-fired electric generating unit, including removing Unit 1 from Alaska's air emissions inventory and amending all applicable permits so as to reflect the permanent shutdown status of Unit 1.

44. "SCR" or "Selective Catalytic Reduction" means an air pollution control device for reducing  $NO_x$  emissions in which ammonia ( $NH_3$ ) is added to the flue gas and then passed through layers of a catalyst material. The ammonia and NOx in the flue gas stream react on the surface of the catalyst, forming nitrogen ( $N_2$ ) and water vapor.

- 45. "SDA" or "Spray Dry Absorber" means the flue gas desulfurization equipment used for removing SO<sub>2</sub> and other acid gases from the flue gas and is currently installed on Unit 2.
- 46. "SNCR" or "Selective Non-Catalytic Reduction" means a pollution control device for the reduction of  $NO_x$  emissions through the use of selective non-catalytic reduction technology that utilizes ammonia or urea injection (or an equivalent reagent as approved by EPA) into the boiler.
- 47. "SO<sub>2</sub>" means sulfur dioxide, measured in accordance with the provisions of this Consent Decree.
  - 48. "State" means the State of Alaska.
- 49. "Title V Permit" means the Final Air Quality Control Permit No. AQ0173TVPO2 issued by the Alaska Department of Environmental Conservation to GVEA on February 3, 2012 pursuant to Subchapter V of the Act, 42 U.S.C. §§ 7661-7661e.
- 50. "Unit 1" means the Foster-Wheeler Boiler pulverized coal-fired steam generator including emission control equipment owned and operated by GVEA.
- 51. "Unit 2" means the TRW Integrated Entrained Combustion System pulverized coal-fired steam generator, including emission control equipment, that is currently owned by AIDEA.

52. "Unit 1 and Unit 2 Annual Tonnage Limitation" means the sum of the tons of pollutant in question emitted from Unit 1 and Unit 2 including, without limitation, all tons of that pollutant emitted during periods of startup, shutdown, and Malfunction, in the designated year.

- 53. "United States" means the United States of America, acting on behalf of EPA.
- 54. "Unit Operating Day" means, for Unit 1, any day on which Unit 1 fires Fossil Fuel and for Unit 2, any day on which Unit 2 fires Fossil Fuel.

### IV. <u>CIVIL PENALTY</u>

55. Within 30 days after the Date of Entry of this Consent Decree, GVEA, on behalf of Defendants, shall pay to the United States a civil penalty in the amount of \$115,000.00. The civil penalty shall be paid by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing DOJ Case Number 90-5-2-1-10615, the civil action case name and case number assigned to this case. The costs of such EFT shall be GVEA's responsibility. Payment shall be made in accordance with instructions provided to GVEA by the Financial Litigation Unit of the U.S. Attorney's Office for the District of Alaska. At the time of payment, GVEA shall provide notice of payment, referencing the DOJ Case Number, and the civil action case name and case number, to the Department of Justice and to EPA in accordance with Section XIX (Notices) of this Consent Decree.

56. Failure to timely pay the civil penalty shall subject GVEA to interest accruing from the date payment is due until the date payment is made at the rate prescribed by 28 U.S.C. § 1961, and shall render GVEA liable for all charges, costs, fees, and penalties established by law for the benefit of a creditor or of the United States in securing payment.

57. Payments made pursuant to this Section are penalties within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f), and are not tax-deductible expenditures for purposes of federal law.

# V. NO<sub>x</sub> EMISSION REDUCTIONS AND CONTROLS

## A. <u>Installation, Operation and Performance NOx Requirements</u>

- 58. Upon Defendants' First Firing of Coal at Unit 2, Defendants shall achieve and maintain at Unit 2 a 30-Day Rolling Average  $NO_x$  Emission Rate of no greater than 0.325 lb/mmBTU.
- 59. Defendants shall install an SCR at Unit 2 on or before September 30, 2016, or 24 months after Unit 2 First Fires Coal, whichever is later. Continuing thereafter, Defendants shall Continuously Operate such SCR at Unit 2 so that it achieves and maintains a 30-Day Rolling Average NO<sub>x</sub> Emission Rate of no greater than 0.080 lb/mmBTU.
- 60. GVEA shall install an SNCR at Unit 1 on or before September 30, 2015, or 18 months after Unit 2 First Fires Coal, whichever is later. Continuing thereafter, GVEA shall Continuously Operate such SNCR so that it achieves and maintains a 30-Day Rolling Average NO<sub>x</sub> Emission Rate of no greater than 0.20 lb/mmBTU until GVEA either retires Unit 1 pursuant to Paragraph 62 or installs an SCR at Unit 1 pursuant to Paragraph 63.
- 61. On or before December 31, 2022, GVEA shall elect to (a) Retire Unit 1 or (b) install and operate an SCR at Unit 1 (or an alternative control technology approved by EPA) as provided in Paragraph 63. GVEA shall provide Notice of such election pursuant to Section XIX (Notices).
- 62. If GVEA elects to Retire Unit 1 pursuant to Paragraph 61, GVEA shall Retire Unit 1 by no later than December 31, 2024.

63. If GVEA elects to continue to operate Unit 1 pursuant to Paragraph 61, then GVEA shall install an SCR at Unit 1 (or an alternative control technology approved by EPA) commencing on December 31, 2024. Continuing thereafter, GVEA shall Continuously Operate such SCR (or alternative control technology approved by EPA) so that it achieves and maintains a 30-Day Rolling Average NO<sub>x</sub> Emission Rate of no greater than 0.070 lb/mmBTU.

# B. <u>Unit 1 and Unit 2 Annual NO<sub>x</sub> Tonnage Limitation</u>

64. Unit 1 and Unit 2 shall operate so as not to exceed the following Unit 1 and Unit 2 Annual  $NO_x$  Tonnage Limitation:

For Each 12-Month Period, Beginning	Unit 1 and Unit 2 Annual NOx Tonnage
on January 1 <sup>st</sup> , within the Dates	Limitation:
Specified	
Below:	
	1,239
For the first full year of operation following	
installation of SNCR on Unit 1	
	533
For the first full year of operation following	
installation of SCR on Unit 2 through 2024	
	352
For the first full year of operation following	
installation of SCR on Unit 1	
	231
For the first full year of operation following	
retirement of Unit 1	

# C. Monitoring of NO<sub>x</sub> Emissions

In determining a 30-Day Rolling Average NO<sub>x</sub> Emission Rate, Defendants shall use NO<sub>x</sub> emission data obtained from a CEMS in accordance with the procedures of 40 C.F.R. Part 60, and flow monitoring devices necessary to calculate compliance with the Unit 1 and Unit 2 Annual Tonnage Limitation.

# VI. SO<sub>2</sub> EMISSION REDUCTIONS AND CONTROLS

#### A. Installation, Operation and Performance SO<sub>2</sub> Requirements

65. Commencing on the Day that Unit 2 First Fires Coal, and continuing thereafter, Defendants shall Continuously Operate the existing SDA on Unit 2 so that it achieves and maintains a 30-Day Rolling Average SO<sub>2</sub> Emission Rate of no greater than 0.10 lb/mmBTU.

66. Commencing September 30, 2015 or 18 months after Unit 2 First Fires Coal, whichever is later, and continuing thereafter, Defendants shall Continuously Operate the existing DSI at Unit 1 so that it achieves and maintains a 30-Day Rolling Average SO<sub>2</sub> Emission Rate of no greater than 0.30 lb/mmBTU.

#### B. Unit 1 and Unit 2 Annual SO<sub>2</sub> Tonnage Limitation

67. Unit 1 and Unit 2 shall operate so as not to exceed the following Unit 1 and Unit 2 Annual SO<sub>2</sub> Tonnage Limitation:

For Each 12-Month Period, Beginning on	Unit 1 and Unit 2 Annual SO <sub>2</sub> Tonnage
<b>January 1<sup>st</sup>, within the Dates Specified</b>	Limitation:
Below:	
January 1, 2016 and continuing each 12-	701
month period thereafter	
If Unit 1 is Retired pursuant to Paragraph	248
62: January 1 of the first calendar year after	
the retirement and continuing each 12-	
month period thereafter	

#### C. Monitoring of SO<sub>2</sub> Emissions

68. In determining a 30-Day Rolling Average SO<sub>2</sub> Emission Rate, Defendants shall use SO<sub>2</sub> emission data obtained from a CEMS in accordance with the procedures of 40 C.F.R. Part 60, and flow monitoring devices necessary to calculate the Unit 1 and Unit 2 Annual Tonnage Limitation.

#### VII. PM EMISSION REDUCTIONS AND CONTROLS

#### A. Optimization of Baghouses

69. Commencing upon the Date of Entry of this Consent Decree for Unit 1, and continuing thereafter, GVEA shall Continuously Operate the Baghouse on Unit 1.

70. Except as required during correlation testing under 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and Quality Assurance Requirements under Appendix F, Procedure 2, as required by this Consent Decree, GVEA for Unit 1 and Defendants for Unit 2 shall Continuously Operate, at a minimum, to the extent practicable: each compartment of the Baghouse for Unit 1 and Unit 2 (regardless of whether those actions are needed to comply with opacity limits); repair any failed Baghouse compartment at the next planned Unit outage (or unplanned outage of sufficient length); and maintain and replace bags on each Baghouse for Unit 1 and Unit 2 as needed to maximize collection efficiency, where applicable.

#### B. Operation and Performance Requirements for PM Controls

- 71. Commencing on the Day that Unit 2 First Fires Coal, Defendants shall Continuously Operate the existing Baghouse at Unit 2 so that it achieves and maintains a 30-Day Rolling Average Filterable PM Emission Rate of no greater than 0.0200 lb/mmBTU.
- 72. Commencing September 30, 2015 or 18 months after Unit 2 First Fires Coal, whichever is later, GVEA shall Continuously Operate the existing Baghouse at Unit 1 so that it achieves and maintains a 30-Day Rolling Average Filterable PM Emission Rate of no greater than 0.0200 lb/mmBTU.

#### C. PM CEMS

73. Defendants with respect to Unit 2 and GVEA with respect to Unit 1, shall install, correlate, maintain, and operate PM CEMS on Units 1 and 2 as specified below. The PM CEMS shall be comprised of a continuous particle mass monitor measuring filterable particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units expressed in lb/mmBTU. The PM CEMS installed at Unit 2 must be appropriate for the anticipated stack conditions and capable of measuring filterable PM concentrations on an hourly average basis. Defendants shall maintain, in an electronic database that maintains data for at least five years, the hourly average emission values of all PM CEMS in lb/mmBTU. Except for periods of monitor malfunction, maintenance, repair, calibration, or testing as identified in Defendants' PM CEMS protocols prepared pursuant to Paragraphs 77 and 78, GVEA shall Continuously Operate the PM CEMS at all times when the Unit it serves is operating.

- 74. Not later than upon First Firing of Coal in Unit 2, Defendants on Unit 2 and GCEA on Unit 1 shall install, correlate, maintain, and operate PM CEMS on Unit 1 and Unit 2 in accordance with 40 C.F.R. Part 60, Appendix B, Performance Specification 11.
- 75. Within 180 days of the Date of Entry, Defendants shall submit to EPA a plan for the installation and correlation of the PM CEMS.
- 76. Within 365 days of the Date of Entry, Defendants shall submit to EPA a Quality Assurance/Quality Control ("QA/QC") protocol that shall be followed for such PM CEMS.
- 77. In developing both the plan for installation and correlation of the PM CEMS and the QA/QC protocol, Defendants shall use the criteria set forth in 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and Appendix F, Procedure 2. After PM CEMS

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is installed, Defendants shall thereafter operate the PM CEMS in accordance with the plan and QA/QC protocol.

78. By no later than the Day Unit 2 First Fires Coal, except for periods of monitor malfunction, maintenance, repair, calibration, or testing as identified in Defendants' PM CEMS protocols prepared pursuant to Paragraphs 77 and 78, Defendants shall install, correlate, maintain, and Continuously Operate the PM CEMS when the Unit it serves is operating, conduct performance specification tests on the PM CEMS, and demonstrate compliance with the PM CEMS installation and correlation plans submitted to EPA.

Defendants shall report, pursuant to Section XII (Periodic Reporting), the data recorded by the PM CEMS during Unit operation, expressed in lb/mmBTU on a rolling average 30-day basis in compact disc- electronic format to EPA and identify in the report any PM emission rates in excess of the applicable PM Emission Rate and any concentrations measured by the PM CEMS that are greater than 125% of the highest PM concentration level used in the most recent correlation testing performed pursuant to Performance Specification 11 in 40 C.F.R. Part 60, Appendix B.

#### D. General PM Provisions-

- 79. Compliance with the PM Emission Rates established by this Consent Decree shall be determined using CEMS data obtained in accordance with Paragraphs 78 and 79. Data from PM CEMS shall be used to monitor compliance with PM Emission Rates established by this Consent Decree on a continuous basis.
- 80. Nothing in this Consent Decree is intended to, or shall, alter or waive any applicable law (including but not limited to any defenses, entitlements, challenges, or

clarifications related to the Credible Evidence Rule, 62 Fed. Reg. 8314 (Feb. 24, 1997)) concerning the use of data for any purpose under the Act.

#### VIII. PROHIBITION ON NETTING CREDITS OR OFFSETS

81. Except as provided in Paragraph 83, emission reductions that result from actions to be taken by Defendants after the Date of Entry of this Consent Decree to comply with the requirements of this Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a Netting credit or offset under the Act's Nonattainment NSR and PSD programs.

82. The limitations on the generation and use of Netting credits and offsets set forth in the previous Paragraph do not apply to emission reductions achieved by Unit 1 and Unit 2 that are greater than those required under this Consent Decree. For purposes of this Paragraph, emission reductions from Unit 1 and Unit 2 are greater than those required under this Consent Decree if they result from such Unit's compliance with federally-enforceable emission limits that are more stringent than those limits imposed on the Unit under this Consent Decree and under applicable provisions of the Act or the Alaska SIP. Nothing in this Consent Decree is intended to preclude the emission reductions generated under this Consent Decree from being considered by EPA or the applicable state for the purposes of: attainment demonstrations submitted pursuant to Section 110 of the Act, 42 U.S.C. § 7410; determining impacts on National Ambient Air Quality Standards, PSD increment, or air quality related values, including visibility, in a Class I area; Best Available Retrofit Technology ("BART") determinations pursuant to Section 169A(g)(2) of the CAA, 42 U.S.C. § 7491(g)(2); and reasonable progress portions of the Alaska Regional Haze State Implementation Plan.

#### IX. ENVIRONMENTAL MITIGATION PROJECT

83. GVEA, on behalf of Defendants, shall fund as an Environmental Mitigation Project a change out program for solid-fuel burning devices, including wood or coal stoves, wood or coal-fired furnaces, wood or coal-fired hydronic heaters, or fireplace inserts ("Stove Change Out Project" or "Stove Project") in compliance with the approved plans and schedules for such Project and the other terms of this Consent Decree.

84. GVEA shall spend a total of \$250,000 in Project Dollars on a Stove Change Out Project for municipalities in Interior Alaska, specifically the Fairbanks North Star Borough and Denali Borough (collectively "the Boroughs"). GVEA shall spend no less than \$175,000 of the Project Dollars by providing funds to the Fairbanks North Star Borough Air Quality Division ("FNSB") for the express purpose of funding FNSB's existing Change Out Program for solid-fuel burning devices such as stoves ("FNSB Program"). GVEA shall spend no less than \$75,000 in Project Dollars on a Stove Project for the Denali Borough ("Denali") that meets the requirements of the FNSB Program. After providing notification to EPA pursuant to Section XIX (Notices), the allocation of Project Dollars between FNSB and Denali may be changed by GVEA if one of the Boroughs is unwilling or unable to spend Project Dollars on the Stove Change Out Project in compliance with the terms and conditions of this Consent Decree.

85. To the extent that a Borough is willing to participate in the Stove Change Out Project under this Consent Decree, GVEA shall provide to the United States within 90 days of the Date of Entry of this Consent Decree a certification from that participating Borough stating that: the Borough shall spend all of its Project Dollars provided by GVEA exclusively and solely on the Project; the Borough shall limit the use of its Project Dollars

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for administrative costs associated with the Stove Project to no greater than 10% of the Project Dollars GVEA provides; the Borough shall implement the Stove Project consistent with the materials available on EPA's website at <a href="http://www.epa.gov/burnwise">http://www.epa.gov/burnwise</a>; the Borough shall prepare true and accurate reports for GVEA's use in complying with this Consent Decree, to the extent GVEA requests the Borough to do so; and the Borough shall direct Project Dollars to the Stove Change Out Project, such that all Project Dollars, to the best of the Borough's ability, are expended by no later than December 31, 2014 or twenty-four (24) months following the Date of Entry of this Consent Decree whichever is later.

86. GVEA shall pay \$87,500 to FNSB and \$37,500 to Denali within 120 days of the Date of Entry of this Consent Decree for the Implementation of the Change Out Program, consistent with this Consent Decree and the Boroughs' certifications. Within 365 days of the Date of Entry of this Consent Decree, GVEA shall pay \$87,500 of Project Dollars to FNSB and \$37,500 in Project Dollars to Denali. GVEA shall not include its own personnel costs as a credit or offset for the Project Dollars to be paid to the Boroughs to implement the Stove Project.

87. All plans and reports prepared by GVEA pursuant to the requirements of this Section IX of the Consent Decree and required to be submitted to EPA shall be publicly available from GVEA without charge.

88. While GVEA intends to have the Stove Change Out Project carried out by the Boroughs, GVEA acknowledges that GVEA will receive credit for the expenditure of such funds as Project Dollars only if GVEA demonstrates that the funds have been actually spent by the Boroughs, and that such expenditures met all requirements of this Consent Decree. Nothing in this settlement shall be construed to prohibit a contractual allocation of liability

between the Boroughs and GVEA, should the Boroughs fail to spend the Project Dollars in accordance with the certification that it provided to the Parties to this Consent Decree.

89. Beginning one hundred eighty (180) days from the Date of Entry of this Consent Decree, and continually annually thereafter until completion of the Project, GVEA shall provide EPA with written reports (which may be prepared by the Boroughs) detailing the progress of the Stove Project, including an accounting of Project Dollars spent to date.

90. Within 60 Days following the completion of the Project required under this Consent Decree GVEA shall submit to the United States a report, which may be prepared by the Boroughs, that documents: the date that the Stove Project was completed, i.e., when all of the Project Dollars were spent by the Boroughs; the results of implementing the Stove Project, including the emission reductions or other environmental benefits achieved; and the Project Dollars expended by the Boroughs in implementing the Stove Project.

# X. MERCURY

- 91. GVEA stipulates that Unit 1 and Unit 2 at the Healy Power Plant shall comply with the requirements for mercury emissions from existing coal-fired electric generating units established by the National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units, 40 C.F.R. Part 63, Subpart UUUUU (the "MATS Rule").
- 92. GVEA shall make available to the National Park Service ("NPS") the results of any mercury emissions monitoring required by law conducted on Unit 1 and Unit 2 within 45 days of receiving a request for such data from the NPS.
- 93. Nothing in this Consent Decree shall be construed or interpreted to relieve GVEA of any requirements in the MATS Rule that may otherwise apply to Unit 1 or Unit 2 of the

Healy Power Plant, including requirements that might apply to emissions of other hazardous air pollutants from Unit 1 or Unit 2.

# XI. RESOLUTION OF CIVIL CLAIMS

94. Entry of this Consent Decree shall resolve all civil claims of the United States against AIDEA and GVEA that are (1) alleged in the Complaint, specifically claims under Section 167 of the Act, 42 U.S.C. § 7477, that arise from the proposed modification, proposed restart, and/or proposed reactivation of Unit 2 at the Healy Power Plant, and (2) claims that arise, prior to the Date of Lodging of this Consent Decree, from the proposed modification, proposed restart, and/or proposed reactivation of Unit 2 at the Healy Power Plant under any or all of: (a) Part C and D of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, 7501-7515, and the implementing PSD and Nonattainment NSR provisions of the Alaska SIP; (b) Section 111 of the Act, 42 U.S.C. § 7411, and 40 C.F.R. § 60.14; and (c) Title V of the Act, 42 U.S.C. § 7661-7661f, but only to the extent that such Title V claims are based on Defendants' failure to obtain terms in the Title V Permit that reflect applicable requirements imposed under Part C or D of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, 7501-7515, and the implementing PSD and Nonattainment NSR provisions of the Alaska SIP.

#### XII. PERIODIC REPORTING

95. After the Date of Entry of this Consent Decree, GVEA for Unit 1 and Defendants for Unit 2 shall submit to the United States a periodic report, within 60 Days after the end of each half of the calendar year (January through June and July through December). The report shall include the following information:

a. all information necessary to determine compliance during the reporting period with: all applicable 30-Day Rolling Average NO<sub>x</sub> Emission Rates and 30-Day Rolling Average SO<sub>2</sub> Emission Rates; all applicable PM Emission Rates; all applicable Unit 1 and Unit 2 Annual Tonnage Limitations; the obligation to monitor NO<sub>x</sub>, SO<sub>2</sub>, and PM emissions; and the obligation to optimize PM emission controls;

- the schedule for the installation or upgrade and commencement of operation of new or upgraded pollution control devices required by this Consent Decree, including the nature and cause of any actual or anticipated delays, and any steps taken by Defendants to mitigate such delay;
- c. the date on which Unit 2 First Fires Coal;
- all affirmative defenses asserted pursuant to Paragraphs 110 through 118 during
   the period covered by the progress report; and
- e. an identification of all periods when any pollution control device required by this

  Consent Decree to Continuously Operate did not Continuously Operate, the

  reason(s) for the equipment not operating, and the basis for Defendants'

  compliance or non-compliance with the Continuous Operation requirements of
  this Consent Decree.

96. In any periodic report submitted pursuant to this Section XII, Defendants may incorporate by reference information previously submitted under its Title V permitting requirements, provided that Defendants attach the Title V Permit report (or the pertinent portions of such report) and provide a specific reference to the provisions of the Title V Permit report that are responsive to the information required in the periodic report.

97. In addition to the reports required pursuant to this Section XII, if Defendants violate or deviate from any provision of this Consent Decree, Defendants shall submit to United States a report on the violation or deviation within 10 business days after Defendants knew or by the exercise of due diligence should have known of the event. In the report, Defendants shall explain the cause or causes of the violation or deviation and any measures taken or to be taken by Defendants to cure the reported violation or deviation or to prevent such violation or deviation in the future. If at any time, the provisions of this Consent Decree are included in Title V Permits, consistent with the requirements for such inclusion in this Consent Decree, then the deviation reports required under applicable Title V regulations shall be deemed to satisfy all the requirements of this Paragraph.

98. Each of Defendants' reports shall be signed by the Responsible Official as defined in Title V of the Act for the Healy Power Plant, as appropriate, and shall contain the following certification:

This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or misleading information to the United States.

#### XIII. REVIEW AND APPROVAL OF SUBMITTALS

99. Defendants shall submit each plan, report, or other submission required by this Consent Decree to United States whenever such a document is required to be submitted for review or approval pursuant to this Consent Decree. To the extent EPA approval is required, EPA may approve the submittal or decline to approve it and provide written comments

explaining the basis for declining such approval as soon as reasonably practicable. Within 60 Days of receiving written comments from EPA, Defendants shall either: (a) revise the submittal consistent with the written comments and provide the revised submittal to EPA; or (b) submit the matter for dispute resolution, including the period of informal negotiations, under Section XVI (Dispute Resolution) of this Consent Decree.

100. Upon receipt of EPA's final approval of the submittal, or upon completion of the submittal pursuant to dispute resolution, Defendants shall implement the approved submittal in accordance with the schedule specified therein or another EPA-approved schedule or as resolved at the completion of the Dispute Resolution process.

#### XIV. STIPULATED PENALTIES

101. For any failure by Defendants to comply with the terms of this Consent Decree, and subject to the provisions of Sections XV (Force Majeure) and XVI (Dispute Resolution), Defendants shall pay, within 30 Days after receipt of written demand to Defendants by the United States, the following stipulated penalties to the United States:

<b>Consent Decree Violation</b>	<b>Stipulated Penalty</b>
a. Failure to pay the civil penalty as specified in Section IV (Civil Penalty) of this Consent Decree	\$5,000 per Day
b. Failure to comply with any applicable 30-Day Rolling Average NO <sub>x</sub> Emission Rate, 30-Day Rolling Average SO <sub>2</sub> Emission Rate, or 30-Day Rolling Average PM Emission Rate	\$1,250 per Day per violation where the violation is less than 5% in excess of the lb/mmBTU limits
	\$2,500 per Day per violation where the violation is equal to or greater than 5% but less than 10% in excess of the lb/mmBTU limits
	\$5,000 per Day per violation where the violation is equal to or greater than 10% in excess of the lb/mmBTU limits
c. Failure to comply with the applicable Unit 1 and Unit 2 Annual $NO_x$ Tonnage Limitation established by this Consent Decree	\$2,500 per ton for first 100 tons, \$5,000 per ton for each additional ton above 100 tons, plus the payment of \$2,500 per ton for an amount of tons equal to two times the number of tons of NO <sub>x</sub> emitted that exceeded the Unit 1 and Unit 2 Annual NO <sub>x</sub> Tonnage Limitation on Units 1 and 2
d. Failure to comply with the applicable Unit 1 and Unit 2 Annual Tonnage Limitation for SO <sub>2</sub> required by this Consent Decree	\$2,500 per ton for the first 100 tons over the limit, and \$5,000 per ton for each additional ton over the limit, plus the payment of \$1,250 per ton for an amount of tons equal to two times the number of tons of SO <sub>2</sub> emitted that exceeded the Unit 1 and Unit 2 Annual Tonnage Limitation on Units 1 and 2

e. Failure to install and commence Continuous Operation, or Continuously Operate an NO <sub>x</sub> , SO <sub>2</sub> , or PM control device as required under this Consent Decree	\$5,000 per Day per violation during the first 30 Days; \$19,000 per Day per violation thereafter
f. Failure to Retire Unit 1, if elected, as required under this Consent Decree	\$5,000 per Day during the first 30 Days; \$19,000 per Day thereafter
g. Failure to install or operate $NO_x$ , $SO_2$ , and/or PM CEMS as required in this Consent Decree	\$500 per Day per violation
h. Failure to apply for any permit required by Section XVII (Permits)	\$500 per Day per violation
i. Failure to timely submit, modify, or implement, as approved, the reports, plans, studies, analyses, protocols, or other submittals required by this Consent Decree	\$375 per Day per violation during the first 10 Days; \$500 per Day per violation thereafter
j. Failure to optimize Baghouses as required by Paragraph 71	\$500 per Day per violation
k. Any other violation of this Consent Decree	\$500 per Day per violation

- Days of violation but where such a violation (for the same pollutant and from the same Unit) recurs within periods less than 30 Days, Defendants shall not be obligated to pay a daily stipulated penalty for any Day of the recurrence for which a stipulated penalty has already been paid.
- 103. All stipulated penalties shall begin to accrue on the Day after the performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases, whichever is applicable. Nothing in this Consent Decree shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Decree.

  Notwithstanding any other provision of this Consent Decree, the United States may, in its

unreviewable discretion, waive all or any part of any stipulated penalties which may have accrued pursuant to this Consent Decree.

- Days of receipt of written demand to Defendants from the United States, and shall continue to make such payments every 30 Days thereafter until the violation(s) no longer continues, unless Defendants elect within 20 Days of receipt of written demand to Defendants from the United States to dispute the accrual of stipulated penalties in accordance with the provisions in Section XVI (Dispute Resolution) of this Consent Decree.
- 105. Stipulated penalties shall continue to accrue as provided in accordance with Paragraph 104 during any dispute, with interest on accrued stipulated penalties payable and calculated at the rate established by the Secretary of the Treasury, pursuant to 28 U.S.C. § 1961, but need not be paid until the following:
  - a. If the dispute is resolved by agreement, or by a decision of the United States pursuant to Section XVI (Dispute Resolution) of this Consent Decree that is not appealed to the Court, accrued stipulated penalties agreed or determined to be owing, together with accrued interest, shall be paid within 30 Days of the effective date of the agreement or of the receipt of the United States' decision;
  - b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendants shall, within 30 Days of receipt of the Court's decision or order, pay all accrued stipulated penalties determined by the Court to be owing, together with interest accrued on such penalties determined by the Court to be owing, except as provided in Subparagraph c, below;

c. If the Court's decision is appealed by either Party, Defendants shall, within 15
 Days of receipt of the final appellate court decision, pay all accrued stipulated penalties determined to be owing, together with interest accrued on such stipulated penalties determined to be owing by the appellate court.

Notwithstanding any other provision of this Consent Decree, the accrued stipulated penalties agreed by the United States and Defendants, or determined by the United States through Dispute Resolution, to be owing may be less than the stipulated penalty amounts set forth in Paragraph 102.

- 106. All monetary stipulated penalties shall be paid in the manner set forth in Section IV (Civil Penalty) of this Consent Decree.
- 107. Should Defendants fail to pay stipulated penalties in compliance with the terms of this Consent Decree, the United States shall be entitled to collect interest on such penalties, as provided for in 28 U.S.C. § 1961.
- 108. The stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States by reason of Defendants' failure to comply with any requirement of this Consent Decree or applicable law, except that for any violation of the Act for which this Consent Decree provides for payment of a stipulated penalty, Defendants shall be allowed a credit for stipulated penalties paid against any statutory penalties also imposed for such violation.
- 109. <u>Affirmative Defense as to Stipulated Penalties for Excess Emissions</u>

  Occurring During Malfunctions: If any of Defendants' Units exceed an applicable 30-Day

  Rolling Average Emission Rate for PM, NO<sub>x</sub> or SO<sub>2</sub>, or fail to meet a Continuously Operate

requirement set forth in this Consent Decree due to a claimed Malfunction, Defendants, bearing the burden of proof by a preponderance of the evidence, have an affirmative defense to stipulated penalties under this Consent Decree if Defendants have complied with the reporting requirements of Paragraphs 115 through 116 and have demonstrated all of the following:

- a. the excess emissions or failure to Continuously Operate was/were caused by a sudden, unavoidable breakdown of technology, beyond Defendants' control;
- the excess emissions or failure to Continuously Operate (1) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and
  (2) could not have been avoided by better operation and maintenance practices in accordance with manufacturers' specifications and recommendations and good engineering and maintenance practices;
- c. to the maximum extent practicable, the air pollution control equipment and processes were maintained and operated in a manner consistent with approved plans, QA/QC procedures, manufacturers' specifications and recommendations, and good engineering and maintenance practices for minimizing emissions;
- d. repairs to equipment and processes were made in an expeditious fashion when such repairs were needed to prevent the exceedance of an emission limit or the shutdown of air pollution control equipment. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- e. the amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions,

and consistent with manufacturers' specifications and recommendations and good engineering and maintenance practices;

- f. all possible steps were taken to minimize the excess emissions in accordance with approved plans, QA/QC protocols, manufacturers' specifications and recommendations, and good engineering and maintenance practices;
- g. all emission monitoring systems were kept in operation if at all possible and in accordance with approved plans, QA/QC protocols, manufacturers' specifications and recommendations, and good engineering and maintenance practices;
- h. Defendants' actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence;
- the excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- Defendants properly and promptly notified EPA as required by this Consent
   Decree.
- 110. To assert an affirmative defense for Malfunction under Paragraph 110,
  Defendants shall submit actual emissions data for the Day the Malfunction occurred and the
  29-Day period following the Day the Malfunction occurred. Defendants may, if they elect,
  submit emissions data for the same 30-Day period but that excludes the excess emissions.
- 111. Affirmative Defense as to Stipulated Penalties for Excess Emissions

  Occurring During Startup and Shutdown: If any of Defendants' Units exceed an applicable

  30-Day Rolling Average Emission Rate for PM, NO<sub>x</sub> or SO<sub>2</sub> set forth in this Consent Decree

  due to startup or shutdown, Defendants, bearing the burden of proof by a preponderance of
  the evidence, have an affirmative defense to stipulated penalties under this Consent Decree,

if Defendants have complied with the reporting requirements of Paragraphs 115 through 116 and have demonstrated all of the following:

- a. the periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design consistent with good engineering and maintenance practices and manufacturers' specifications and recommendations;
- b. the excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance or which could have been prevented by following manufacturers' specifications and recommendations and good engineering and maintenance practices;
- if the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- at all times, the facility was operated in a manner consistent with good engineering and maintenance practices and manufacturers' specifications and recommendations for minimizing emissions;
- e. the frequency and duration of operation in startup or shutdown mode was minimized to the maximum extent practicable and consistent with good engineering and maintenance practices and manufacturers' specifications and recommendations;
- f. all possible steps were taken to minimize the excess emissions in accordance with approved plans, QA/QC protocols, manufacturers' specifications and recommendations, and good engineering and maintenance practices;

g. all emissions monitoring systems were kept in operation if at all possible and in accordance with approved plans, QA/QC protocols, manufacturers' specifications and recommendations, and good engineering and maintenance practices;

- h. Defendants' actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence; and
- Defendants properly and promptly notified EPA as required by this Consent Decree.
- 112. To assert an affirmative defense for startup or shutdown under Paragraph 112, Defendants shall submit actual emissions data for the Day the excess emissions from startup or shutdown occurred and the 29-Day period following the Day the excess emissions from startup or shutdown occurred. Defendants may, if elected, submit emissions data for the same 30-Day period but that excludes the excess emissions.
- 113. If excess emissions occurred due to a Malfunction during routine startup and shutdown, then those instances shall be treated as other Malfunctions subject to Paragraph 110.
- 114. For an affirmative defense under Paragraphs 110 and 112, Defendants, bearing the burden of proof, shall demonstrate, through submission of the data and information under the reporting provisions of this Section, that all reasonable and practicable measures in accordance with good engineering and maintenance practices and within Defendants' control were implemented to prevent the occurrence of the excess emissions.
- 115. Defendants shall provide notice to United States in writing of Defendants' intent to assert an affirmative defense for Malfunction, startup, or shutdown under Paragraphs 110 and 112, as soon as practicable, but in no event later than 21 Days following

the date of the Malfunction, startup or shutdown. This notice shall be submitted pursuant to the provisions of Section XIX (Notices). The notice shall contain:

- a. the identity of each stack or other emission point where the excess emissions occurred;
- b. the magnitude of the excess emissions expressed in lb/mmBTU and the operating data and calculations used in determining the magnitude of the excess emissions;
- the time and duration or expected duration of the excess emissions or failure to
   Continuously Operate;
- d. the identity of the equipment causing the excess emissions or failure to
   Continuously Operate;
- e. the nature and suspected cause of the excess emissions or failure to Continuously

  Operate;
- f. the steps taken, if the excess emissions or failure to Continuously Operate were the result of a Malfunction, to remedy the Malfunction and the steps taken or planned to prevent the recurrence of the Malfunction;
- g. the steps that were or are being taken to limit the excess emissions or limit the duration of the failure to Continuously Operate; and
- h. if applicable, a list of the steps taken to comply with permit conditions governing
  Unit operation during periods of startup, shutdown, and/or Malfunction.
- 116. A Malfunction, startup, or shutdown shall not constitute a Force Majeure Event unless the Malfunction, startup, or shutdown also meets the definition of a Force Majeure Event, as provided in Section XV (Force Majeure).

117. The affirmative defense provided herein is only an affirmative defense to stipulated penalties for violations of this Consent Decree, and not a defense to any civil or administrative action for injunctive relief.

#### XV. FORCE MAJEURE

- an event that has been or will be caused by circumstances beyond the control of Defendants, its contractors, or any entity controlled by Defendants that delays compliance with any provision of this Consent Decree or otherwise causes a violation of any provision of this Consent Decree despite Defendants' best efforts to fulfill the obligation. "Best efforts to fulfill the obligation" include using the best efforts to anticipate any potential Force Majeure Event and to address the effects of any such event (a) as it is occurring and (b) after it has occurred, such that the delay and any adverse environmental effect of the delay or violation is minimized to the greatest extent possible.
- 119. Notice of Force Majeure Events. If any event occurs or has occurred that may delay compliance with or otherwise cause a violation of any obligation under this Consent Decree, as to which Defendants intend to assert a claim of Force Majeure, Defendants shall notify United States in writing as soon as practicable, but in no event later than 21 Days following the date Defendants first knew, or by the exercise of due diligence should have known, that the event caused or may cause such delay or violation. In this notice, Defendants shall reference this Paragraph of this Consent Decree and describe the anticipated length of time that the delay or violation may persist; the cause or causes of the delay or violation; all measures taken or to be taken by Defendants to prevent or minimize the delay or violation; the schedule by which Defendants propose to implement those

measures; and Defendants' rationale for attributing the delay or violation to a Force Majeure Event. Defendants shall include with any notice all available documentation supporting the claim that the delay was attributable to a Force Majeure Event. Defendants shall adopt all reasonable measures to avoid or minimize such delays or violations. Defendants shall be deemed to know of any circumstance which Defendants, its contractors, or any entity controlled by Defendants knew or should have known.

- 120. <u>Failure to Give Notice</u>. If Defendants fail to comply with the notice requirements of this Section, the United States may void Defendants' claim for Force Majeure as to the specific event for which Defendants have failed to comply with such notice requirement.
- 121. <u>United St ates' R e sponse</u>. The United States shall notify Defendants in writing regarding Defendants' claim of Force Majeure within 30 Days after receipt of the notice provided in Paragraph 120. If the United States agrees that a delay in performance has been or will be caused by a Force Majeure Event, the United States and Defendants shall stipulate to an extension of deadline(s) for performance of the affected compliance requirement(s) by a period equal to the delay actually caused by the event. In such circumstances, an appropriate modification shall be made pursuant to Section XXIII (Modification) of this Consent Decree.
- Disagreement. If the United States does not accept Defendants' claim of Force Majeure, or if the United States and Defendants cannot agree on the length of the delay actually caused by the Force Majeure Event, the matter shall be resolved in accordance with Section XVI (Dispute Resolution) of this Consent Decree.

shall bear the burden of proving that any delay in performance or any other violation of any requirement of this Consent Decree was caused by or will be caused by a Force Majeure Event. Defendants shall also bear the burden of proving by a preponderance of the evidence that Defendants gave the notice required by this Section and the burden of proving the anticipated duration and extent of any delay(s) attributable to a Force Majeure Event. An extension of one compliance date based on a particular event may, but will not necessarily, result in an extension of a subsequent compliance date.

- 124. <u>Events Excluded</u>. Unanticipated or increased costs or expenses associated with the performance of Defendants' obligations under this Consent Decree shall not constitute a Force Majeure Event. Force Majeure also does not include Defendants' financial inability to perform any obligation under this Consent Decree.
- the circumstances related to an event and the Defendants' response to such circumstances, the kinds of events listed below are among those that could qualify as Force Majeure Events within the meaning of this Section: construction, labor, or equipment delays; Malfunction of a Unit or emission control or monitoring device; unanticipated coal supply or pollution control reagent delivery interruptions; acts of God; acts of war or terrorism; the need of Defendants to supply electricity in response to a system-wide (state-wide or regional) emergency that temporarily precludes compliance with an Emission Rate, a Tonnage Limitation, or the duty to Continuously Operate a NO<sub>x</sub>, SO<sub>2</sub>, or PM control device.

  Depending upon the circumstances and Defendants' response to such circumstances, failure of a permitting authority to issue a necessary permit in a timely fashion may constitute a

Force Majeure Event where the failure of the permitting authority to act is beyond the control of Defendants and Defendants have taken all steps available to obtain the necessary permit, including without limitation, submitting a complete permit application, responding to requests for additional information by the permitting authority in a timely fashion, and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal terms and conditions imposed by the permitting authority.

Section XVI (Dispute Resolution) regarding a claim of Force Majeure, the United States and Defendants by agreement, or this Court by order, may in appropriate circumstances extend or modify the schedule for completion of work under this Consent Decree to account for the delay in the work that occurred as a result of any delay agreed to by the United States or approved by the Court. Defendants shall be liable for stipulated penalties pursuant to Section XIV (Stipulated Penalties) for its failure thereafter to complete the work in accordance with the extended or modified schedule (provided that Defendants shall not be precluded from making a further claim of Force Majeure with regard to meeting any such extended or modified schedule).

## XVI. DISPUTE RESOLUTION

127. The dispute resolution procedure provided by this Section shall be available to resolve all disputes arising under this Consent Decree, provided that the Party invoking such procedure has first made a good faith attempt to resolve the matter with the other Party. The provisions of this Section XVI shall be the sole and exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree.

Party giving written notice to the other Party advising of a dispute pursuant to this Section.

The notice shall describe the nature of the dispute and shall state the noticing Party's position with regard to such dispute. The Party receiving such a notice shall acknowledge receipt of the notice, and the Parties in dispute shall expeditiously schedule a meeting to discuss the dispute informally not later than 14 Days following receipt of such notice.

- Disputes submitted to dispute resolution under this Section shall, in the first instance, be the subject of informal negotiations between the Parties. Such period of informal negotiations shall not extend beyond 30 Days from the date of the first meeting between the Parties' representatives unless they agree in writing to shorten or extend this period.
- 130. If the Parties are unable to reach agreement during the informal negotiation period, the United States shall provide AIDEA and GVEA with a written summary of their position regarding the dispute. The written position provided by the United States shall be considered binding unless, within 45 Days thereafter, Defendants seek judicial resolution of the dispute by filing a petition with this Court. The United States may submit a response to the petition within 45 Days of filing.
- 131. This court shall not draw any inferences nor establish any presumptions adverse to either Party as a result of invocation of this Section or the Parties' inability to reach agreement.
- 132. The time periods set out in this Section may be shortened or lengthened upon motion to the Court of one of the Parties to the dispute, explaining the Party's basis for seeking such a scheduling modification.

133. The invocation of dispute resolution procedures shall not, by itself, extend, postpone, or affect any obligation of Defendants under this Consent Decree, unless and until final resolution of the dispute so provides. As part of the resolution of any dispute under this Section, in appropriate circumstances the Parties may agree, or this Court may order, an extension or modification of the schedule for the completion of the activities required under this Consent Decree to account for the delay that occurred as a result of dispute resolution. Defendants shall be liable for stipulated penalties pursuant to Section XIV (Stipulated Penalties) for their failure thereafter to complete the work in accordance with the extended or modified schedule.

#### XVII. PERMITS

- 134. Unless expressly stated otherwise in this Consent Decree, in any instance where otherwise applicable law or this Consent Decree requires GVEA to secure a permit to authorize construction or operation of any device, including all preconstruction, construction, and operating permits required under State law, GVEA shall make such application in a timely manner. EPA will use best efforts to review expeditiously, to the extent applicable, all permit applications submitted by GVEA to meet the requirements of this Consent Decree.
- 135. When permits are required, GVEA shall complete and submit applications for such permits to the applicable State agency to allow sufficient time for all legally required processing and review of the permit request, including requests for additional information by the applicable State agency. Any failure by GVEA to submit a timely permit application for a GVEA Unit, as required by permitting requirements under state and/or federal regulations, shall bar any use by GVEA of Section XV (Force Majeure) of this Consent Decree where a Force Majeure claim is based on permitting delays.

Consent Decree, the enforcement of such permit shall be in accordance with its own terms and the Act and its implementing regulations, and nothing in this Decree shall be construed to relax any terms and conditions in the Title V Permit. Defendants' Title V Permit shall not be enforceable under this Consent Decree, although any term or limit established by or under this Consent Decree shall be enforceable under this Consent Decree regardless of whether such term has or will become part of a Title V Permit, subject to the terms of Section XXVII (Conditional Termination of Enforcement Under Consent Decree) of this Consent Decree.

- Defendants shall apply to modify the Title V Permit, to include a schedule for all Unit-specific and plant-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, any (a) 30-Day Rolling Average NO<sub>x</sub> Emission Rate, (b) 30-Day Rolling Average SO<sub>2</sub> Emission Rate, (c) Unit 1 and Unit 2 Annual Tonnage Limitation, (d) 30-Day Rolling Average filterable PM Emission Rate, (e) installation of controls; and (f) Retirement of any Unit as required or elected under this Consent Decree.
- Defendants shall either apply to permanently include the requirements and limitations enumerated in this Consent Decree into a federally enforceable non-Title V permit or request a site-specific revision to the Alaska SIP to include the requirements and limitations enumerated in this Consent Decree. The permit application or Alaska SIP revision request shall require compliance with the following: any applicable (a) 30-Day Rolling Average NO<sub>x</sub> Emission Rate; (b) 30-Day Rolling Average SO<sub>2</sub> Emission Rate; (c) Unit 1 and Unit 2

Annual Tonnage Limitations; (d) 30 Day Rolling Average filterable PM Emission Rate; (e) installation of controls; and (f) the Retirement of any Unit as required or elected under this Consent Decree.

- 139. Defendants shall provide the United States with a copy of each application for a federally enforceable permit or Alaska SIP revision submitted pursuant to Paragraph 139, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment opportunity.
- Decree, Defendants shall obtain enforceable provisions in its Title V permits that incorporate all Unit-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, any (a) 30-Day Rolling Average NO<sub>x</sub> Emission Rate; (b) 30-Day Rolling Average SO<sub>2</sub> Emission Rate; (c) Unit 1 and Unit 2 Annual Tonnage Limitations; (d) 30-Day Rolling Average filterable PM Emission Rate; (e) installation of controls; and (f) the election to retire or retrofit any Unit as required or elected under this Decree.
- 141. If AIDEA proposes to sell or transfer to GVEA part or all of its

  Operational or Ownership Interest of Unit 2, AIDEA shall comply with the requirements of
  Section XX (Sales or Transfers of Operational or Ownership Interests) of this Consent

  Decree with regard to that Operational or Ownership Interest prior to any such sale or
  transfer.
- 142. If AIDEA or GVEA proposes to sell or transfer to an entity unrelated to AIDEA and GVEA ("Third Party Purchaser") part or all of its Operational or Ownership Interest of Units covered under this Consent Decree, AIDEA and GVEA shall comply with

the requirements of Section XX (Sales or Transfers of Operational or Ownership Interests) of this Consent Decree with regard to that Operational or Ownership Interest prior to any such sale or transfer.

#### XVIII. INFORMATION COLLECTION AND RETENTION

- 143. Any authorized representative of the United States, including its attorneys, contractors, and consultants, upon presentation of credentials, shall have a right of entry to the Healy Power Plant at any reasonable time for the purpose of:
  - a. monitoring the progress of activities required under this Consent Decree;
  - verifying any data or information submitted to the United States in accordance
     with the terms of this Consent Decree;
  - obtaining samples and, upon request, splits of any samples taken by AIDEA or
     GVEA or its representatives, contractors, or consultants; and
  - d. assessing Defendants' compliance with this Consent Decree.
- 144. From the Date of Entry until five years after the termination of this

  Consent Decree, Defendants shall retain, and instruct its contractors and agents to preserve,
  all non-identical copies of all records and documents (including records and documents in
  electronic form) that are in its or its contractors' or agents' possession or control, and that
  directly relate to Defendants' performance of their obligations under this Consent Decree.

  This record retention requirement shall apply regardless of any corporate document retention
  policy to the contrary. At any time during the information retention period, upon request by
  the United States, Defendants shall provide copies of any documents, records or other
  information required to be maintained under this Paragraph.

All information and documents submitted by Defendants pursuant to this Consent Decree shall be subject to any requests under applicable law providing public disclosure of documents unless (a) the information and documents are subject to legal privileges or protection or (b) Defendants claims and substantiates in accordance with 40 C.F.R. Part 2 that the information and documents contain confidential business information.

146. Nothing in this Consent Decree shall limit the authority of EPA to conduct tests and right of entry, or right to obtain information under Section 114 of the Act, 42 U.S.C. § 7414, or any other applicable federal laws, regulations, or permits, nor does it limit or affect any duty or obligation of the Defendants to maintain documents, records or other information imposed by applicable federal or state laws, regulations or permits.

## XIX. NOTICES

147. Unless otherwise provided herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

## As to the United States of America:

(if by mail service)
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044-7611
DJ# 90-5-2-1-10163

(if by commercial delivery service)
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
ENRD Mailroom, Room 2121
601 D Street, NW
Washington, DC 20004

DJ# 90-5-2-1-10163

and

(if by mail service)
Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mail Code 2242A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

(if by commercial delivery service)
Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios South Building, Room 1119
1200 Pennsylvania Avenue, NW
Washington, DC 20004

and

Manager of Air/RCRA Compliance Unit EPA Region 10 Air /RCRA Compliance Unit U.S.EPA Region 10 1200 Sixth Avenue Ste. 900 Seattle, WA 98101

#### As to GVEA:

President & CEO Golden Valley Electric Association,Inc. PO Box 71249 Fairbanks, AK 99707-1249

and

Vice President of Power Supply Golden Valley Electric Association, Inc. PO Box 71249 Fairbanks, AK 99707-1249

As to AIDEA:

**Executive Director** 

Alaska Industrial Development and Export Authority 813 West Northern Lights Blvd. Anchorage, AK 99503

and

State of Alaska Department of Law Counsel for the Alaska Industrial Development and Export Authority P.O. Box 110300 Juneau, AK 99811

- All notifications, communications, or submissions made pursuant to this Section shall be sent either by: (a) overnight mail or overnight delivery service with signature required for delivery, (b) certified or registered mail, return receipt requested, or (c) email. All notifications, communications, and transmissions (a) sent by overnight, certified, or registered mail shall be deemed submitted on the date they are postmarked, (b) sent by overnight delivery service shall be deemed submitted on the date they are delivered to the delivery service or (c) sent by email shall be deemed submitted on the date they are electronically transmitted. Defendants may provide the notifications, communications, or submissions made pursuant to this Section electronically or in hard copy.
- 149. Any Party may change either the notice recipient or the address for providing notices to it by serving the other Parties with a notice setting forth such new notice recipient or address.

## XX. SALES OR TRANSFERS OF OPERATIONAL OR OWNERSHIP INTERESTS

150. Prior to any transfer of an ownership or operational interest in Unit 2,

Defendants shall remain jointly and severally liable to the United States for the obligations of
this Consent Decree unless such obligation is the sole responsibility of GVEA under this

Consent Decree for Unit 1. The United States and the Defendants recognize that AIDEA and GVEA have been in negotiations to transfer ownership of Unit 2 from AIDEA to GVEA.

The transfer has not yet occurred. Without further approval of the Court or the United States, AIDEA's obligations and its Party status under this Consent Decree shall immediately terminate upon the sale or transfer of Unit 2 from AIDEA to GVEA, provided that AIDEA and GVEA file a notice with the Court certifying that (1) the transfer has occurred, (2) any accrued stipulated penalties are paid in full, and (3) GVEA shall remain liable to the United States for the obligations of this Consent Decree applicable to the transferred or purchased Operational or Ownership Interest. So long as the requirements of this Consent Decree are met, this Consent Decree shall not be construed to impede the transfer of any Operational or Ownership Interests between GVEA and any Third Party Purchaser. This Consent Decree shall not be construed to prohibit a contractual allocation of the burdens of compliance with this Consent Decree as between AIDEA and GVEA Operational or Ownership Interests.

- Ownership Interest in the Healy Power Plant to another entity (a Third Party Purchaser)

  AIDEA or GVEA shall advise the Third Party Purchaser in writing of the existence of this

  Consent Decree prior to such sale or transfer, and shall send a copy of such written

  notification to the United States pursuant to Section XIX (Notices) of this Consent Decree at least 60 Days before such proposed sale or transfer.
- 152. No sale or transfer of an Operational or Ownership Interest shall take place before the Third Party Purchaser and the United States have executed, and the Court has approved, a modification pursuant to Section XXIII (Modification) of this Consent Decree making the Third Party Purchaser a party to this Consent Decree and jointly and

severally liable with AIDEA and GVEA for all the requirements of this Consent Decree that may be applicable to the transferred or purchased Operational or Ownership Interests.

- Operational or Ownership Interests between AIDEA or GVEA and any Third Party
  Purchaser so long as the requirements of this Consent Decree are met. This Consent Decree
  shall not be construed to prohibit a contractual allocation of the burdens of compliance with
  this Consent Decree as between GVEA and/or AIDEA and any Third Party Purchaser of
  Operational or Ownership Interests, provided that both AIDEA and/or GVEA and/or such
  Third Party Purchaser, to the extent they retain any operational or ownership interests, shall
  remain jointly and severally liable to the United States for the obligations of this Consent
  Decree applicable to the transferred or purchased Operational or Ownership Interests.
- Third Party Purchaser that has become a party to this Consent Decree pursuant to Paragraph 153 may execute a modification that relieves AIDEA or GVEA of its liability under this Consent Decree for, and makes the Third Party Purchaser liable for, all obligations and liabilities applicable to the purchased or transferred Operational or Ownership Interests.

  Notwithstanding the foregoing, however, AIDEA and GVEA may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred Operational or Ownership Interests, including the obligations set forth in Sections IX (Environmental Mitigation Project) and IV (Civil Penalty). AIDEA and GVEA may propose and the United States may agree to restrict the scope of the joint and several liability of any purchaser or transferree for any obligations of this Consent Decree that are not

specific to the transferred or purchased Operational or Ownership Interests, to the extent such obligations may be adequately separated in an enforceable manner.

Ownership Interest is transferred solely as collateral security in order to consummate a financing arrangement (not including a sale-leaseback), so long as AIDEA and GVEA: (a) remain the operator (as that term is used and interpreted under the Act) of the subject Unit(s); (b) remain subject to and liable for all obligations and liabilities of this Consent Decree; and (c) supply the United States with the following certification within 30 Days after the transfer:

"Certification of Change in Ownership Interest Solely for Purpose of Consummating Financing. We, the Chief Executive Officer and General Counsel of [insert name of Owner], hereby jointly certify under Title 18 U.S.C. Section 1001, on our own behalf and on behalf of [insert name of Owner], that any change in [insert name of Owner]'s Ownership Interest in any Unit that is caused by the sale or transfer as collateral security of such Ownership Interest in such Unit(s) pursuant to the financing agreement consummated on [insert applicable date] between [insert name of Owner] and [insert applicable entity]: a) is made solely for the purpose of providing collateral security in order to consummate a financing arrangement; b) does not impair [insert name of Owner's ability, legally or otherwise, to comply timely with all terms and provisions of the Consent Decree entered in *United States v. Golden Valley Electric Association et al.*, ; c) does not affect [insert name of Owner]'s operational control of Civil Action any Unit covered by that Consent Decree in a manner that is inconsistent with [insert name of Owner]'s performance of its obligations under the Consent Decree; and d) in no way affects the status of [insert name of Owner]'s obligations or liabilities under that Consent Decree."

## XXI. EFFECTIVE DATE

156. The effective date of this Consent Decree shall be the Date of Entry.

## XII. RETENTION OF JURISDICTION

157. The Court shall retain jurisdiction of this case after entry of this Consent Decree to enforce compliance with the terms and conditions of this Consent Decree and to take any action necessary or appropriate for the interpretation, construction, execution, or

modification of the Consent Decree, or for adjudication of disputes. During the term of this Consent Decree, any Party to this Consent Decree may apply to the Court for any relief necessary to construe or effectuate this Consent Decree.

## XIII. MODIFICATION

158. The terms of this Consent Decree may be modified only by a subsequent written agreement signed by United States and Defendants. Where the modification constitutes a material change to any term of this Consent Decree, it shall be effective only upon approval by the Court.

## XXIV. GENERAL PROVISIONS

- 159. When this Consent Decree specifies that Defendants shall achieve and maintain a 30-Day Rolling Average Emission Rate, the Parties expressly recognize that compliance with such 30-Day Rolling Average Emission Rate shall commence immediately upon the date specified and that compliance as of such specified date (e.g., December 30) shall be determined based on data from that date and the 29 prior Unit Operating Days.
- 160. This Consent Decree is not a permit. Compliance with the terms of this Consent Decree does not guarantee compliance with all applicable federal, state, or local laws or regulations. The emission rates and removal efficiencies set forth herein do not relieve Defendants from any obligation to comply with other state and federal requirements under the Act.
- 161. This Consent Decree does not apply to any claim(s) of alleged criminal liability.
- 162. In any subsequent administrative or judicial action initiated by the United States for injunctive relief or civil penalties relating to Unit 1 or Unit 2 as covered by this

Consent Decree, neither AIDEA nor GVEA shall assert any defense or claim based upon principles of waiver, <u>res judicata</u>, collateral estoppel, issue preclusion, claim preclusion, or claim splitting, or any other defense based upon the contention that the claims raised by the United States in the subsequent proceeding were brought, or should have been brought, in the instant case; provided, however, that nothing in this Paragraph is intended to affect the validity of Section XI (Resolution of Civil Claims).

- Nothing in this Consent Decree shall relieve Defendants of their obligation to comply with all applicable federal, state, and local laws and regulations, including, but not limited to, the Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) implementing regulations, National Ambient Air Quality Standards, the National Emission Standards for Hazardous Air Pollutants From Coal and Oil- Fired Electric Utility Steam Generating Units (Utility MACT or MATS), the Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial Commercial-Institutional Steam Generating Units (Utility NSPS), and BART requirements set forth in the Alaska SIP. Nothing in this Consent Decree shall be construed to provide any relief from the emission limits or deadlines for the installation of pollution controls specified in these regulations.
- 164. Subject to the provisions in Section XI (Resolution of Civil Claims), XIV (Stipulated Penalties), and in Section XVI (Dispute Resolution), nothing contained in this Consent Decree shall be construed to prevent or limit the rights of the United States to obtain penalties or injunctive relief under the Act or other federal, state, or local statutes, regulations, or permits.

165. Nothing in this Consent Decree shall be interpreted or construed to relieve Defendants of their obligations under the Memorandum of Agreement that it signed in 1993 with the U.S. Department of the Interior, National Park Service, concerning the Healy Clean Coal Project, Healy Alaska.

- 166. Each limit and/or other requirement established by or under this Consent Decree is a separate, independent requirement.
- Performance standards, emissions limits, and other quantitative standards set by or under this Consent Decree must be met to the number of significant digits in which the standard or limit is expressed. For example, an Emission Rate of 0.100 is not met if the actual Emission Rate is 0.101. Defendants shall round the fourth significant digit to the nearest third significant digit, or the third significant digit to the nearest second significant digit, depending upon whether the limit is expressed to three or two significant digits. For example, if an actual Emission Rate is 0.1004, that shall be reported as 0.100, and shall be in compliance with an Emission Rate of 0.100, and if an actual Emission Rate is 0.1005, that shall be reported as 0.101, and shall not be in compliance with an Emission Rate of 0.100. Defendants shall report data to the number of significant digits in which the standard or limit is expressed.
- 168. This Consent Decree does not limit, enlarge, or affect the rights of any Party to this Consent Decree as against any third parties.
- agreement and understanding between the Parties with respect to the settlement embodied in this Consent Decree, and supersedes all prior agreements and understandings between the Parties related to the subject matter herein. No document, representation, inducement,

agreement, understanding, or promise constitutes any part of this Consent Decree or the settlement it represents, nor shall they be used in construing the terms of this Consent Decree.

170. Except as provided below, each Party to this action shall bear its own costs and attorneys' fees.

## XXV. SIGNATORIES AND SERVICE

- 171. Each undersigned representative of AIDEA, GVEA and the Assistant

  Attorney General for the Environment and Natural Resources Division of the United States

  Department of Justice, certifies that he or she is fully authorized to enter into the terms and
  conditions of this Consent Decree and to execute and legally bind to this document the Party
  he or she represents.
- 172. This Consent Decree may be signed in counterparts, and such counterpart signature pages shall be given full force and effect.
- 173. Each Party hereby agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.
- Defendants will not be required to file any answer or other pleading responsive to the United States' concurrently filed Complaint in this matter until and unless the Court expressly declines to enter this Consent Decree, in which case Defendants shall have no less than 45 Days after receiving notice of such express declination to file an answer or other pleading in response to the Complaint.

### XXVI. PUBLIC COMMENT/AGENCY REVIEW

175. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. • 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendants consent to entry of this Consent Decree without further notice and agree not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of this Consent Decree, unless the United States has notified Defendants in writing that it no longer supports entry of this Consent Decree.

# XXVII. CONDITIONAL TERMINATION OF ENFORCEMENT UNDER CONSENT DECREE

- 176. Conditional Termination of Enforcement Through this Consent Decree.

  Subject to the provisions of Paragraph 178, after Defendants:
  - a. have successfully completed construction, and have maintained operation, of all pollution controls as required by this Consent Decree for a period of two years and have successfully completed all actions necessary to Retire any Unit required or elected to be Retired as required by this Consent Decree; and
  - b. have obtained all the final permits and/or site-specific Alaska SIP revisions (i) as required by Section XVII (Permits) of this Consent Decree and (ii) that include as federally enforceable permit terms or Alaska SIP provisions all Unit-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree;

then Defendants may so certify these facts to the United States and this Court. If the United States do not object in writing with specific reasons within 45 Days of receipt of Defendants' certification, then, for any violations of this Consent Decree that occur after the filing of notice, the United States shall pursue enforcement of these requirements through the applicable permits and/or other enforcement authorities and not through this Consent Decree.

Paragraph 177, if enforcement of a provision in this Consent Decree cannot be pursued by the United States under the Alaska SIP or applicable permit(s) issued pursuant to the Act or its implementing regulations ("CAA Permit"), or if a Consent Decree requirement was intended to be part of the Alaska SIP or CAA Permit but did not become or remain part of such SIP or permit, then such requirement may be enforced under the terms of this Consent Decree at any time.

#### XXVIII. FINAL JUDGMENT

178. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment between the United States, AIDEA and GVEA.

IT IS SO ORDERED this 19<sup>th</sup> day of November, 2012.

s/RALPH R. BEISTLINE UNITED STATES DISTRICT JUDGE

Signature Page for *United States of America v. Golden Valley Electric Assoc. et al.* Consent Decree

## FOR THE UNITED STATES DEPARTMENT OF JUSTICE

Respectfully submitted,

ELLEN MAHAN

**Deputy Section Chief** 

Environmental Enforcement Section

Environment and Natural Resources

Division

United States Department of Justice

JUSTIN SAVAGE

Senior Counsel

**Environmental Enforcement Section** 

Environment and Natural Resources

Division

P.O. Box 7611

Washington, DC 20044-7611

(202) 514-5293

Signature Page for United States of America v. Golden Valley Electric Assoc. et.al Consent Decree

## FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Date: 9/27/12

Date: 9/23/12

Respectfully submitted,

Assistant Administrator Office of Enforcement and Compliance Assurance United States Environmental **Protection Agency** 

Director, Air Enforcement Division

United States Environmental TO PERSONAL PROPERTY OF THE PROPERTY OF

Protection Agency

Of Counsel:

SABRINA ARGENTIERI Attorney-Advisor, Air Enforcement Division United States Environmental Protection Agency

witted actions. It

JULIANE MATTHEWS Assistant Regional Counsel, Region 10 United States Environmental Protection Agency

Signature Page for United States of America v. Golden Valley Electric Assoc. et al. Consent Decree

FOR GOLDEN VALLEY ELECTRIC ASSOCIATION, INC.

Cory Borgeson

Interim President & CEO

Golden Valley Electric Association, Inc.

Signature Page for *United States of America v. Golden Valley Electric Assoc. et al.* Consent Decree

## FOR ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

Ted Leonard
Executive Director
Alaska Industrial Development and
Export Authority

March 30, 2022



PO Box 71249, Fairbanks, AK 99707-1249 • (907) 452-1151 • www.gvea.com

Your Touchstone Energy Cooperative

March 19, 2015

Nattinee Nipataruedi State of Alaska Department of Environmental Conservation Air Permits Program 410 Willoughby Ave, Suite 303 PO Box 11180 Juneau, AK 99811-1800

Email: Nattinee.napataruedi@alaska.gov

Subject 2013 Emissions Inventory - GVEA North Pole and Zehnder Power Plants

Dear Ms. Nipataruedi:

Please find attached the 2014 Triennial Emission Inventory for Golden Valley Electric Assoc Delta, Healy, North Pole and Zehnder Power Plants. If you have any questions, please cont 451-5627.

Sincerely,

Kristen DuBois

**Environmental Officer** 

CC:

Don Caniparoli/CH2M Hill Louise Brown/CH2M Hill

**Enclosures** 

CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS

"Based on information and belief formed after reasonable inquiry, I certify that the statement in and attached to this document are true, accurate, and complete."

Signature

Date

Lynn N. Thompson

Printed Name

Vice President of Power Supply

Tittle

ciation's (GVEA) tact me at (907)

ts and information

Public Notice Draft	March 30, 2022

RECEIVED

March 30, 2022

APR 0 4 2016

ADEC AQ

PO Box 71249, Fairbanks, AK 99707-1249 • (907) 452-1151 • www.gvea.com



March 29, 2016

Certified Mail Return Receipt Requested 7014 3490 0002 1165 8825

ADEC
Air Permits Program
ATTN: Assessable Emissions Estimate
410 Willoughby Ave., Suite 303
PO Box 111800
Juneau, AK 99811-1800

Subject: Golden Valley Electric Association

**FY2017 Assessable Emission Estimates** 

Dear Assessable Emissions Technician,

Golden Valley Electric Association (GVEA) submits assessable emission estimates for the following facilities:

Delta Power Plant – AQ0880TVP02 Healy Power Plant – AQ0173MSS01 and AQ0173TVP02 Revision 1 North Pole Power Plant – AQ0110TVP03 Zehnder Facility - AQ0109TVP02

Assessable emission estimates for the Delta Power Plant, North Pole Power Plant, and Zehnder Facility are based on actual emissions from calendar year 2015.

The emission estimate for the Healy Power Plant is based on an alternate calculation method per Condition 12.2d of AQ0173MSS01 and Condition 72.2d of AQ0173TVP02 Revision 1. ADEC approval for the alternative calculation method is attached. Please note that there is not an AP-42 factor available for urea handling, so engineering estimates were used instead.

If you have any questions or would like any additional information please contact me by phone at 907-458-4557 or by email at <a href="mailto:nmknight@gvea.com">nmknight@gvea.com</a>. The certification from Lynn Thompson, Vice President of Power Supply follows.

Public Notice Draft March 29, 2016 ADEC-Assessable Emissions Page 2

Sincerely,

Naomi Morton Knight, P.E.

**Environmental Health and Safety Officer** 

## Certification

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.

Sincerely

Lynn N. Thompson

Vice President of Power Supply

cc: SLR International

Golden Valley Electric Association FY2017 Assessable Emission Estimates

Healy Power Plant – AQ0173MSS01 and AQ0173TVP02 Rev 1

Table 1. FY2017 Assessable Emissions Summary Golden Valley Electric Association - Healy Power Plant

Assessable Emissions - Tons Per Year								
Description	NO <sub>X</sub>	CO	PM <sub>10</sub>	VOC	SO <sub>2</sub>	HAPs	Total	
Assessable PTE	1,381	1,234	323	23	746		3,707	

From Condition 12 and Table B-1 of the TAR for Permit AQ0173MSS01 (Worst Case).

	Regulated Air Pollutant Emissions (tons per year) 1							
	NO <sub>X</sub>	CO	PM <sub>10</sub>	VOC	SO <sub>2</sub>	HAP		
FY2017 Projected Emissions	624.7	953.6	136.9	18.2	688.8			
Total Emissions for Assessable Fee Purposes	625	954	137	18	689			
Use Assessable PTE						0		
Assessable Emission Subtotals	625	954	137	18	689	0		
Fees Apply to Pollutant? 2	Yes	Yes	Yes	Yes	Yes	No		
FY2017 Projected Emissions	2,422							
Fee Estimate <sup>3</sup>			\$104,	031	×			

#### Notes:

<sup>&</sup>lt;sup>1</sup> Regulated air pollutant calculations based on emission factors shown in accompanying spreadsheets.

<sup>&</sup>lt;sup>2</sup> Fees paid on each pollutant emitted in quantities greater than 10 tpy per 18 AAC 50.410.

<sup>&</sup>lt;sup>3</sup> A fee rate of \$42.95 per ton applies in accordance with 18 AAC 50.410(b)(1).

Table 2. FY2017 Emission Unit Summary
Golden Valley Electric Association - Healy Power Plant

Emission Unit		Operating	Fuel Type/	Maximum	2015 Actual	FY2017 Projected		
ID	Description	Make/Model	Scenario	Material	Capacity	Operation	Operation	
1 Unit #1	100000	Foster-Wheeler Boiler with ICA Baghouse	Existing Configuration	:	327 MMBtu/hr	8,065.2 hours	2,952 hours <sup>1</sup>	
	Unit #1		With SNCR and 18 months after 1st fire of coal	- Coal/ULSD		N/A	2,280 hours <sup>1</sup>	
							3,528 hours <sup>1</sup>	
		TRW Integrated Entrained Combustion System	Existing			2,201.0 hours	2,952 hours <sup>2</sup>	
2	НССР	with SDA and Pulse Jet Fabric Filter	Configuration With SCR	Coal/ULSD	658 MMBtu/hr	N/A	5,808 hours <sup>2</sup>	
3	Auxiliary Heater #1	Cleaver Brooks CB 300-15 Standby Process and Building Heater	Not Applicable	ULSD	12.554 MMBtu/hr <sup>3</sup>	14,352.9 gallons	Use 2015 Actual Operation	
4	Auxiliary Heater #2	Cleaver Brooks CB 800 Standby Process and Building Heater	Not Applicable	ULSD	23 MMBtu/hr	2,760.8 gallons	Use 2015 Actual Operation	
5	Diesel Generator Engine #1	EMD 20-645-E4	Not Applicable	ULSD	2.75 MW	218.4 gallons	Use 2015 Actual Operation	
6	Crusher System (Dust Collector #1)	Multiple Components	Not Applicable	Coal	400 ton/hr	N/A	8,760.0 hours <sup>4</sup>	
7	Limestone Storage Silo	Limestone Storage Silo with Baghouse	Not Applicable	Limestone	314 ton/hr	210.8 hours	0 hours <sup>6</sup>	
8	Flyash Storage Silo	Flyash Storage Sifo with Baghouse	Not Applicable	Flyash	570 ton/hr	2,195 0 hours	Use 2015 Actual Operation	
9	Sodium Bicarbonate Handling System	Mill, Sodium Bicarbonate Silo, and Baghouse	Not Applicable	Sodium Bicarbonate	50 ton/hr	2,195 0 hours	Use 2015 Actual Operation	
10	Crusher System (Dust Collector #2)	Multiple Components	Not Applicable	Coal	240 ton/hr	N/A	8,760 hours <sup>4</sup>	
13	Firewater Pump Engine	Caterpillar 3406B	Not Applicable	ULSD	264 hp	15 hours	Use 2015 Actual Operation	
TBD	Lime Storage Silo #1	Unknown	Not Applicable	Lime	1,800 acfm	N/A	116 hr/yr <sup>6</sup>	
TBD	Lime Storage Silo #2	Unknown	Not Applicable	Lime	1,800 acfm	N/A	116 hr/yr <sup>5</sup>	
11	Haul Road	Not Applicable	Not Applicable	Fugitive Dust	0.25 mile	8,760 hours	Use 2015 Actual Operation	
12	Coal Storage Pile	Not Applicable	Not Applicable	Coat	30 day supply	8,760 hours	Use 2015 Actual Operation	
N/A	Ash Pile	Not Applicable	Not Applicable	Flyash, Bottom Ash, and Slag	30 days	8,760 hours	Use 2015 Actual Operation	
N/A	AST diesel tanks (2)	Unknown	Not Applicable	ULSD	25,000 gallons	8,760 hours	Use 2015 Actual Operation	
N/A	AST diesel tank	Unknown	Not Applicable	ULSD	2,000 gallons	8,760 hours	Use 2015 Actual Operation	
N/A	AST diesel tank	Unknown	Not Applicable	ULSD	425 gallons	8,760 hours	Use 2015 Actual Operation	
N/A	AST diesel tank	Unknown	Not Applicable	ULSD	300 gallons	8,760 hours	Use 2015 Actual Operation	
N/A	Central Vac (3)	Turbo Tron	Not Applicable	Coal	900 acfm <sup>7</sup>	1,095.0 hours	Use 2015 Actual Operation	

	Emissic	on Unit	Operating	Fuel Type/	Maximum	2015 Actual	FY2017 Projected
ID	Description	Make/Model	Scenario	Material	Capacity	Operation	Operation
N/A	Urea Rail Car Unloading Bin Vent Filter	Unknown	Not Applicable	Urea	1,500 acfm	N/A	106 hr/yr <sup>a</sup>
N/A	Urea Storage Silo A/B Bin Vent Filter	Unknown	Not Applicable	Urea	1,500 ac/m	N/A	133 hr/yr <sup>10</sup>
N/A	Urea Conveyor to Dissolver Tank Bin Vent Filter	Unknown	Not Applicable	Urea	400 acfm	N/A	332 hr/yr <sup>11</sup>
N/A	Lime Railcar Unloading Bin Vent Filter	Unknown	Not Applicable	Lime	1,500 acfm	N/A	384 hr/yr <sup>6</sup>
N/A	Sodium Bicarbonate Unloading Portable Baghouse	Unknown	Not Applicable	Sodium Bicarbonate	850 scfm	N/A	133 hr/yr <sup>6</sup>

#### Notes:

<sup>&</sup>lt;sup>1</sup> FY2017 operating hours are projected using the existing configuration from July 1, 2016 through October 31, 2016, the operation of SNCR from October 31, 2016 through February 3, 2017, and the use of SNCR and emission limitations applicable 18 months after the first fire of coal from February 4, 2017 through June 30, 2017.

<sup>&</sup>lt;sup>2</sup> FY2017 operating hours are projected using the existing configuration from July 1, 2016 through October 31, 2016, and the operation of SCR from October 31, 2016 through June 30, 2017.

<sup>3</sup> The heat input rating of this unit is 12.554 MMBtu/hr as indicated on the nameplate.

Projected operation of 8,760 hours is assumed for FY2017 because calendar year 2015 operation is not representative of anticipated operation in FY2017.

<sup>5</sup> The limestone storage silo will not be in service during FY2017. Lime Storage Silo #1 and Lime Storage Silo #2 will be used instead.

<sup>&</sup>lt;sup>6</sup> Estimated maximum annual use.

<sup>&</sup>lt;sup>7</sup> Engineering estimate.

<sup>&</sup>lt;sup>a</sup> Projected operation of 1,095 hours is assumed for FY2017 with each of the three units operating one hour per day.

The estimated maximum annual use is 160 hr/yr. This emission unit will not be used until the SCR system is in service. Projected FY2017 operating hours were determined as follows: Projected FY2017 Hours = (160 hr/yr) x (5,808 hours during FY2017 with SCR system in service) / (8,760 hours during FY2017)

The estimated maximum annual use is 200 hr/yr. This emission unit will not be used until the SCR system is in service. Projected FY2017 operating hours were determined as follows: Projected FY2017 Hours = (200 hr/yr) x (5,808 hours during FY2017 with SCR system in service) / (8,760 hours during FY2017)

The estimated maximum annual use is 500 hr/yr. This emission unit will not be used until the SCR system is in service. Projected FY2017 operating hours were determined as follows: Projected FY2017 Hours = (500 hr/yr) x (5,808 hours during FY2017 with SCR system in service) / (8,760 hours during FY2017)

Table 3. FY2017 Assessable Emission Calculations - Oxides of Nitrogen (NO<sub>x</sub>) Emissions
Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Maximum	Operating	Fuel Type/	Factor	NO <sub>x</sub> Emission	FY2017 Projected	FY2017 Projecte
ID	Description	Capacity	Scenario	Material	Reference	Factor	Operation	NO <sub>x</sub> Emissions
	-		Existing					
			Configuration		2015 CEMS Data	93 lb/hr	2,952 hours	137 lpy
1	Unit #1	327 MMBlu/hr	With SNCR	CoaMLSD			2,280 hours	75 lpy
•			With SNCR and 18 months after 1st fire of coal	000002200	Consent Decree	0.20 lb/MMBtu	3,528 hours	115 lpy
2	HCCP	658 MMBlu/hr	Existing Configuration	CoaVULSD	Proportion based on 2015 Actual Emissions	See note <sup>1</sup>	2,952 hours	144 ipy <sup>1</sup>
4	HCCF	630 MIMBURI	With SCR	COAPOLSD	Consent Decree	0.08 Ib/MMBtu	5,808 hours	153 tpy
3	Auxiliary Heater #1	12.6 MMBluftr	Not Applicable	ULSD	AP-42 Table 1 3-1	20 (b/10 <sup>3</sup> gal	14,353 gallons	0.1 tpy
4	Auxiliary Heater #2	23.0 MMBtu/hr	Not Applicable	ULSD	AP-42 Table 1.3-1	20 lb/10 <sup>3</sup> gal	2,761 gallons	0.03 tpy
5	Diesel Generator Engine #1	2.75 MW	Not Applicable	ULSD	AP-42 Table 3.4-1	3.2 lb/MMBtu	218 gallons	0.05 tpy
6	Crusher System (Dust Collector #1)	400 ton/hr	Not Applicable	Coal	N/A	N/A	9,760 hours	O tpy
7	Limestone Storage Silo	314 ton/hr	Not Applicable	Limestone	N/A	N/A	211 hours	0 tpy
8	Flyash Storage Silo	570 ton/hr	Not Applicable	Flyash	N/A	N/A	2,195 hours	O tpy
9	Sodium Bicarbonate Handling System	50 ton/hr	Not Applicable	Sodrum Bicarbonate	N/A	N/A	2,195 hours	O tpy
10	Crusher System (Dust Collector #2)	240.0 ton/hr	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
13	Firewater Pump Engine	264 hp	Not Applicable	ULSD	AP-42 Table 3.3-1	0.031 g/hp-hr	15 hours	1.4E-04 tpy
TBD	Lime Storage Sito #1	1,800 ac/m	Not Applicable	Lime	N/A	N/A	116 hours	0 tpy
TBD	Lime Storage Sito #2	1,800 acfm	Not Applicable	Lime	N/A	N/A	116 hours	O tpy
.11	Haul Road	0.25 mile	Not Applicable	Fugitive Dust	N/A	N/A	8,760 hours	O tpy
12	Coal Storage Pile	30 day supply	Not Applicable	Coal	N/A	N/A	8,760 hours	O tpy
N/A	Ash Pife	30 days	Not Applicable	Flyash, Bottom Ash, and Slag	N/A	N/A	8,760 hours	O tpy
N/A	AST diesel tanks (2)	25,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	2,000 gallons	Not Applicable	ULSD	N/A	N/A	8.760 hours	0 tpy
N/A	AST diesel tank	425 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	300 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	Central Vac (3)	900 actm	Not Applicable	Coal	N/A	N/A	1.095 hours	0 tpy
N/A	Urea Rail Car Unloading Bin Vent Filler	1,500 acfm	Not Applicable	Urea	N/A	N/A	106 hours	0 tpy
N/A	Urea Storage Silo A/B Bin Vent Filter	1,500 acfm	Not Applicable	Urea	N/A	N/A	133 hours	0 tpy
N/A	Urea Conveyor to Dissolver Tank Bin Vent Filter	400 acfm	Not Applicable	Urea	N/A	N/A	332 hours	0 tpy
N/A	Lime Railcar Unloading Bin Vent Filler	1,500 acfm	Not Applicable	Lime	N/A	N/A	384 hours	0 tpy
N/A	Sodium Bicarbonate Unloading Portable Baghouse	850 scfm	Not Applicable	Sodium Bicarbonate	N/A	N/A	133 hours	0 гру
	<del></del>		2				otal Emissions - NO,	624.7 tpy

Sample Calculations:

Boiler Emissions, tpy= (Emission factor, lb/hr) x (Operation, hr/yr) / (2,000 lb/lon)

Boiler Emissions, tpy= (Emission factor, Ib/MMBtu) x (Capacity, MMBtu/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Heater Emissions, tpy= (Emission factor, lb/103gal) / (Conversion 1,000 gal/103gal) x (Operation, gal/yr) / (2,000 lb/ton)

Generator Engine Emissions, tpy= (Emission factor, Ib/MMBtu) x (Heat Value, Btu/gal) / (Conversion, 1,000,000 Btu/MMBtu) x (Fuel Consumption, gat/yr) / (2,000 tb/ton)

Firewater Pump Engine Emissions, tpy= (Emission factor, g/hp-hr) x (Capacity, hp) / (Conversion, 453.59237 g/b) x (Operation, hr/yr) / (2,000 lb/hon)

HHV No. 2 Diesel= 133,549 Btu/gal (average of 4/27/2015 fuel tests)

Estimated Emissions, tpy= (2015 Annual Emissions, tpy) / (2015 Annual Operating Hours, hours) \* (2016 Estimated Operating Hours, hours) EU ID 2 2015 Annual NO<sub>x</sub> Emissions = 107.6 tpy, from 2H 2015 FOR (See Table 2 for 2015 Annual Operating Hours)

<sup>&</sup>lt;sup>1</sup> Estimated 2016 emissions were determined as follows:

Table 4. FY2017 Assessable Emission Calculations - Carbon Monoxide (CO) Emissions
Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Maximum	Operating	Fuel Type!	Factor	CO Emission	FY2017 Projected	FY2017 Projecte
ID	Description	Capacity	Scenario	Material	Reference	Factor	Operation	CO Emissions
		(5)	<b>Existing Configuration</b>				2,952 hours	127 tpy
-	11:32:02		With SNCR			2000.00	2,280 hours	98 tpy
ı,	Unit #1	327 MMBtu/hr	With SNCR and 18	CoaVULSD	2015 CEMS Data	86,1 lb/hr		
			months after 1st fire of coal				3,528 hours	152 tpy
020			Existing Configuration				2.952 hours	194 tpy
2	нсср	658 MMBtu/hr	With SCR	Coal/ULSD	AQ173TVP02, Table B	0.20 lb/MMBtu	5.808 hours	382 tpy
3	Auxiliary Heater #1	12.6 MMBtu/hr3	Not Applicable	ULSD	AP-42 Table 1.3-1	5 lb/10 <sup>3</sup> gal	14,353 gallons	0.0 tpy
4	Auxiliary Heater #2	23 MMBtu/hr	Not Applicable	ULSD	AP-42 Table 1.3-1	5 lb/10 <sup>3</sup> gal	2,761 gallons	0.01 tpy
5	Diesel Generator Engine #1	2.75 MW	Not Applicable	ULSD	AP-42 Table 3.4-1	0.85 lb/MMBtu	218 gallons	0.01 tpy
6	Crusher System (Dust Collector #1)	400 ton/hr	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
7	Limestone Storage Silo	314 ton/hr	Not Applicable	Limestone	N/A	N/A	211 hours	0 tpy
8	Flyash Storage Silo	570 ton/hr	Not Applicable	Flyash	N/A	N/A	2,195 hours	0 tpy
9	Sodium Bicarbonate Handling System	50 ton/hr	Not Applicable	Sodium Bicarbonate	N/A	N/A	2,195 hours	0 tpy
10	Crusher System (Dust Collector #2)	240 ton/hr	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
13	Firewater Pump Engine	264 hp	Not Applicable	ULSD	AP-42 Table 3.3-1	6.68E-03 g/hp-hr	15 hours	2.9E-05 tpy
TBD	Lime Storage Silo #1	1,800 acfm	Not Applicable	Lime	N/A	N/A	116 hours	0 tpy
TBD	Lime Storage Silo #2	1,800 acfm	Not Applicable	Lime	N/A	N/A	116 hours	0 tpy
11	Haul Road	0.25 mile	Not Applicable	Fugitive Dust	N/A	N/A	8,760 hours	0 tpy
12	Coal Storage Pile	30 day supply	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
N/A	Ash Pile	30 days	Not Applicable	Flyash, Bottom Ash, and Stag	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tanks (2)	25,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	2,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	425 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	O tpy
N/A	AST diesel tank	300 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	O tpy
N/A	Central Vac (3)	900 acfm	Not Applicable	Coal	N/A	N/A	1,095 hours	0 tpy
N/A	Urea Rail Car Unloading Bin Vent Filter	1,500 acfm	Not Applicable	Urea	N/A	N/A	106 hours	0 tpy
N/A	Urea Storage Silo A/B Bin Vent Filter	1,500 acfm	Not Applicable	Urea	N/A	N/A	133 hours	O tpy
N/A	Urea Conveyor to Dissolver Tank Bin Vent Filter	400 acfm	Not Applicable	Urea	N/A	N/A	332 hours	0 tpy
N/A	Lime Railcar Unloading Bin Vent Filter	1,500_acfm	Not Applicable	Lime	N/A	N/A	384 hours	0 tpy
N/A	Sodium Bicarbonate Unloading Portable Baghouse	850 scfm	Not Applicable	Sodium Bicarbonate	N/A	N/A	133 hours	O tpy
		or twee				orac a	Total Emissions - CO	953.6 tpy

#### Sample Calculations:

Boiler Emissions, tpy= (Emission factor, tb/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Boiler Emissions, tpy= (Emission factor, lb/MMBtu) x (Capacity, MMBtu/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Heater Emissions, tpy= (Emission factor, lb/10³gal) / (Conversion 1,000 gal/10³gal) x (Operation, gal/yr) / (2,000 lb/lon)

Generator Engine Emissions, tpy= (Emission factor, lb/MMBtu) x (Heat Value, Btu/gal) / (Conversion, 1,000,000 Btu/MMBtu) x (Fuel Consumption, gal/yr) / (2,000 lb/ton)

Firewater Pump Engine Emissions, tpy= (Emission factor, g/hp-hr) x (Capacity, hp) / (Conversion, 453.59237 g/lb) x (Operation, hr/yr) / (2,000 lb/hon)

HHV No. 2 Diesel= 133,549 Btu/gal (average of 4/27/2015 fuel tests)

Table 5. FY2017 Assessable Emission Calculations - Particulate Matter (PM<sub>III</sub>) Emissions Golden Valley Electric Association - Heaty Power Plant

	Emission Unit	Maximum	Operating	Fuel Type/	Factor	PM <sub>10</sub> Emission	FY2017 Projected	FY2017 Projected
ID	Description	Capacity	Scenario	Material	Reference	Factor	Operation	PM <sub>18</sub> Emissions
						010 (84-1995)		198.59
			Existing Configuration				2,952 hours	1.3 tpy
4	Unit #1	327 MMBtu/hr	With SNCR	Coal/ULSD	2015 CEMS Data	0.683 lb/hr	2,280 hours	1.0 tpy
		oz, milotota	With SNCR and 18 months after 1st fire of coal	0000000	2010 02110 0314	0.000 10111	3,528 hours	1.6 tpy
2		CEO 1410. A.	Existing Configuration	G	Tables C-12 and C-13 of	004 15 15 15 15	2,952 hours	39 tpy
- 2	HCCP	658 MMBtu/hr	with SCR	CoaVULSD	Minor Permit Application for AQ0173MSS01	0.04 lb/MMB(u	5,808 hours	76 lpy
3	Auxiliary Heater #1	12 6 MMBtu/hr3	Not Applicable	ULSD	AP-42, Table 1.3-2	1.3 lb/10 <sup>3</sup> gal	14,353 gations	1.2 lpy
4	Auxiliary Heater #2	23 MMBtu/hr	Not Applicable	ULSD	AP-42, Table 1.3-2	1.3 lb/10 <sup>3</sup> gal	2,761 gations	0.2 tpy
5	Diesel Generator Engine #1	2.75 MW	Not Applicable	ULSD	AP-42 Table 3.4-1	0.1 lb/MMBtu	218 gations	1 5E-03 lpy
6	Crusher System (Dust Collector #1)	400 ton/hr	Not Applicable	Coal	AQ0173TVP02, Table 8	2.05 lb/hr	8,760 hours	9.0 tpy
7	Limestone Storage Silo	314 ton/hr	Not Applicable	Limestone	AQ0173TVP02, Table B	0.14 lb/hr	0 hours	0 tpy
8	Flyash Storage Silo	570 ton/hr	Not Applicable	Flyash	AQ0173TVP02, Table B	0.86 lb/hr	2,195.0 hours	0.9 tpy
9	Sodium Bicarbonate Handling System	50 ton/hr	Not Applicable	Sodium Bicarbonate	AQ0173TVP02, Table B	3.43 lb/hr	2,195.0 hours	3.8 tpy
10	Crusher System (Dust Collector #2)	240 ton/hr	Not Applicable	Coal	AQ0173TVP02, Table B	0.02 lb/hr	8,760 hours	0.1 lpy
13	Firewater Pump Engine	264 hp	Not Applicable	ULSD	AP-42 Table 3.3-1	2.2E-03 g/hp-hr	15 hours	9.6E-06 tpy
TBD	Lime Storage Sito #1	1,800 acfm	Not Applicable	Lime	Design Specification	0.005 gr/acf	116 hours	4.5E-03 tpy
TBD	Lime Storage Sito #2	1,800 acfm	Not Applicable	Lime	Design Specification	0.005 gr/acf	116 hours	4.5E-03 tpy
11	Haul Road	0.25 mile	Not Applicable	Fugitive Dust	See Tat	ole 5a	8,760 hours	1.4 tpy
12	Coal Storage Pile	30 day supply	Not Applicable	Coal	See Tat	ile 5b	8,760 hours	0.7 tpy
N/A	Ash Pile	30 days	Not Applicable	Flyash, Bottom Ash, and Slag	See Tat	vie 5c	9,760 hours	0.1 tpy
N/A	AST diesel tanks (2)	25,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	2,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	425 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	300 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	Central Vac (3)	900 actm	Not Applicable	Coal	Engineering Estimate	0.05 gr/dcf	1,095 hours	2.1E-01 tpy
N/A	Urea Rail Car Unloading Bin Vent Filter	1,500 acfm	Not Applicable	Urea	Engineering Estimate	0.005 gr/dcf	106 hours	3.4E-03 toy
N/A	Urea Storage Silo A/B Bin Vent Fitter	1,500 acfm	Not Applicable	Urea	Engineering Estimate	0.005 gr/dcf	133 hours	4.3E-03 tpy
N/A	Urea Conveyor to Dissolver Tank Bin Vent Filter	400 actm	Not Applicable	Urea	Engineering Estimate	0.005 gr/dcf	332 hours	2 8E-03 tpy
N/A	Lime Railcar Unloading Bin Vent Filter	1,500 acfm	Not Applicable	Lime	Engineering Estimate	0.005 gr/dcf	384 hours	1.2E-02 tpy
N/A	Sodium Bicarbonale Unloading Portable Baghouse	850 scfm	Not Applicable	Sodium Bicarbonate	Vendor Data	0.02 gr/acf	133 hours	9.7E-03 lpy
							Total Emissions - PM	136.9 tpv

#### Sample Calculations:

Boiler Emissions, tpy= (Emission factor, lb/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Boiler Emissions, tpy= (Emission factor, Ib/MMBtu) x (Capacity, MMBtu/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Heater Emissions, toy= (Emission factor, lb/10<sup>3</sup>gal) / (Conversion 1,000 gal/10<sup>3</sup>gal) x (Operation, gal/yr) / (2,000 lb/ton)

Generator Engine Emissions, Ipy= (Emission factor, Ib/MMBtu) x (Heat Value, Btu/gal) / (Conversion, 1,000,000 Btu/MMBtu) x (Fuel Consumption, gal/yr) / (2,000 lb/ton)

Firewater Pump Engine Emissions, Ipy= (Emission factor, gftp-hr) x (Capacity, hp) / (Conversion, 453.59237 g/lb) x (Operation, hr/yr) / (2,000 lb/ton)

Silo/Dust Collector Emissions, tpy= (Emission factor, lb/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Filter/Baghouse Emissions, tpy= (Emission factor, gr/acf) x (Throughput, acfm) x (Operation, hr/yr) x (Conversion, 60 min/hr) / (7,000 gr/hb) / (2,000 lb/hon)

HHV No. 2 Diesel= 133,549 Blu/gal (average of 4/27/2015 fuel tests)

Table 5a. FY2017 Assessable Emission Calculations - Haul Road (EU 11) Particulate Matter (PM<sub>0</sub>) Emissions Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Factor Reference	PM <sub>10</sub> Emission	FY2017 Projected	FY2017 Projected
ID	Description	Tactor Neterence	Factor	Operation	PM <sub>10</sub> Emissions
		U			
	Coal Haul - Paved Portion	AP-42, Section 13.2.1	0.72 lb/√MT <sup>a</sup>	775 VMT <sup>b</sup>	0.28 tpy
	Coal Haul - Unpaved Portion	AP-42, Section 13.2.2	0.49 Ib/VMT°	1,309 VMT <sup>b</sup>	0.32 tpy
	Ash Haul - Paved Portion (Unit 1)	AP-42, Section 13.2.1	0.82 Ib/VMT <sup>d</sup>	187 <b>∨MT</b> e	0.08 tpy
	Ash Haul - Paved Portion (Unit 2)	AP-42, Section 13.2.1	0.82 lb/VMT <sup>d</sup>	624 VMT°	0.26 tpy
11	Ash Haul - Unpaved Portion (Unit 1)	AP-42, Section 13.2.2	0.55 lb/VMT <sup>f</sup>	364 VMT <sup>e</sup>	0.10 tpy
	Ash Haul - Unpaved Portion (Unit 2)	AP-42, Section 13.2.2	0.55 Ib/VMT <sup>f</sup>	1,019 VMT <sup>e</sup>	0.28 tpy
	Lime Delivery - Paved Portion	AP-42, Section 13.2.1	0.82 lb/VMT <sup>g</sup>	35 VMTh	1.4E-02 tpy
	Lime Delivery - Unpaved Portion	AP-42, Section 13.2.2	0.55 lb/VMT <sup>i</sup>	35 VMTh	9.6E-03 tpy
	Miscellaneous Traffic - Paved Portion	AP-42, Section 13.2.1	1.5E-02 Ib/VMT <sup>1</sup>	4,839 VMTk	0.04 tpy
			Ţ	otal PM <sub>10</sub> Emissions	1.4 tpy

Notes:

<sup>a</sup>Paved coal haul road emission factor from AP-42, Section 13.2.1, Empirical Equation 1, E = k x (sL)<sup>0.91</sup> x (W)<sup>1.02</sup> lb/VMT where:

k = particle size multiplier 0.0022 lb/VMT for P

0.0022 lb/VMT for PM<sub>10</sub> from AP-42 Table 13.2.1-1

sL = surface material silt content (haul road)

8.2 g/m<sup>2</sup>, from AP-42, Table 13.2.1-3

W = mean vehicle weight

95 tons, estimate - average of full (150 ton) and empty (40 ton) truck

E (uncontrolled) = 1.45 lb/VMT

E (controlled) =

0.72 lb/VMT, assuming 50% control efficiency for pavement cleaning

<sup>b</sup>Coal haul road VMT

Haul truck capacity 110 tons, estimate
Unit 1 Capacity 327 MMBtu/hr

Unit 2 Capacity 658 MMBtu/hr

Unit 1 FY2017 Projected Operation 8,760 hr/yr
Unit 2 FY2017 Projected Operation 8,760 hr/yr

Coal heat value 14.8 MMBtu/ton

Unit 1 FY2017 Projected Coal Throughput 194,088.5 tons
Unit 2 FY2017 Projected Coal Throughput 390,551.2 tons

Total FY2017 Coal Throughput 584,639.7 tons

Throughput = (Capacity, MMBtu/hr) x (Operation, hr/yr) / (Coal Heat Value, MMBtu/ton) Paved distance from unpaved road to Usibelli property line (round trip) 0.15 miles/trip Unpaved distance from coal pile to paved road (round trip) 0.25 miles/trip Approximate distance from Usibelli property line to coal pile (round trip) 0.39 miles/trip Trips per year 5,314.91 trips per year (Throughput / Haul Truck Capacity) Paved Road FY2017 VMT = 775.09 miles Unpaved Road FY2017 VMT = 1,308.59 miles Vehicle Miles Travelled (VMT) = (Annual coal throughput, tons) / (Haul truck capacity, tons/trip) x (Round trip distance, mi/trip) <sup>c</sup>Unpaved coal haul road emission factor from AP-42, Section 13.2.2, Empirical Equation 1a, E = k x (s/12)<sup>a</sup> x (W/3)<sup>b</sup> lb/VMT where: 1.5 for PM<sub>10</sub> s = surface material silt content (haul road) 5.1 percent, from AP-42, Table 13.2.2-1 W = mean vehicle weight 95 tons, estimate - average of full (150 ton) and empty (40 ton) truck a (empirical constant) 0.9 from AP-42, Table 13.2.2-2 b (empirical constant) 0.45 from AP-42, Table 13.2.2-2 E (uncontrolled) = 3.29 Ib/VMT E (controlled) = 0.49 lb/VMT, assuming control efficiency of 85% for calcium chloride application <sup>d</sup>Paved ash haul road emission factor from AP-42, Section 13.2.1, Empirical Equation 1, E = k x (sL)<sup>0.91</sup> x (W)<sup>1.02</sup> lb/VMT where: k = particle size multiplier 0.0022 lb/VMT for PM<sub>10</sub> from AP-42 Table 13.2.1-1 8.2 g/m<sup>2</sup>, from AP-42, Table 13.2.1-3 sL = surface material silt content (haul road) W = mean vehicle weight 107.5 tons, estimate - average of full (170 ton) and empty (45 ton) truck E (uncontrolled) = 1.64 Ib/VMT E (controlled) = 0.82 lb/VMT, assuming 50% control efficiency for pavement cleaning <sup>6</sup>Ash haul road VMT Haul truck capacity 125 tons, estimate Unit 2 Flyash Disposal Rate 7,620 lb/hr, Heat and Material Balanced for HCCP - March 6, 1998 Unit 2 Slag and Bottom Ash Disposal Rate 16,806 lb/hr, Heat and Material Balanced for HCCP - March 6, 1998 Projected FY2017 Unit 2 Flyash Disposal 33,376 tons Projected FY2017 Unit 2 Slag and Bottom Ash Disposal 73,610 tons Projected FY2017 Unit 1 Flyash Disposal 16,586 tons, based on Unit 2 disposal rate of 8.55% Projected FY2017 Unit 1 Slag and Bottom Ash Disposal 36,581 tons, based on Unit 2 disposal rate of 18.85% Total Projected FY2017 Ash Disposal Throughput 160,154 tons

```
Paved distance from unpaved road to Usibelli property line (round trip)
                                                                                                             (for Unit 1 and Unit 2 ash)
                                                                                          0.15 miles/trip
          Paved distance from Healy Spur Road to HCCP loadout (round trip)
                                                                                          0.34 miles/trip
                                                                                                             (for Unit 2 ash only)
                    Unpaved distance from ash pile to paved road (round trip)
                                                                                          0.28 miles/trip
                                                                                                             (for Unit 1 ash only - ash drying area)
                                                                                                             (for Unit 2 ash only - ash loadout area of HCCP building)
          Unpaved distance from Healy Spur Road to paved road (round trip)
                                                                                          0.80 miles/trip
                                                                 Trips per year
                                                                                     1,281.23 trips per year (Throughput / Haul Truck Capacity)
                                          Paved Road (Unit 1) FY2017 VMT =
                                                                                       186.85 miles
                                          Paved Road (Unit 2) FY2017 VMT =
                                                                                       623.63 miles
                                       Unpaved Road (Unit 1) FY2017 VMT =
                                                                                       363.99 miles
                                       Unpaved Road (Unit 2) FY2017 VMT =
                                                                                     1,019.16 miles
Unpaved ash haul road emission factor from AP-42, Section 13.2.2, Empirical Equation 1a, E = k x (s/12)a x (W/3)b lb/VMT where:
                                                                                           1.5 for PM<sub>10</sub>
                                   s = surface material silt content (haul road)
                                                                                           5.1 percent, from AP-42, Table 13.2.2-1
                                                     W = mean vehicle weight
                                                                                         122.5 tons, estimate - average of full (135 ton) and empty (110 ton) loader/trailer
                                                         a (empirical constant)
                                                                                           0.9 from AP-42, Table 13.2.2-2
                                                         b (empirical constant)
                                                                                          0.45 from AP-42, Table 13.2.2-2
                                                            E (uncontrolled) =
                                                                                          3.69 Ib/VMT
                                                               E (controlled) =
                                                                                          0.55 lb/VMT, assuming control efficiency of 85% for calcium chloride application
<sup>9</sup>Paved lime haul road emission factor from AP-42, Section 13.2.1, Empirical Equation 1, E = k x (sL)<sup>0.91</sup> x (W)<sup>1.02</sup> lb/VMT where:
                                                                                       0.0022 lb/VMT for PM<sub>10</sub> from AP-42 Table 13.2.1-1
                                                     k = particle size multiplier
                                                                                           8.2 g/m<sup>2</sup>, from AP-42, Table 13.2.1-3
                                  sL = surface material silt content (haul road)
                                                     W = mean vehicle weight
                                                                                         107.5 tons, estimate - average of full (170 ton) and empty (45 ton) truck
                                                            E (uncontrolled) =
                                                                                          1.64 lb/VMT
                                                               E (controlled) =
                                                                                          0.82 lb/VMT, assuming 50% control efficiency for pavement cleaning
hLime haul road VMT
                                                          Haul truck capacity
                                                                                            25 tons, estimate
                                    Total Projected FY2017 Lime Throughput
                                                                                        2,900 tons, engineering estimate
                                                   Paved distance (round trip)
                                                                                           0.3 miles/trip
                                                Unpaved distance (round trip)
                                                                                           0.3 miles/trip
      Approximate distance from Usibelli property line to coal pile (round trip)
                                                                                         0.60 miles/trip
                                                                Trips per year
                                                                                       116.00 trips per year (Throughput / Haul Truck Capacity)
                                                  Paved Road FY2017 VMT =
                                                                                        34.80 miles
                                               Unpaved Road FY2017 VMT =
                                                                                        34.80 miles
                     Vehicle Miles Travelled (VMT) = (Annual coal throughput, tons) / (Haul truck capacity, tons/trip) x (Round trip distance, mi/trip)
```

Unpaved lime haul road emission factor from AP-42, Section 13.2.2, Empirical Equation 1a, E = k x (s/12)<sup>a</sup> x (W/3)<sup>b</sup> lb/VMT where:

k 1.5 for PM<sub>10</sub>

s = surface material silt content (haul road) 5.1 percent, from AP-42, Table 13.2.2-1

W = mean vehicle weight 122.5 tons, estimate - average of full (135 ton) and empty (110 ton) loader/trailer

a (empirical constant) 0.9 from AP-42, Table 13.2.2-2 b (empirical constant) 0.45 from AP-42, Table 13.2.2-2

E (uncontrolled) = 3.69 lb/VMT

E (controlled) = 0.55 lb/VMT, assuming control efficiency of 85% for calcium chloride application

Paved miscellaneous traffic emission factor from AP-42, Section 13.2.1, Empirical Equation 1, E = k x (sL)<sup>0.91</sup> x (W)<sup>1.02</sup> lb/VMT where:

k = particle size multiplier 0.0022 lb/VMT for PM<sub>10</sub> from AP-42 Table 13.2.1-1

sL = surface material silt content (haul road) 8.2 g/m<sup>2</sup>, from AP-42, Table 13.2.1-3

W = mean vehicle weight 2 tons, estimate

E (uncontrolled) = 3.0E-02 lb/VMT

E (controlled) = 1.5E-02 lb/VMT, assuming 50% control efficiency for pavement cleaning

<sup>k</sup>Miscellaneous vehicle VMT

Traffic volume 50 trips per day

Paved distance (round trip) 0.27 miles/trip
Paved Road FY2017 VMT = 4,839 miles

March 30, 2022 **Public Notice Draft** 

Table 5b. FY2017 Assessable Emission Calculations - Coal Storage Pile (EU 12) Particulate Matter (PM<sub>10</sub>) Emissions Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Factor Reference	PM <sub>10</sub> Emission Factor	FY2017 Projected	FY2017 Projected PM <sub>10</sub>
ID	Description	ractor Melerence	Fining Emission Factor	Operation <sup>b</sup>	Emissions
	Truck drop onto stockpile	AP-42, Section 13.2.4	1.41E-05 lb/lon <sup>a</sup>	584,640 tpy	4.1E-03 tpy
12	Front end loader movement - coal pile to grizzly	AP-42, Section 13.2.2	0.44 lb/VMT <sup>c</sup>	3,076 VMT	0.67 tpy
12	Stockpile wind erosion	AP-42, Section 13.2.5	16.48 g/m <sup>2</sup> -yr <sup>d</sup>	2,000 m <sup>2</sup>	0.04 tpy
	Front end loader drop into grizzly	AP-42, Section 13.2.4	1.41E-05 lb/ton <sup>a</sup>	584,640 tpy	4.1E-03 tpy
				Total PM <sub>to</sub> Emissions	0.72 tpy

#### Notes:

\*Coal transfer emission factor from AP-42, Section 13.2.4 based on empirical equation E = k x 0.0032 x (U/5) 1.3/(M/2)1.4 lb/ton transferred where:

0.35 for PM<sub>10</sub>

U = mean wind speed

3.1 miles/hr Per www.ncdc.noaa.gov for calendar year 2015, McKinley Airport ASOS (PAIN)

M = coal moisture content 29.34 percent From 2015 coal proximate analyses

<sup>b</sup>Annual stockpile throughput:

**Unit 1 Capacity** 327 MMBtu/hr **Unit 2 Capacity** 658 MMBtu/hr

Unit 1 FY2017 Projected Operation 8.760 hr/vr Unit 2 FY2017 Projected Operation 8,760 hr/yr

Coal heat value 14.8 MMBtu/ton

Unit 1 FY2017 Projected Coal Throughput 194,088.5 tons

Unit 2 FY2017 Projected Coal Throughput 390,551.2 tons Total Projected FY2017 Coal Throughput 584,639.7 tons

Throughput = (Capacity, MMBtu/hr) x (Operation, hr/yr) / (Coal Heat Value, MMBtu/ton)

Front end loader movement emission factor from AP-42, Section 13.2.2, Empirical Equation 1a, E = k x (s/12) \*x (W/3) bl/VMT where:

1.5 for PM<sub>10</sub>

s = surface material silt content (haul road)

8.4 percent, from AP-42, Table 13.2.2-1

W = mean vehicle weight

27 tons, estimate

Size of load bucket

8 yd3

Density of coal

50 lb/ft3

Coal moved per trip **5.4 tons** 

Coal Moved = (Coal Density, Ib/ft3) x (Conversion, 27 ft3/yd3) x (Bucket size, yd3) / (Conversion, 2,000 lb/ton)

a (empirical constant)

0.9 from AP-42, Table 13.2.2-2

b (empirical constant)

0.45 from AP-42, Table 13.2.2-2

Approximate distance from coal pile to grizzly (round trip)

150 feet

FY2017 VMT = vehicles miles traveled per year

3,075.76

E (uncontrolled) =

2.92 Ib/VMT

E (controlled) =

0.44 lb/VMT, assuming control efficiency of 85% for calcium chloride application

## <sup>d</sup>From AP-42, Section 13.2.5, Industrial Wind Erosion

Coal Pile at GVEA Heaty Power Plant

Average Height = 40 ft Estimated from site photos
Width at Base = 500 ft Engineering estimate

Height-to-Base Ratio = 0.080 C C.2. GVEA HPP

< 0.2. GVEA HPP coal pile can therefore be considered a large relatively flat pile with little penetration into the surface wind layer and a single friction velocity (using Equation (1)) can be used to for the entire surface of the coal pile. Friction velocity is a measure of wind shear</p>

stress on the erodible surface.

Surface Area of Active Face =

2,000 m<sup>2</sup>

Engineering estimate of projected use

AP-42 Section 13.2.5, Equation (2)

Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF

$$EF (g/m^2-yr) = k \sum_{i=1}^{N} p_i$$

where

k = particle size multiplier (0.5 for particle size < 10 microns, per table on page 13.2.5-3)

N = number of disturbances per year

P<sub>i</sub> = erosion potential corresponding to the fastest mile of wind for the ith period between disturbances, g/m<sup>2</sup>

AP-42 Section 13.2.5, Equation (3)

Erosion potential function for a dry exposed surface, P

$$P = 58 (u^* - u_1^*)^2 + 25 (u^* - u_1^*)$$

$$P = 0$$
 for  $u^* \le u_t^*$ 

where

u\* = friction velocity (m/s)

u, = threshold friction velocity (m/s)

AP-42 Section 13.2.5, Equation (1) Friction velocity, u\*

 $u^* = 0.4 \times u(z) / \ln(z/z_0)$ 

when z >z

where

u\* = friction velocity (cm/s)

u(z) = wind speed at height z above test surface (cm/s)

z = height above test surface (cm)

z<sub>o</sub> = roughness height, cm

Data:

u(z) Use maximum wind gust speed recorded at McKinley Airport ASOS for each month in 2015 (see table below)

z 10 melers

N 365 disturbances/year for active face, estimated

30 average disturbances/month

			ž			d coal pile <sup>2</sup> 13.2.5-2)				Į.	Ground Coal (Table 13.2.5-2			
Month- Year	Maximum V (u(1	AND THE PERSON NAMED IN	Wind Direction	Roughness Height (z <sub>a</sub> )	Threshold Friction Velocity (u <sub>i</sub> )	Calculated Friction Velocity (u*)	Erosion potential function,	Roughness Height (z <sub>o</sub> )	Threshold Friction Velocity (u <sub>i</sub> )	Calculated Friction Velocity (u*)	Erosion potential function,	PxN	k	Emission Factor, EF
	mph	m/s	deg	cm	m/s	m/s	2.45	cm	m/s	m/s				g/m²-yr
Jan-15	24	_ 10.7	225	0.3	1.12	0.53	0	0.01	0.55	0.37	0	0		
Feb-15	24	10.7	225	0.3	1.12	0.53	0	0.01	0.55	0.37	0	0		
Mar-15	30	13.4	259	0.3	1.12	0.66	0	0.01	0.55	0.47	0	0		
Apr-15	38	17.0	295	0.3	1.12	0.84	0	0.01	0.55	0.59	1.10	32.97		
May-15	_ 29	13.0	279	0.3	1.12	0.64	0	0.01	0.55	0.45	0	0		
Jun-15	29	13.0	245	0.3	1.12	0.64	0	0.01	0.55	0.45	0	0		
Jul-15	23	10.3	237	0.3	1.12	0.51	0	0.01	0.55	0.36	0	0		
Aug-15	21	9.4	229	0.3	1,12	0.46	0	0.01	0.55	0.33	0	0		
Sep-15	23	10.3	222	0.3	1.12	0.51	0	0.01	0.55	0.36	0	0		
Oct-15	24	10.7	242	0.3	1.12	_ 0.53	0	0.01	0.55	0.37	0	0		
Nov-15	29	13.0	240	0.3	1.12	0.64	0	0.01	0.55	0.45	0	0		
Dec-15	32	14.3	282	0.3	1.12	0.71	0	0.01	0.55	0.50	0	0		
nual Tot	al						0				1.10	32.97	0.5	16.48

<sup>&</sup>lt;sup>1</sup> Per www.ncdc.noaa.gov for calendar year 2015, McKinley Airport ASOS (PAIN).

<sup>&</sup>lt;sup>2</sup> The erosion potential factor for the uncrusted coal pile is zero for all months. Therefore, wind erosion of the uncrusted coal pile is not a significant source of PM emissions.

Table 5c. FY2017 Assessable Emission Calculations - Ash Drying Pile Particulate Matter (PM<sub>10</sub>) Emissions Golden Valley Electric Association - Healy Power Plant

ID	Emission Unit Description	Factor Reference	PM <sub>10</sub> Emission Factor	FY2017 Projected Operation <sup>b</sup>	FY2017 Projected PM <sub>10</sub> Emissions
	Front end loader movement - ash pile to truck	AP-42, Section 13.2.2	0.44 lb//MT°	233 VMT	0.05 tpy
N/A	Ash pile wind erosion	AP-42, Section 13.2.5	36.02 g/m²-yr²	2,000 m <sup>2</sup>	0.08 tpy
	Front end loader drop into truck	AP-42, Section 13.2.4	1.46E-05 lb/ton <sup>a</sup>	53,168 tpy	3.88E-04 tpy
		9	330	Total PM <sub>to</sub> Emissions	0.13 tpy

#### Notes:

\*Ash transfer emission factor from AP-42, Section 13.2.4 based on empirical equation E = k x 0.0032 x (U/5) (M/2) (M/2) (M/2) (M/2)

0.35 for PM<sub>10</sub> k

U = mean wind speed

3.1 miles/hr Per www.ncdc.noaa.gov for calendar year 2015, McKintey Airport ASOS (PAIN)

M = ash moisture content 17.5 percent, average of stag and bottom ash and fly ash from Heat and Material Balanced for HCCP - March 6, 1998

2.92E-05 lb/ton E (uncontrolled) =

E (controlled) = 1.46E-05 lb/ton, assuming 50% control efficiency because material is wet.

DAnnual stockpile throughput:

Total FY2017 Unit 1 Ash Disposal Throughput 53,167.8 tons, sum of flyash and slag and bottom ash totals from the footnotes of Table 5a.

Front end loader movement emission factor from AP-42, Section 13.2.2, Empirical Equation 1a, E = k x (s/12) x (W/3) b/VMT where:

1.5 for PM<sub>10</sub>

s = surface material silt content (haul road) 8.4 percent, from AP-42, Table 13.2.2-1

> W = mean vehicle weight 27 tons, estimate

> > 8 yd3 Size of load bucket

> > > 60 lb/ft3, estimate Density of ash

Ash moved per trip 6.48 tons Ash Moved = (Ash Density, lb/ft3) x (Conversion, 27 ft3/yd3) x (Bucket size, yd3) / (Conversion, 2000 lb/ton)

a (empirical constant) 0.9 from AP-42. Table 13.2.2-2 b (empirical constant) 0.45 from AP-42, Table 13.2,2-2

E (uncontrolled) = 2.92 E (controlled) = 0.44

Approximate distance from ash pile to truck (round trip) 150 feet

FY2017 VMT = vehicles miles traveled per year 233.09

<sup>d</sup>From AP-42, Section 13.2.5, Industrial Wind Erosion Coal Pile at GVEA Healy Power Plant

Average Height = 20 ft Estimated from site photos Width at Base = 250 ft Engineering estimate

Height-to-Base Ratio = 0.080 < 0.2. Ash pile can therefore be considered a large relatively flat pile with little penetration into

the surface wind layer and a single friction velocity (using Equation (1)) can be used to for the entire surface of the ash pile. Friction velocity is a measure of wind shear stress on the

erodible surface.

Surface Area of Active Face = 2,000 m<sup>2</sup> Engineering estimate of projected use

#### AP-42 Section 13.2.5, Equation (2)

Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF

$$EF (g/m^2-yr) = k \Sigma P_i$$

$$i=1$$

where

k = particle size multiplier (0.5 for particle size < 10 microns, per table on page 13.2.5-3)

N = number of disturbances per year

P, = erosion potential corresponding to the fastest mile of wind for the ith period between disturbances, g/m²

### AP-42 Section 13.2.5, Equation (3)

Erosion potential function for a dry exposed surface, P

$$P = 58 (u^* - u_i^*)^2 + 25 (u^* - u_i^*)$$

$$P = 0$$
 for  $u^* \le u_i^*$ 

where u\* = friction velocity (m/s)

u<sub>i</sub> = threshold friction velocity (m/s)

# AP-42 Section 13.2.5, Equation (1)

Friction velocity, u\*

$$u^* = 0.4 \times u(z) / \ln(z/z_0)$$
 when  $z > z_0$ 

where u\* = friction velocity (cm/s)

u(z) = wind speed at height z above test surface (cm/s)

z = height above test surface (cm)

zo = roughness height, cm

Data:

u(z) Use maximum wind gust speed recorded at McKinley Airport ASOS for each month in 2015 (see table below)

z 10 meter

N 12 disturbances/year for active face, estimated

1 average disturbances/month

			,			sh pile <sup>2</sup> e 13.2.5-2)					
Month- Year		Mind Speed 10)) <sup>1</sup>	Wind Direction	Roughness Height (z <sub>o</sub> )	Threshold Friction Velocity (u <sub>i</sub> )	Calculated Friction Velocity (u*)	Erosion potential function, P	P×N	k	Emission Factor (uncontroll ed), EF	Emission Factor (controlled), EF <sup>3</sup>
	mph	m/s	deg	cm	m/s	m/s				g/m²-yr	g/m²-yr
Jan-15	24	10.7	225	21.0	1.02	1.11	3	2.8			
Feb-15	24	10.7	225	21.0	1.02	1.11	3	2.8			
Mar-15	30	13.4	259	21 0	1.02	1.39	17	17.1			
Apr-15	38	17.0	295	21.0	1.02	1.76	50	50.1			
May-15	29	13.0	279	21.0	1.02	1.34	14	14.1			
Jun-15	29	13.0	245	21.0	1.02	1.34	14	14.1			
Jul-15	23	10.3	237	21.0	1.02	1.06	1	1.2			
Aug-15	21	9.4	229	21.0	1.02	0.97	0	0.0			
Sep-15	23	10.3	222	21.0	1.02	1 06	1	1.2			
Oct-15	24	10.7	242	21.0	1.02	1.11	3	2.8			
Nov-15	29	13.0	240	21.0	1.02	1.34	14	14.1	-		-
Dec-15	32	14.3	282	21.0	1.02	1.48	24	23.9			
			Annual T	otal			144	144 06	0.5	72.03	36.02

<sup>&</sup>lt;sup>1</sup> Per www.ncdc.noaa.gov for calendar year 2015, McKinley Airport ASOS (PAIN).

<sup>&</sup>lt;sup>2</sup> No emission factor exists for ash. Overburden is considered the most representative alternative because it includes both fine (ash) and coarse (slag) particles.

<sup>&</sup>lt;sup>3</sup> Control efficiency of 50% is assumed since material wet.

Table 6. FY2017 Assessable Emission Calculations - Volatile Organic Compound (VOC) Emissions
Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Maximum	Operating	Fuel Type/	Factor	VOC Emission	FY2017 Projected	FY2017 Project
1D	Description	Capacity	Scenario	Material	Reference	Factor	Operation	VOC Emission
					2 22			-
			Existing Configuration				2,952 hours	2.0 tpy
Sat	The Market	207.10104.4-	With SNCR	0 1411.00			2,280 hours	1.5 tpy
1	Unit #1	327 MMBtu/hr	With SNCR and 18	Coal/ULSD	AP-42, Table 1.1-19	0.06 lb/ton		
			months after 1st fire of coal		7		3,528 hours	2.3 tpy
722	PROTESS		Existing Configuration				2,952 hours	3.9 tpy
2	нсср	658 MMBtu/hr	With SCR	Coal/ULSD	AP-42, Table 1.1-19	0.06 lb/ton	5,808 hours	7.8 tpy
3	Auxiliary Heater #1	12.6 MMBtu/hr3	Not Applicable	ULSD	AP-42, Table 1.3-3	0.556 lb/10 <sup>3</sup> gal	14,353 gallons	0.5 tpy
4	Auxiliary Heater #2	23 MMBtu/hr	Not Applicable	ULSD	AP-42, Table 1.3-3	0.556 lb/10 <sup>3</sup> gat	2,761 gallons	0.1 tpy
5	Diesel Generator Engine #1	2.75 MW	Not Applicable	ULSD	AP-42 Table 3.4-1	0.09 lb/MMBtu	218 gallons	1.3E-03 tpy
6	Crusher System (Dust Collector #1)	400 ton/hr	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
7	Limestone Storage Silo	314 ton/hr	Not Applicable	Limestone	N/A	N/A	211 hours	0 tpy
8	Flyash Storage Silo	570 ton/hr	Not Applicable	Flyash	N/A	N/A	2,195 hours	0 tpy
9	Sodium Bicarbonate Handling System	50 ton/hr	Not Applicable	Sodium Bicarbonate	N/A	N/A	2,195 hours	0 tpy
10	Crusher System (Dust Collector #2)	240 ton/hr	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
13	Firewater Pump Engine	264 hp	Not Applicable	ULSD	AP-42 Table 3.3-1	2.51E-03 g/hp-hr	15 hours	1.1E-05 tpy
TBD	Lime Storage Silo #1	1,800 acfm	Not Applicable	Lime	N/A	N/A	116 hours	0 tpy
TBD	Lime Storage Silo #2	1,800 acfm	Not Applicable	Lime	N/A	N/A	116 hours	O tpy
11	Haul Road	0.25 mile	Not Applicable	Fugitive Oust	N/A	N/A	8,760 hours	O tpy
12	Coal Storage Pile	30 day supply	Not Applicable	Coal	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tanks (2)	25,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	2,000 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	425 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tank	300 gallons	Not Applicable	ULSD	N/A	N/A	8,760 hours	0 tpy
N/A	Central Vac (3)	900 ac/m7	Not Applicable	Coal	N/A	N/A	1,095 hours	0 tpy
N/A	Urea Rail Car Unloading Bin Vent Filter	1,500 ac/m	Not Applicable	Urea	N/A	N/A	106 hours	0 tpy
N/A	Urea Storage Silo A/B Bin Vent Filter	1,500 acfm	Not Applicable	Urea	N/A	N/A	133 hours	0 tpy
N/A	Urea Conveyor to Dissolver Tank Bin Vent Fitter	400 ac/m	Not Applicable	Urea	N/A	N/A	332 hours	O tpy
N/A	Lime Railcar Unloading Bin Vent Filter	1,500 acfm	Not Applicable	Lime	N/A	N/A	384 hours	0 tpy
N/A	Sodium Bicarbonate Unloading Portable Baghouse	850 scfm	Not Applicable	Sodium Bicarbonate	N/A	N/A	133 hours	0 tpy
						0.00	otal Emissions - VOC	18.2 tpy

#### Sample Calculations:

Boiler Emissions, tpy= (Emission factor, Ib/ton) x (Capacity, MMBtu/hr) x (Operation, hr/yr) / (Heat Value, MMBtu/hon) / (Conversion, 2,000 lb/ton)
Heater Emissions, tpy= (Emission factor, lb/10³gal) / (Conversion 1,000 gal/10³gal) x (Operation, gal/yr) / (2,000 lb/ton)
Generator Engine Emissions, tpy= (Emission factor, lb/MMBtu) x (Heat Value, Btu/gal) / (Conversion, 1,000,000 Btu/MMBtu) x (Fuel Consumption, gal/yr) / (2,000 lb/ton)

Generator Engine Emissions, tpy= (Emission factor, Ib/MMBtu) x (Heat Value, Btu/gal) / (Conversion, 1,000,000 Btu/MMBtu) x (Fuel Consumption, gal/yr) / (2,000 Ib/ton)

Firewater Pump Engine Emissions, tpy= (Emission factor, g/hp-hr) x (Capacity, hp) / (Conversion, 453.59237 g/lb) x (Operation, hr/yr) / (2,000 Ib/ton)

HHV No. 2 Diesel= 133,549 Btu/gat (average of 4/27/2015 fuel tests)
Heat Value of Coal= 14.8 MMBtu/ton (average of 2015 coal proximate analyses)

Table 7. FY2017 Assessable Emission Calculations - Sulfur Dioxide (SO<sub>2</sub>) Emissions
Golden Valley Electric Association - Healy Power Plant

	Emission Unit	Maximum	Operating	Fuel Type/	Factor	Maximum Fuel	SO <sub>2</sub> Emission	FY2017 Projected	FY2017 Projecte
ID	Description	Capacity	Scenario	Material	Reference	Sulfur Content 1	Factor	Operation	SO <sub>2</sub> Emission
				les cause se se				VW-1-	
			Existing Configuration	1	2015 CEMS Data		105 7 lb/hr	2,952 hours	156 tpy
	11-1-44	207 111/01 0	With SNCR	CoaVULSD				2,280 hours	112 tpy
1	Unit #1	327 MMBtu/hr	With SNCR and 16	CoavuLsu	Consent Decree	N/A:	0.30 lb/MMBtu		
			months after 1st fire of coal		10 80 W 10 00 H 20 70 00 00 7 P 10 00 P 10 00 00 00 00 00 00 00 00 00 00 00 00			3,528 hours	173 tpy
			Existing Configuration	<del></del>	<del>                                     </del>			2.952 hours	84 tpv
2	HCCP	658 MMBtu/hr	With SCR	CoalULSD	AQ173TVP02, Table B	N/A	0.086 lb/MMBtu	5 808 hours	164 tpy
3	Auxiliary Heater #1	12.6 MMBtu/hr3	Not Applicable	ULSD	Mass Balance	0.0015 wt. pcl. S	0.00020 lb/gal	14,352,9 gallons	1.4E-03 tpy
4	Auxiliary Heater #2	23 MMBtwhr	Not Applicable	ULSD	Mass Balance	0.0015 wt. pct. S	0.00020 tb/gal	2,760.8 gallons	2.8E-04 tpy
5	Diesel Generator Engine #1	2.75 MW	Not Applicable	ULSD	Mass Balance	0 0015 wt. pct. S	0.00020 lb/gal	218 4 gallons	2.2E-05 tpv
6	Crusher System (Dust Collector #1)	400 ton/hr	Not Applicable	Coal	N/A	N/A	N/A	8.760 hours	0 tpv
7	Limestone Storage Silo	314 ton/hr	Not Applicable	Limestone	N/A	N/A	N/A	211 hours	0 toy
8	Flyash Storage Silo	570 tor/hr	Not Applicable	Flyash	N/A	N/A	N/A	2,195 hours	0 tpy
9	Sodium Bicarbonate Handling System	50 ton/hr	Not Applicable	Sodium Bicarbonate	N/A	N/A	N/A	2,195 hours	0 tpy
10	Crusher System (Oust Collector #2)	240 ton/hr	Not Applicable	Coal	N/A	N/A	N/A	8.760 hours	0 tpy
13	Firewater Pump Engine	264 hp	Not Applicable	ULSD	Mass Balance	0 0015 wt. pct. S	0.00020 lb/gal	15 hours	2.1E-05 tpy
TBD	Lime Storage Silo #1	1.600 acfm	Not Applicable	Lime Storage Silo #1	N/A	N/A	N/A	116 hours	0 tpy
TBO	Lime Storage Silo #2	1,800 acm	Not Applicable	Lime Storage Silo #2	N/A	N/A	N/A	116 hours	0 tpy
11	Haul Road	0.25 mile	Not Applicable	Haul Road	N/A	N/A	N/A	8.760 hours	0 tpy
12	Coal Storage Pile	30 day supply	Not Applicable	Coal Storage Pile	N/A	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel tanks (2)	25.000 gallons	Not Applicable	AST diesel tanks (2)	N/A	N/A	N/A	8.760 hours	0 tpy
N/A	AST diesel lank	2,000 gallons	Not Applicable	AST diesel tank	N/A	N/A	N/A	8,760 hours	0 tpy
N/A	AST diesel lank	425 gallons	Not Applicable	AST diesel tank	N/A	N/A	N/A	8.760 hours	0 lpy
N/A	AST diesel lank	300 gallons	Not Applicable	AST diesel tank	N/A	N/A	N/A	8.760 hours	0 tpy
N/A	Central Vac (3)	900 acfm7	Not Applicable	Central Vac (3)	N/A	N/A	N/A	1,095 hours	0 tpy
V2754 WOLD	term (Maddenson description of Madenson (Madenson Configuration)		TOTAL CONTROL OF THE SOULA	Urea Rail Car Unloading				555 A A	
N/A	Urea Rail Car Unloading Bin Vent Filter	1,500 acfm	Not Applicable	Bin Vent Filter	N/A	N/A	N/A	106 hours	0 тру
N/A	Urea Storage Silo A/B Bin Vent Filter	1,500 acfm	Not Applicable	Urea Storage Silo A/B	N/A	N/A	N/A	133 hours	O tpy
0 80 0		10.000000000000000000000000000000000000		Bin Vent Filter Urea Conveyor to					
N/A	Urea Conveyor to Dissolver Tank Bin Vent	400 acfm	Not Applicable	Dissolver Tank Bin Vent	N/A	N/A	N/A	332 hours	0 tpy
	Filter			Fitter			276 E		- 107
N/A	Lime Railcar Unloading Bin Vent Filter	1,500 actm	Not Applicable	Lime Railcar Untoading Bin Vent Fitter	N/A	N/A	N/A	384 hours	0 tpy
Opaves	Sodium Bicarbonate Unloading Portable	1222000000	240000000000000000000000000000000000000	Sodium Bicarbonate		10400	2000	004040 00	10.27 No.
N/A	Baghouse	850 scim	Not Applicable	Unloading Portable Baghouse	∘N/A	N/A	N/A	133 hours	0 tpy
		-						Total Emissions - SO	688.8 tpy

Notes:

Sample Calculations: 2

Molar mass ratio is 32 lb S/mol 64 lb SO<sub>2</sub>/mol

Stoichiometry: 1 mol S = 1 mol SO<sub>2</sub>

Mass Balance Emission Factor, lb/gat = (Molar mass ratio, 2 lb SO<sub>2</sub>:1 lb S) x (wt pct.. S in fuel) x (density of fuel, lb/gat) / 100%

Boiler Emissions, tpy= (Emission factor, lb/hr) x (Operation, hr/yr) / (2,000 lb/ton)

Boiler Emissions, Ipy= (Emission factor, Ib/MMBtu) x (Capacity, MMBtu/hr) x (Operation, hr/yr) / (2,000 tb/ton)

Heater/Generator Engine Emissions, tpy= (Emission factor, lb/gal) x (Fuel Use gal/yr) / (2,000 lb/ton)

Firewater Pump Engine Emissions, tpy= (Emission factor, lb/gal) x (Brake Specific Fuel Consumption, 7,000 Btu/hp-hr) x (Rating, hp) x (Operation, hr/yr) / (Fuel Heat Value, Btu/gal) / (2,000 lb/non)

HHV No. 2 Diesel= 133,549 Btu/gal (average of 4/27/2015 fuel tests)

FY2017 Assessable Emissions Golden Valley Electric Association - Healy Power Plant

March 2016

<sup>1</sup> Based on fuel supplier specifications for 2015.

Diesel fuel density is assumed to equal 6.7 (b/gal for ULSD based on April 27, 2015 fuel lests.)

# Average Data

Plant: Golden Valley Electr Interval: 1 Hour

Report Period: 01/01/2015 00:00 Through 12/31/2015 23:59 Time Online Criteria: 1 minute(s)

Source

Parameter Unit

CO#/HR	NOX#/HR	PM#/HR	S02#/HR	10_TINU
	200 Sept. 200 Se	C. 1993/05/02	475050000000000000000000000000000000000	
(LB/HR)	(LB/HR)	(LB/HR)	(LB/HR)	(MIN)
CA ARCHIOLOGICA ACC	135×652/4/13410.554	A10000000018	-\*50#867864*	350000000

Average	86.1	93.1	0.863	105,7	59.92
Minimum	0.0	0.0	0 102	-0.6	1.00
Maximum	536.9	132 6	132.442	257 4	60 00
Summation	692,575 5	752,065 6	6,757 176	856,046.7	487_186 00
Included Data Points	8040	8079	7656	8101	8130
Total number of Data Points	8760	8760	8760	8760	8760

F = Unit Offline
E = Exceedance
M = Maintenance
T = Out Of Control
Report Generated: 03/25/16 10 25

C = Calibration
S = Substituted
\* = Suspect
U = Startup
Report Version 4.0
HEALY-C

From: "Turner, Thomas E (DEC)" < tom.turner@alaska.gov>

Date: March 10, 2016 at 2:30:33 PM AKST

To: "nmknight@gvea.com" <nmknight@gvea.com>

Cc: "Nipataruedi, Nattinee (DEC)" < nattinee.nipataruedi@alaska.gov>, "Turner, Thomas E (DEC)"

<tom.turner@alaska.gov>, "Kuterbach, John F (DEC)" <john.kuterbach@alaska.gov>

Subject: FW: GVEA, Healy Assessable Emissions

Naomi,

It was pleasure to talk with you by phone. As we discussed, GVEA is requesting a modified method for the assessable emissions due to installing SNCR and SCR control equipment which will reduce the NOx emissions for the last 3 months of calendar year 2016 and remaining FY17. GVEA will assess all the pollutant's emissions using actuals... except for the NOx. Please see the comments in Red below are from our phone call.

Based on the e-mail below and phone call, GVEA will use the following method for NOx:

- A. Calculate the NOx based on actuals until the control equipment is in place.
- B. Once the permit required control equipment is in place, then the PTE from the permit will be used for the NOx assessable emission for the remaining months of FY 17.
  - C. Due the recent fire, there may be a reduction in operation time into August, however, GVEA will calculated based on operations from July 2016.

Under 18 AAC 50.410; Emission fees , (c) (1) ( D) " other methods and calculations approved by the department". This method is acceptable by the regulations and seems reasonable. (Please see attached for quick reference to reg)

Please note: Please provide any back-up for the NOx calculations. Final numbers will depend on verification of the calculations and methods used to determine assessable emissions.

If you have any questions, please contact Tom Turner at 269-8123.

Thank you for your time and continue efforts to protect Alaska's air quality.

Best Regards, Tom

From: Naomi M. Knight [mailto:nmknight@gvea.com]

Sent: Monday, March 07, 2016 4:37 PM

To: Turner, Thomas E (DEC) < tom.turner@alaska.gov >; Nipataruedi, Nattinee (DEC)

<nattinee.nipataruedi@alaska.gov>

Cc: Jamie Brewer < <u>ibrewer@slrconsulting.com</u>>
Subject: GVEA, Healy Assessable Emissions

GVEA is currently preparing the Assessable Emissions Estimate for the Healy Power Plant (Permit No. AQ0173TVP02, Revision 1) for the State Fiscal Year 2017 (FY2017). GVEA started Unit 2 (EU ID 2) on May 28, 2015, and began firing coal in Unit 2 on August 4, 2015. Unit 2 operated intermittently during the remainder of 2015 with repairs, maintenance, and troubleshooting being undertaken as a result of the unit being brought online after a layup of approximately 15 years. Actual operations of Unit 2 that occurred in calendar year 2015 are not representative of anticipated FY2017 emissions. FY2017 emissions from both Unit 1 (EU ID 1) and Unit 2 are expected to be variable because of the installation of new emission control equipment. During FY2017, several changes are anticipated, as follows.

- Unit 1 is scheduled to begin operating with selective non-catalytic reduction (SNCR) for nitrogen oxides (NO<sub>x</sub>) emission control or before October 31, 2016.
- Unit 2 is scheduled to be down for installation of selective catalytic reduction (SCR) equipment through June, 2016, and to begin operating using SCR for NO<sub>x</sub> emission control on or before October 31, 2016. Note that this schedule could change because of the recent Unit 2 fire, but those possible changes (if any) are not yet known.
- Minor Source Permit AQ0173MSS01 specifies new emission limits for Unit 1 for certain air pollutants after 18 months from the first fire of coal. The date corresponding to 18 months after first fire of coal is February 4, 2017, which falls within FY2017.

Per Permits No. AQ0173TVP02, Revision 1 Condition 72.2(d) and AQ0173MSS01 Condition 12.2(d), GVEA requests written approval from ADEC before Friday March 18, 2016 to project the FY 2017 annual rate of emissions for Units 1 and 2 and the urea handling equipment in the following manner:

# Unit 1 (EU ID 1):

- <u>July 1, 2016 through October 30, 2016</u> Calculate projected emissions using existing configuration. <u>Proportional of actuals-NOx only.</u> GVEA will calculate as if operating as of July 1, Not when fire repair is completed
- October 31, 2016 through February 3, 2017 Calculate projected emissions with SNCR equipment installed. Both limits from the permit. NOx only
- <u>February 4, 2017 through June 30, 2017</u> Calculate projected emissions with SNCR equipment installed and the emission limits that become effective 18 months after first fire of coal.

## Unit 2 (EU ID 2):

- <u>July 1, 2016 through October 30, 2016</u> Calculate projected emissions using existing configuration. <u>Proportional of actuals- NOx only</u>
- October 31, 2016 through June 30, 2017 Calculate projected emissions with SCR equipment installed. Use limits from the permit. NOx only

Urea Handling Equipment (No EU ID Assigned):

 October 31, 2016 through June 30, 2017 – Calculate projected emissions for months during which SCR equipment is operated. GVEA will use AP 42

Projected emissions from all other emission units will be determined based on either the actual 2015 operation or potential operation (8,760 hours or estimated operation for intermittently used equipment).

GVEA appreciates your timely response to this request.

Regards, Naomi

Naomi Morton Knight, P.E.
Environmental Health & Safety Officer
Golden Valley Electric Association, Inc.
758 Illinois Street
Fairbanks, AK 99701
907.458.4557 Office
907.590.2591 Cell
nmknight@qvea.com



PO Box 71249, Fairbanks, AK 99707-1249 • (907) 452-1151 • www.gvea.com

Your Touchstone Energy Cooperative



July 24, 2017

Certified Mail Return Receipt Requested 7016 0340 0000 0399 4301

State of Alaska Department of Environmental Conservation Air Permits Program ATTN: Nattinee Nipataruedi 410 Willoughby Ave., Suite 303 P.O. Box 111800 Juneau, Alaska 99811-1800

Subject:

**Golden Valley Electric Association** 

**Revised 2016 Point Source Emission Inventory** 

**Healy Power Plant** 

Dear Ms. Nipataruedi,

Golden Valley Electric Association (GVEA) is submitting a revised 2016 Point Source Emission Inventory for the Healy Power Plant. The submittal is being made to update the volume of distillate oil fired by emission unit (EU) ID 2.

If you have any questions or would like any additional information please contact me by phone at 907-458-4557 or by email at <a href="mailto:nmknight@gvea.com">nmknight@gvea.com</a>. The certification from Lynn Thompson, Vice President of Power Supply, follows.

Sincerely,

Naomi Morton Knight, P.E.

Environmental Health and Safety Officer

# Certification

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.

Sincerely,

Lynn N. Thompson

Vice President of Power Supply

cc: SLR International

	Statio	onary Source Detail		
ADEC ID	173			
Name	Healy Power Plan	nt		
Physical Location	Mile 2.5 Healy Sp	our Rd		
	Healy, AK 99743			
	Lat 63.85	Long -148.96		
TANK DEPARTURE DE	Description:			
AFS ID	0229000002			
Census Area	Denali Borough (	068)		
Line of Business (NAICS)	221112			
	> Utilities			
	> Utilities			
	> Electric Power Generation, Transmission and Distribution			
	> Fossil Fuel Electric Power Generation			
Line of Business (SIC)	4911			
	> Electric, gas, an	d sanitary services		
	> Electric Service			
Owner Name & Address	Golden Valley Electric Association			
	PO Box 71249			
	Fairbanks, AK 997	707-1249		

		Emiss	sion Unit 01	The Hyat State			
> Specifications							
ID	01		Design Capacity	327 MILLION BTU PER	HOUR		
Description	Unit No. 1						
Manufacturer	Foster-Wheeler		Manufactured Year	Prior to 1976			
Model Number	Not Applicable		Serial Number	78-266			
> Regulations							
Regulation/Description							
40 CFR 60 Subpart UUUU	U						
> Control Equipment							
Capture Efficiency (%)	99.9						
System Description		th overfire air (OFA), Dry Sori	bent Injection (DSI), and Ba	ghouse			
Equipment Type(s)	Low NOx burners wi						
		d gases including SO2 and HC PM and remove the dry mate					
> Pollutants Controlle		Pivi and remove the dry mate	erial generated by the DSI				
Pollutants Controlle	<u>:a</u>						
PM10 Primary (Filt + Cond	41			Reduction Efficiency (9	%)		
Sulfur Dioxide	<u> </u>			99.9 Not Available			
Nitrogen Oxides(NOX)		<del> </del>		Not Available			
> Processes			<del></del>	luor Wallanis			
Processes	Primary Process				···		
SCC Code	10100224		<u> </u>		<del></del>		
acc code		on Boilers			<del></del>		
	> Electric Generation	External Combustion Boilers					
	> Bituminous/Subbituminous Coal						
		(Subbituminous Coal)					
Material Processed	Coal				<del></del>		
Period Start	1/1/2016		Period End	12/31/2016			
Throughput				127,027,2020			
Total	A Transfer of the Company of	Summer %	Fall %	Winter %	Spring %		
164,044	Tons	26	26	28	20		
Operational Schedule	·			1.0			
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
6	22	48	8,021				
Fuel Characteristics			10/0				
Heat Content (Btu/lb)	Elem. Sulfur Content	(wt. H2S Sulfur Content	Ash Content	KAKAMBANDU DEFER			
	pct. S)		(wt. pct. ash)				
7,168	0.152	Not Available	9.290		*		
Heating		-					
Heat Input (MMBtu/hr)	AVALUS (V) ALL ALL ALL	Heat Output	MENUPPERMIN	Heat Values Conventio	n		
293		Not Applicable		HHV			
Emissions				1			
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	58.5	POUNDS	HOUR	CEMS	234.61		
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available		
Nitrogen Oxides(NOX)	72.7	POUNDS	HOUR	CEMS	291.56		
PM10 Primary (Filt +							
Cond)(PM10-PRI)	0.447	POUNDS	HOUR	CEMS	1.79		
PM2.5 Primary (Filt +	0.447	POUNDS	HOLIB	CEME	1.70		
Cond)(PM25-PRI)	<u> </u>		HOUR	CEMS	1.79		
Sulfur Dioxide(SO2)	105.2	POUNDS	HOUR	CEMS	421.90		
Lead and lead compounds		POUNDS	TON	AP-42 Table 1.1-18	0.03		
Volatile Organic Compounds(VOC)	0.06	POUNDS	TON	AP-42 Table 1.1-19	4.92		
PM Condensible (< 1 Micron)(PM-CON)	0.04	POUNDS	MILLION BTUS	AP-42 Table 1.1-5	47.04		
Process	Secondary Process						
SCC Code	10100224						
	> External Combustic		<del></del>				
	> Electric Generation						
	> Bituminous/Subbi		<u> </u>				
Manadal B		Subbituminous Coal)		<del></del>			
Material Processed	Distillate Oil						
Period Start	1/1/2016		Period End	12/31/2016			
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
82,763	gallons	8	64	9	19		

Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.0	0.1	0.2	39		
Fuel Characteristics					
Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content		
	pct. S)		(wt. pct. ash)		
138,222	0.0015	Not Available	Not Available		
Heating				William Town	
Heat Input (MMBtu/hr)	er son vie by egarking	Heat Output	Output Heat Values Convention		
293		Not Applicable	-	HHV	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	5	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.21
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available
Nitrogen Oxides(NOX)	24	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.99
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	1,000 GALLONS	AP-42 Table 1 2-2 and 1 2	0.10
PM2.5 Primary (Filt + Cond)(PM25-PRI)	1.55	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2 and 1.3-7	0.06
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	0.01
Lead and lead compounds	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	0.00
Volatile Organic Compounds(VOC)	0.2	POUNDS	1,000 GALLONS	AP-42 Table 1.3-3	0.01
PM Condensible (< 1 Micron)(PM-CON)	1.3	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2	0.05
> Release Points				NEST CONTRACTOR	
D	Description		PETER PETER SET IN A	Туре	Apportion %
01	Unit No. 1		***		100
		Relea	se Point 01		
> Specifications		.,,,,,,			
D	01		Туре	Vertical	
Description	Unit No. 1	-	lithe	TACIFICAL	
> Stack Parameters					<del>-</del>
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Svit Gas Valosity (fact	Fuit Cas Flow Data (f)	
	Not Applicable	300	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)	THE PERSON NAMED IN COLUMN 1
		1300		168,888	
Seographic Coordinate		I	440.050055		
Latitude	63.854831	Longitude	-148.950006	Datum	NAD 1983
Base Elevation	1,260 None	Accuracy	1		
Description					

		Emiss	sion Unit 02					
> Specifications								
ID	02		Design Capacity	658 MILLION BTU PER HOUR				
Description	Unit No. 2							
Manufacturer	TRW		Manufactured Year	1996				
Model Number	Not Applicable	<del></del>	Serial Number	1				
> Regulations	117 to A 11 to 11							
Regulation/Description					Marie Company I de la company			
40 CFR 60 Subparts Da, De	and UUUUU							
Control Equipment								
Capture Efficiency (%)	100							
System Description	Spray Dry Absorber (SDA)	and Baghouse						
Equipment Type(s)	SDA to neutralize acid gas	es including SO2 and HC	1					
		nd remove the dry mate	erial generated by the SDA					
Pollutants Controlle	d							
Pollutant Description		Carrier Michigan		Reduction Efficiency (	6)			
Sulfur Dioxide				Not Available	*			
PM10 Primary (Filt + Cond	)			99.95				
> Processes				7, 7				
Process	Primary Process							
SCC Code	10100221			-				
	> External Combustion Bo	ilers		<del></del>				
	> Electric Generation							
	> Bituminous/Subbitumi	nous Coal						
	> Pulverized Coal: Wet B	ottom (Subbituminous (	Coal)		····			
Material Processed	Coal							
Period Start	1/1/2016		Period End	12/31/2016				
Throughput								
otal		Summer %	Fall %	Winter %	Spring %			
32,956	tons	0	0	93	7			
<b>Operational Schedule</b>								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
<u> </u>	4	8	1,283					
Fuel Characteristics			12/200	**				
Heat Content (Btu/lb)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content					
rear content (bta) b)	pct. S)	nza sullui Content	A CONTRACTOR OF THE PROPERTY OF THE PARTY OF					
7,187	0.129	Not Available	(wt. pct. ash) 6.472		Mark the Street Street Street			
Heating	0.123	INOT Available	[6.472	<del></del>				
leat Input (MMBtu/hr)		lu						
369		Heat Output		Heat Values Convention	n			
Emissions		Not Applicable	-	HHV				
		I						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	4.9	POUNDS	HOUR	CEMS	3.14			
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available			
Nitrogen Oxides(NOX)	85	POUNDS	HOUR	CEMS	54.55			
PM10 Primary (Filt +	10.872	POUNDS	HOUR	CEMS	6.98			
Cond)(PM10-PRI)		·	_		0.50			
PM2.5 Primary (Filt +	10.872	POUNDS	HOUR	CEMS	6.98			
Cond)(PM25-PRI)								
ulfur Dioxide(SO2)	8.2	POUNDS	HOUR	CEMS	5.26			
ead and lead compounds	0.00042	POUNDS	TON	AP-42 Table 1.1-18	0.01			
					0.01			
olatile Organic	0.04	POUNDS	TON	AP-42 Table 1.1-19	0.66			
Compounds(VOC)		<del></del> -						
M Condensible (< 1	0.04	POUNDS	MILLION BTUS	AP-42 Table 1.1-5	9.47			
Micron)(PM-CON)	Canadan Division							
rocess CC Code	Secondary Process							
cc cone	10100224				<u></u>			
	> External Combustion Boi	iers						
	> Electric Generation	and Carl						
	> Bituminous/Subbitumin							
Interial Process 4	> Pulverized Coal: Wet Bo	ottom (Subbituminous C	oai)					
Naterial Processed	Distillate Oil		5		<u> </u>			
	1/1/2016		Period End	12/31/2016				
Throughput								
otal		Summer %	Fall %	Winter %	Spring %			
	gallons	0	55	44	1			
Operational Schedule								
ays/Week .0	Hours/Day	Weeks/Period	Hours/Period					

Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content		NAME OF TAXABLE PARTY.
(0.00, 0.00,	pct. S)	The Sundi Content	(wt. pct. ash)		
138,222	0.0015	Not Available	Not Available		
Heating					
Heat Input (MMBtu/hr)	INC. NOV. SULVE AND ASSESSMENT	Heat Output		Heat Values Convention	
863		Not Applicable		HHV	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	5	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.61
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available
Nitrogen Oxides(NOX)	24	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	2.92
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2 and 1.3-	0.28
PM2.5 Primary (Filt + Cond)(PM25-PRI)	1.55	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2 and 1.3-	0.19
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	0.03
Lead and lead compounds	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	0.00
Volatile Organic Compounds(VOC)	0.2	POUNDS	1,000 GALLONS	AP-42 Table 1.3-3	0.02
PM Condensible (< 1 Micron)(PM-CON)	1.3	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2	0.16
> Release Points					
D	Description		ansalvatilis e move share	Туре	Apportion %
02	Unit No. 2				100
		Relea	se Point 02		ne vette samer
> Specifications					
	02		Туре	Vertical	
	Unit No. 2	·	1.1100	- Trical	<del></del>
> Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)	NI EURIOLES AND LINE
315	8	208	84.2	253,943	
> Geographic Coordina	ate			1/	
atitude		Longitude	-148.951639	Datum	NAD 1983
Base Elevation		Accuracy	1	1	1100 1303
Description	None				
Data Source	Source Test				

		Emiss	ion Unit 03				
> Specifications							
ID	03		Design Capacity	12.554 MILLION BTU PER	HOUR		
Description	Auxiliary Heater No. 1						
Manufacturer	Cleaver-Brooks		Manufactured Year	1967			
Model Number	CB 189-300		Serial Number	L-39759			
> Regulations							
Regulation/Description							
40 CFR 63 Subpart JJJJJ							
> Control Equipment		***************************************		13012			
Capture Efficiency (%)	0						
System Description	None						
Equipment Type(s)	None						
> Pollutants Controlle	d						
Pollutant Description				Reduction Efficiency (%)			
Not Applicable				Not Applicable	<del></del>		
> Processes							
Process	Primary Process						
SCC Code	10200502						
	> External Combustion Bo	iers					
	> Industrial > Distillate Oil	> Industrial					
	> 10-100 Million Btu/hr	*					
Material Processed	Distillate Oil	<del></del>					
	1/1/2016		Period End	12/31/2016	<del></del> _		
Throughput			process with	125/22/2010			
Total	NO STATE FOR A LINE WAS	Summer %	Fall %	Winter %	Spring %		
35,817	gallons	0	13	1	86		
Operational Schedule		_2001		-	100		
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
1	2	4	666				
Fuel Characteristics			1000				
Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content		Manifest Anna Leiche		
	pct. S)		(wt. pct. ash)				
138,222	0.0015	Not Available	Not Available				
Heating							
Heat Input (MMBtu/hr)		Heat Output		Heat Values Convention			
7		Not Applicable		HHV			
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	5	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.09		
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available		
Nitrogen Oxides(NOX)	20	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.36		
PM10 Primary (Filt +	2.3	POUNDS	1.000 GALLONS	AP-42 Table 1.3-2 and 1.3-	0.04		
Cond)(PM10-PRI)	4.3	- COND3	1,000 GALLONS	7	0.04		
PM2.5 Primary (Filt +	1.55	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2 and 1.3-	0.03		
Cond)(PM25-PRI)				/			
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	0.00		
Lead and lead compounds	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	0.00		
/alatila Or:-	<u> </u>						
Volatile Organic	0.34	POUNDS	1,000 GALLONS	AP-42 Table 1.3-3	0.01		
Compounds(VOC) PM Condensible (< 1		·					
Micron)(PM-CON)	1.3	POUNDS	1,000 GALLONS	AP-42 Table 1.3-2	0.02		
Process	Secondary Process				L		
CC Code	Not Applicable						
Service Management	Not Applicable			-	····		
	Not Applicable	<del></del>					
	Not Applicable	·	· · · · · · · · · · · · · · · · · · ·				
	Not Applicable						
	Not Applicable						
	1/1/2016		Period End	12/31/2016			
Throughput							
otal		Summer %	Fall %	Winter %	Spring %		
lot Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule							
			les (5 ) 1				
Days/Week	Hours/Day	Weeks/Period	Hours/Period				

Fuel Characteristics Heat Content	el e e e e e	Tues a 16 a a	10.1.5		
	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		CANCESTAL TRILLIANS
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input	CONTRACTOR OF THE PARTY OF THE	Heat Output	A STATE OF S	Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
ID	Description		the first section of the second	Type	Apportion %
03	Auxiliary Heater No. 1			Vertical	100
HARA BEET STAN		Relea	se Point 03		
> Specifications			3000000		
D	03		Туре	Vertical	***
Description	Auxiliary Heater No. 1		1.190		<del></del>
> Stack Parameters					
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	rfm)
B5	1.9	450	20	3600	any
> Geographic Coordina		1-00	jav .	13000	****
atitude	63.854883	Longitude	-148.950131	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1	Inerniii	IMAN TA02
Description	None	Incentacy			
Data Source	Engineering Estimate	·			

		Emiss	ion Unit 04					
> Specifications								
ID .	04		Design Capacity	23 MILLION BTU PER HOU	IR			
<b>Description</b>	Auxiliary Heater No. 2							
Manufacturer	Cleaver-Brooks		Manufactured Year	1996				
Model Number	CBI 100-800-15		Serial Number	OLO94777				
> Regulations								
Regulation/Description								
40 CFR 60 Subart Dc and 4	IO CFR 63 Subpart JJJJJJ				<del>1</del>			
> Control Equipment	STREET, STREET							
Capture Efficiency (%)	0							
System Description	None							
Equipment Type(s)	None							
> Pollutants Controlle	<u> </u>				·			
Pollutant Description				Doduction Efficiency (9/)				
Not Applicable				Reduction Efficiency (%) Not Applicable				
> Processes				INOT Applicable				
	le .							
Process	Primary Process			<u> </u>				
SCC Code	10200502							
	> External Combustion Bo	ilers	<u> </u>					
	> Industrial				<del></del>			
		> Distillate Oil						
	> 10-100 Million Btu/hr	F-7		<u> </u>				
Material Processed	Distillate Oil	17	1					
Period Start	1/1/2016		Period End	12/31/2016				
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
27,775	gallons	0	39	61	0			
<b>Operational Schedule</b>								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
)	1	2	276					
Fuel Characteristics			7=					
Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content					
near content (btu/gai)		H25 Sullur Content	A STATE OF THE PARTY OF THE PAR					
138,222	pct. S) 0.0015	Not Available	(wt. pct. ash)	Section of the least of the section				
	10.0013	INOT AVAIIADIE	Not Available					
Heating		T						
Heat Input (MMBtu/hr)		Heat Output		Heat Values Convention				
14		Not Applicable		HHV				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	5	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1	0.07			
Ammonia (NH3)	Not Available	Not Available	Net Austlable	0.1 - 0. 0				
Nitrogen Oxides(NOX)	20	1 o c m e a il	Not Available	Not Available	Not Available			
	20	POUNDS	1,000 GALLONS	AP-42 Table 1.3-1				
YM10 Primary (Filt +		POUNDS	1,000 GALLONS		Not Available 0.28			
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3			AP-42 Table 1.3-1	Not Available			
Cond)(PM10-PRI)	2.3	POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7	Not Available 0.28 0.03			
Cond)(PM10-PRI) PM2.5 Primary (Filt +		POUNDS	1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7	Not Available 0.28 0.03			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	2.3 1.55 2.1F-04	POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7	Not Available 0.28 0.03 0.02			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	2.3 1.55 2.1F-04	POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance	Not Available 0.28 0.03			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	2.3 1.55 2.1F-04	POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7	Not Available 0.28 0.03 0.02			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds	2.3 1.55 2.1E-04	POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance	Not Available 0.28 0.03 0.02			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic	2.3 1.55 2.1F-04	POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance	Not Available 0.28 0.03 0.02			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC)	2.3 1.55 2.1E-04	POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10	Not Available 0.28 0.03 0.02 0.00			
cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1	2.3 1.55 2.1E-04	POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10	Not Available 0.28 0.03 0.02 0.00			
cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Sead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON)	2.3 1.55 2.1E-04 9 0.34	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
cond)(PM10-PRI) PM2.5 Primary (Filt + cond)(PM25-PRI) ulfur Dioxide(SO2) ead and lead compounds //olatile Organic compounds(VOC) PM Condensible (< 1 Aicron)(PM-CON)	2.3 1.55 2.1E-04 9 0.34 1.3 Secondary Process	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process	2.3 1.55 2.1E-04 9 0.34 1.3 Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process	2.3 1.55 2.1E-04 9 0.34 1.3 Secondary Process Not Applicable Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable Not Applicable Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed Period Start	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds  Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process ECC Code	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process SCC Code  Material Processed	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process SCC Code  Material Processed Period Start Throughput	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS Period End Fall %	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00 0.00 0.02			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process GCC Code  Material Processed Period Start Throughput Total Not Applicable	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Interval applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00 0.00			
Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Lead and lead compounds  Volatile Organic Compounds(VOC) PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed Period Start Throughput Total	2.3  1.55  2.1E-04  9  0.34  1.3  Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Interval applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS POUNDS	1,000 GALLONS 1,000 GALLONS 1,000 GALLONS GALLON BILLION GALLONS 1,000 GALLONS 1,000 GALLONS Period End Fall %	AP-42 Table 1.3-1 AP-42 Table 1.3-2 and 1.3-7 AP-42 Table 1.3-2 and 1.3-7 Mass Balance AP-42 Table 1.3-10 AP-42 Table 1.3-3 AP-42 Table 1.3-2	Not Available 0.28 0.03 0.02 0.00 0.00 0.00 0.02			

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating			110111661101010			
Heat Input		Heat Output		Heat Values Convent	ion	
Not Applicable	-	Not Applicable		Not Applicable	1011	
Emissions				, itterrippiicable		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
> Release Points						
ID	Description			Туре	Apportion %	
04	Auxiliary Heater No. 2			Vertical	100	
		Relea	se Point 04	TAR TO THE RES		
> Specifications						
ID .	04		Туре	Vertical		
Description	Auxiliary Heater No. 2	· · ·	1.190	ACITICAL		
> Stack Parameters						
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)	
152	1.9	450	24.7	4268.9	citiij	
> Geographic Coordina		1	1	1		
Latitude	63.854956	Longitude	-148.951181	Datum	NAD 1983	
Base Elevation	1,260	Accuracy	1	Petuiii	14WD 1202	
Description	None	producty	[*			
Data Source	Engineering Estimate			-		

		Emiss	ion Unit 05		
> Specifications					
ID	05		Design Capacity	2.75 MEGAWATTS	
Description	Diesel Generator Engine N	lo. 1			·
Manufacturer	Electro-Motive Diesel		Manufactured Year	1967	
Model Number	20-645-E4		Serial Number	67-B1-1152	
> Regulations					<del>.</del>
Regulation/Description				and the superior	
40 CFR 63 Subpart ZZZZ		<del></del>			
> Control Equipment			5 1		
Capture Efficiency (%)	lo				***
System Description	None			<del></del>	· · · · ·
Equipment Type(s)	None			<del></del>	<u> </u>
> Pollutants Controlle					
	20				
Pollutant Description				Reduction Efficiency (	%)
Not Applicable	<del></del>			Not Applicable	
> Processes					
Process	Primary Process				
SCC Code	20100102				
	> Internal Combustion Eng	gines			
	> Electric Generation				
	> Distillate Oil (Diesel)				
	> Reciprocating				
Material Processed	Diesel				
Period Start	1/1/2016		Period End	12/31/2016	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
0	gallons	25	25	25	25
Operational Schedule		III W III III			
Days/Week	Hours/Day	Weeks/Period	Hours/Period		any ay an a deal and a survival
n	0	0	0		
Fuel Characteristics	10	10			
	Flow Suffee Contact feet	Une culture Courters	last contract		
Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content		
420.000	pct. S)		(wt. pct. ash)		and the second second
138,222	0.0015	Not Available	Not Available		
Heating					
Heat Input (MMBtu/hr)		Heat Output (Megawat	its)	Heat Values Convention	on leaves to the leaves of the
0		2.75		HHV	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	0.85	POUNDS	MILLION BTUS	AP-42 Table 3.4-1	0.00
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available
Nitrogen Oxides(NOX)	3.2	POUNDS	MILLION BTUS	AP-42 Table 3.4-1	0.00
PM10 Primary (Filt +	5 725 62				
Cond)(PM10-PRI)	5.73E-02	POUNDS	MILLION BTUS	AP-42 Table 3.4-2	0.00
PM2.5 Primary (Filt +					
Cond)(PM25-PRI)	5.56E-02	POUNDS	INDIVIDUAL DELIC		
	1		MILLION BTUS	AP-42 Table 3.4-2	0.00
outur Dioxide(SO2)	2.05E-04	POUNDS			
	2.05E-04	POUNDS	GALLON	AP-42 Table 3.4-2 Mass Balance	0.00
Volatile Organic	2.05E-04 8.2E-02	POUNDS POUNDS			
Volatile Organic Compounds(VOC)	8.2E-02	POUNDS	GALLON	Mass Balance AP-42 Table 3.4-1	0.00
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds	8.2E-02		GALLON	Mass Balance	0.00
Volatile Organic Compounds(VOC) Lead and lead compounds	8.2E-02 s Not Available	POUNDS	GALLON MILLION BTUS	Mass Balance AP-42 Table 3.4-1	0.00
/olatile Organic Compounds(VOC) .ead and lead compounds PM Condensible (< 1	8.2E-02	POUNDS	GALLON MILLION BTUS	Mass Balance AP-42 Table 3.4-1	0.00
/olatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Micron)(PM-CON)	8.2E-02 s Not Available 7.7E-03	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	8.2E-02 s Not Available 7.7E-03 Secondary Process	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable Not Applicable Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process  CCC Code  Material Processed  Period Start	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable	POUNDS Not Available	GALLON MILLION BTUS Not Available	Mass Balance AP-42 Table 3.4-1 Not Available	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)  Process SCC Code  Material Processed Period Start  Throughput	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable	POUNDS  Not Available  POUNDS	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00 0.00 Not Available 0.00
Volatile Organic Compounds(VOC)  Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)  Process SCC Code  Material Processed Period Start Throughput  Total	8.2E-02 s Not Available 7.7E-03 Secondary Process Not Applicable 1/1/2016	POUNDS  Not Available  POUNDS  Summer %	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00 0.00 Not Available
Volatile Organic Compounds(VOC)  Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)  Process CCC Code  Material Processed Period Start Throughput  Total Not Applicable	8.2E-02  Not Available  7.7E-03  Secondary Process  Not Applicable  Not Applicable	POUNDS  Not Available  POUNDS	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00 0.00 Not Available 0.00
Volatile Organic Compounds(VOC)  Lead and lead compounds  PM Condensible (< 1 Micron)(PM-CON)  Process  CCC Code  Material Processed  Period Start  Throughput  Total	8.2E-02  Not Available  7.7E-03  Secondary Process  Not Applicable  Not Applicable	POUNDS  Not Available  POUNDS  Summer %	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00  Not Available  0.00  Spring %
Volatile Organic Compounds(VOC)  Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)  Process SCC Code  Material Processed Period Start Throughput  Total Not Applicable	8.2E-02  Not Available  7.7E-03  Secondary Process  Not Applicable  Not Applicable	POUNDS  Not Available  POUNDS  Summer %	GALLON MILLION BTUS Not Available MILLION BTUS	Mass Balance AP-42 Table 3.4-1 Not Available AP-42 Table 3.4-2	0.00  Not Available  0.00  Spring %

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	INOT Applicable	пчот Аррисавіе	INOT Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions					The state of the s
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
D	Description			Туре	Apportion %
05	Diesel Generator Engine	No. 1	-	Vertical	100
Markey Village 14			se Point 05		
> Specifications		ttereu.	JE I GINE GJ		
	05		Туре	Vertical	
Description	Diesel Generator Engine	No. 1	1.140		
> Stack Parameters	, autor attignio				
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	of-w)
	3.33	950	0.1	13,180	umj
Geographic Coordina		1930	10.1	113,180	
	63.855217	t an alturda	440.040005	la de la companya de	
neitudo	103.63521/	Longitude	-148.948886	Datum	NAD 1983
	1 300	A			
Base Elevation	1,260 None	Accuracy	1		·

		Emiss	ion Unit 06				
> Specifications							
ID	06		Design Capacity	400 ton/hr			
Description	Crusher System (Dust Co	ollector No. 1)					
Manufacturer	Not Available		Manufactured Year	Not Available			
Model Number	Not Available		Serial Number	885247 (Secondary Crusher No. 1) 844034 (Secondary Crusher No. 2)			
> Regulations	***						
Regulation/Description			WHEN A THE RESERVE OF THE STATE OF	Control of the Control of the second			
40 CFR 60 Subpart Y							
> Control Equipment							
Capture Efficiency (%)	Not Available						
System Description	Dust Collector No. 1						
Equipment Type(s)	Fabric Filter/Baghouse						
> Pollutants Controlle	d			STATE OF THE STATE			
Pollutant Description			remeter by the best entire.	Reduction Efficiency (%)			
PM10 Primary (Filt + Cond				Not Available			
PM2.5 Primary (Filt + Cond	1)			Not Available			
> Processes							
Process	Primary Process						
SCC Code	30510103				<u> </u>		
	> Industrial Processes						
	> Mineral Products						
	> Bulk Materials Conve > Coal	yors			<del></del>		
Material Processed	Coal				·		
Period Start	1/1/2016	<del></del>	Period End	12/31/2016			
Throughput	1/1/2010		Jrenou Enu	12/31/2016			
Total		Summer %	Fall %	Winter %	[ci0/		
197,000	tons	36	24	26	Spring %		
Operational Schedule	tons	30	]24	[28	[14		
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Days/ Week	3	7	1,211				
Fuel Characteristics	<u> </u>	[/	1,211				
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Contont				
Not Applicable	Not Applicable	Not Applicable	Ash Content Not Applicable				
Heating	INOT Applicable	INOT Applicable	јиот Аррисавје				
Heat Input		Hoot Outmut		luant Value Carres			
Not Applicable		Not Applicable		Heat Values Convention Not Applicable			
Emissions		INOC Applicable		[1401 Арріісавіе			
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Vitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt +				Permit AQ0173TVP02,	Not Applicable		
Cond)(PM10-PRI)	2.05	POUNDS	HOUR	Table B	1.24		
PM2.5 Primary (Filt +	3.05	POLINES	uoun.	Permit AQ0173TVP02,	1		
Cond)(PM25-PRI)	2.05	POUNDS	HOUR	Table B	1.24		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Compounds(VOC)	Not Applicable	Not Applicable	NI-A AIII-I-	A-AP			
Lead and lead compounds PM Condensible (< 1	THUE APPRICABLE	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Micron)(PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available		
Process	Secondary Process						
CC Code	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
Material Processed	Not Applicable						
Period Start	1/1/2016		Period End	12/31/2016			
Throughput							
otal		Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
<b>Operational Schedule</b>							
	Hours/Day	Weeks/Period	Hours/Period		2 (12 - cha) - 12 - 12 - 12 - 12 - 12 - 12 - 12 - 1		

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating						
Heat Input	And thinks evident in	Heat Output	makieki/Skrjiiherzenake	Heat Values Convention		
Not Applicable		Not Applicable		Not Applicable		
Emissions						
ollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
arbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
litrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
/olatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
> Release Points						
D	Description			Туре	Apportion %	
)6	Crusher System (Dust Collector No. 1)		***	Downward-facing Vent	100	
			se Point 06	AND THE RESIDENCE OF THE PERSON OF THE PERSO	NAME OF STREET	
> Specifications						
	06		Туре	Downward-facing Vent		
Description	Crusher System (Dust Collector No. 1)					
Stack Parameters						
tack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)		
and the last	1	30	1	12,000		
Geographic Coordina	.=			122,000		
atitude	63.855014	Longitude	-148.949925	Datum	NAD 1983	
lase Elevation	1,260	Accuracy	1	[Datum	IAWD 1202	
Description	None	I	-			
Data Source	Engineering Estimate					

		Emiss	ion Unit 07					
> Specifications								
ID	07		Design Capacity	314 tons				
Description	Limestone Storage Silo							
Manufacturer	Not Available		Manufactured Year	Not Available				
Model Number	Not Available Serial Number			Not Available				
> Regulations								
Regulation/Description					win telephone the same			
Not Applicable								
> Control Equipment								
Capture Efficiency (%)	Not Available							
System Description	Baghouse							
Equipment Type(s)	Dust Suppression							
	Fabric Filter/Baghouse							
> Pollutants Controlle	d							
Pollutant Description			Jemen Ave dere ver	Reduction Efficiency (%)	Wiscovier bis wisself			
PM10 Primary (Filt + Cond	)	****		Not Available	**			
PM2.5 Primary (Filt + Cond				Not Available				
> Processes	MEDICAL REL							
Process	Primary Process							
SCC Code	30510205	· ·						
	> Industrial Processes							
	> Mineral Products		·					
	> Mineral Products > Bulk Materials Storage Bins							
	> Limestone				·			
Material Processed	Limestone							
Period Start	1/1/2016		Period End	12/31/2016				
Throughput	1-7-7-0-0		I choc cho	]12/31/2010				
Total		Summer %	Fall %	38/iman 9/	Suring 8/			
	Not Applicable	0	0	Winter %	Spring %			
Operational Schedule	[NOT Applicable	Į0	10	190	10			
<del></del>	lu. to	list 1 (n 1 1	In					
	Hours/Day	Weeks/Period	Hours/Period					
0.04	0.1	0.3	49					
Fuel Characteristics								
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Heating								
Heat Input		Heat Output		Heat Values Convention				
Not Applicable		Not Applicable		Not Applicable				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +				Permit AQ0173TVP02,	THUE APPLICABLE			
Cond)(PM10-PRI)	0.14	POUNDS	HOUR	Table B	0.00			
PM2.5 Primary (Filt +		<u> </u>		Permit AQ0173TVP02,	<del>-</del>			
Cond)(PM25-PRI)	0.14	POUNDS	HOUR	Table B	0.00			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Volatile Organic				Troc Applicable	Tuor wholicable			
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
			<del></del>	<del>                                     </del>				
ead and lead compounds.	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM Condensible (< 1								
Micron)(PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available			
Process	Secondary Process							
CC Code	Not Applicable							
	Not Applicable							
	Not Applicable							
	Not Applicable							
	Not Applicable							
Naterial Processed	Not Applicable  Not Applicable							
	1/1/2016	· · · · · · · · · · · · · · · · · · ·	Dariod End	12/21/2016	<del></del>			
	1/1/2010		Period End	12/31/2016				
Throughput		le e	I- no.	I	1.			
Total		Summer %	Fall %	Winter %	Spring %			
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Operational Schedule								
4	Hours/Day Weeks/Period Hours/Period							
				Not Applicable Not Applicable Not Applicable				

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating			1.101.101.101		
Heat Input	Appropriate terror and	Heat Output		Heat Values Convention	III X II
Not Applicable		Not Applicable	*	Not Applicable	
Emissions			167		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					<del>'</del>
ID	Description		DE DESCRIPTION OF THE	Type	Apportion %
07	Limestone Storage Silo			Downward-facing Vent	100
TO SAIL STATE OF THE SAIL STAT		Releas	se Point 07		
> Specifications		.10104.			
D	07		Туре	Downward facing Vont	
	Limestone Storage Silo		LiAhs	Downward-facing Vent	·
> Stack Parameters	I come atome and				
Stack Height (ft)	Stack Diameter (ft)	Evit Cas Town (F)	Evil Con Valante, 15 1	Full Con Flow Both ( )	
1	1	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm) 800	Constitution of the last
> Geographic Coordina	1±	[30	11	1800	
		Harris and the second			1
	63.854947	Longitude	-148.950628	Datum	NAD 1983
Base Elevation Description	1,260 None	Accuracy	1		

		Emiss	ion Unit 08		
> Specifications					
ID	08		Design Capacity	570 tons	
Description	Flyash Storage Silo				
Manufacturer	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	Not Available	
> Regulations					
Regulation/Description					
Not Applicable					
Control Equipment					
Capture Efficiency (%)	Not Available	*			
ystem Description	Pulse Jet Baghouse				
quipment Type(s)	Dust Suppression				<del>-</del>
	Fabric Filter/Baghouse			<del></del>	
> Pollutants Controlle					
Pollutant Description	Maria de la Companya	James State of the State of the		Reduction Efficiency (%)	
PM10 Primary (Filt + Cond	1			Not Available	
M2.5 Primary (Filt + Conc				Not Available	<del></del>
Processes				INOC AVAILABLE	
	D-i D				
rocess CC Code	Primary Process 30183001		···.		
CC COUE	> Industrial Processes				
	> Chemical Manufactur	ing			
	> General Processes				<del></del>
	> Storage/Transfer				
Viaterial Processed	Flyash_		——————————————————————————————————————		·
Period Start	1/1/2016	· · · · · · · · · · · · · · · · · · ·	Period End	12/21/2016	·, ,
Throughput	1/1/2010		renou Enu	12/31/2016	
		In at	In mar	l	
Total	81-4 8	Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	0	18		5
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
L .	4	8	1,374		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	culting to the state of the sta	Marin College Valories
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable	7.1	Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +				Permit AQ0173TVP02,	
Cond)(PM10-PRI)	0.86	POUNDS	HOUR	Table B	0.59
M2.5 Primary (Filt +				Permit AQ0173TVP02,	
Cond)(PM25-PRI)	0.86	POUNDS	HOUR	Table B	0.59
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
/olatile Organic			INOT Applicable	140t Applicable	Not Applicable
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	AL-A A P	N			
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1	Not Augilable	Net Avellette	N-A A.:-11-1-1-	A1-A A., 11-14	
/licron)(PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available
rocess	Secondary Process			· · · · · · · · · · · · · · · · · · ·	
CC Code	Not Applicable				
	Not Applicable				
	Not Applicable	· · ·			····
	Not Applicable			***	
	Not Applicable	<del>, , , ,</del>			
Naterial Processed	Not Applicable		<u> </u>		
eriod Start	1/1/2016	*****	Period End	12/31/2016	
Throughput			,	1-1-1-1-1-1	
otal	NE CONTRACTOR OF THE CONTRACTO	Summer %	Fall %	Winter %	Caring 9/
lot Applicable	Not Applicable	Not Applicable	Not Applicable		Spring %
	rppiitable	Lant Whileanig	Usor whhileanie	Not Applicable	Not Applicable
Operational Cabadula					
Operational Schedule	11/p	har to the	4- 1- 1		
Days/Week	Hours/Day Not Applicable	Weeks/Period Not Applicable	Hours/Period Not Applicable		

Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		Majora Colonia por Marie
Not Applicable	Not Applicable	Not Applicable	Not Applicable	W.	
Heating					
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
D	Description	Facility and Alley and		Туре	Apportion %
08	Flyash Storage Silo		-	Horizontal	100
		Relea	se Point 08		
> Specifications		rece	50 1 01111 00		
	08		Туре	Horizontal	
	Flyash Storage Silo	<del></del>	TIANG	Inorizontal	
> Stack Parameters	I iyasii storage siib				
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Evit Con Valority /f1	Full Can Flow Port 1	6
reach rieight (It)	1	30	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	crm)
> Geographic Coordina	ate .	130	<u> </u>	5,000	
atitude	63.855036	Longitude	-148.951444	Detum	NAD 4003
Base Elevation	1,260		1	Datum	NAD 1983
Description	None	Accuracy	14		
Data Source	Engineering Estimate	· .			

		Emiss	ion Unit 09		
> Specifications					
ID	09		Design Capacity	50 tons	
Description	Sodium Bicarbonate Ha	andling System	journal of the state of the sta	130 (0113	
Manufacturer	Not Available		Manufactured Year	Not Available	<u> </u>
Model Number	Not Available		Serial Number	Not Available	
> Regulations					
Regulation/Description					
40 CFR 60 Subpart OOO					
> Control Equipment					T.
Capture Efficiency (%)	Not Available				
System Description	Horizon System 58-SF-1	L6 Style II Pulse Air Baghou	se		
Equipment Type(s)	Fabric Filter/Baghouse				
> Pollutants Controll	ed				
Pollutant Description				Reduction Efficiency (%	
PM10 Primary (Filt + Con	ıd)			Not Available	
PM2.5 Primary (Filt + Co	nd)			Not Available	
> Processes					
Process	Primary Process			_	
SCC Code	30183001				
	> Industrial Processes				
	> Chemical Manufactur	ring			
	> General Processes				
Market data	> Storage/Transfer		<del></del>		
Material Processed	Sodium Bicarbonate		la	- In- and	
Period Start	1/1/2016	<del></del>	Period End	12/31/2016	<del></del>
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	0	0	67	33
Operational Schedul					
Days/Week	Hours/Day	Weeks/Period	Hours/Period	ne čilety tviek byč	Themson In June 4
0	[0	0	15		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input	Swampswith Archite	Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Man Ameliandala
Nitrogen Oxides(NOX)					Not Applicable
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +		Not Applicable	DRY STANDARD CUBIC	<u> </u>	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable		DRY STANDARD CUBIC FOOT	Not Applicable  Design Specifications	
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Not Applicable 0.02	Not Applicable GRAINS	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC	Design Specifications	Not Applicable 0.00
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable 0.02 0.02	Not Applicable GRAINS GRAINS	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT	Design Specifications  Design Specifications	Not Applicable 0.00 0.00
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	Not Applicable 0.02	Not Applicable GRAINS	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC	Design Specifications	Not Applicable 0.00
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic	Not Applicable 0.02 0.02 Not Applicable	Not Applicable GRAINS GRAINS Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable	Design Specifications  Design Specifications  Not Applicable	Not Applicable 0.00 0.00 Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic	Not Applicable 0.02 0.02	Not Applicable GRAINS GRAINS	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT	Design Specifications  Design Specifications	Not Applicable 0.00 0.00
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC)	Not Applicable 0.02 0.02 Not Applicable Not Applicable	Not Applicable GRAINS GRAINS Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound	Not Applicable 0.02 0.02 Not Applicable Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable	Not Applicable 0.00 0.00 Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) /olatile Organic Compounds(VOC) .ead and lead compound PM Condensible (< 1	Not Applicable 0.02 0.02 Not Applicable Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON)	Not Applicable  0.02  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON)	Not Applicable 0.02  Not Applicable Not Applicable Is Not Applicable Not Available Secondary Process	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON)	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON)	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process GCC Code  Material Processed	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic Compounds(VOC) .ead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process GCC Code  Material Processed Period Start	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic Compounds(VOC) .ead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process GCC Code  Material Processed Period Start Throughput	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable Not Available Period End	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic Compounds(VOC) .ead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process GCC Code  Material Processed Period Start Throughput Total	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable  1/1/2016	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable Not Applicable Summer %	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable Not Available Period End Fall %	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Available  12/31/2016	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable Not Applicable Spring %
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed Period Start Throughput Total Not Applicable	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable Not Available Period End	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Applicable	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed Period Start Throughput Total Sot Applicable Operational Schedule	Not Applicable  0.02  Not Applicable  Not Applicable  Not Applicable  Not Available  Secondary Process  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable Not Available  Summer % Not Applicable	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Available  Not Available  Period End  Fall % Not Applicable	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Available  12/31/2016	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable Not Applicable Spring %
PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compound PM Condensible (< 1 Micron)(PM-CON) Process SCC Code  Material Processed Period Start Throughput Fotal Not Applicable	Not Applicable  0.02  Not Applicable  Not Applicable  Is Not Applicable  Not Available  Secondary Process  Not Applicable  Not Applicable	Not Applicable GRAINS GRAINS Not Applicable Not Applicable Not Applicable Not Applicable Summer %	DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Applicable Not Applicable Not Applicable Not Available Period End Fall %	Design Specifications  Design Specifications  Not Applicable  Not Applicable  Not Applicable  Not Available  12/31/2016	Not Applicable 0.00 0.00 Not Applicable Not Applicable Not Applicable Not Applicable Spring %

Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
ID	Description	Sevents of the said	Contract at the contract with	Type	Apportion %
09	Sodium Bicarbonate Ha	ndling System	******	Downward-facing Vent	100
November 198		The second secon	se Point 09	Journal of Identify West	1200
> Specifications		iterea.	JO , OHIL OJ		
D Specifications	09		Town	D. 16.1.11	
Description	1-+	adline Contains	Туре	Downward-facing Vent	
	Sodium Bicarbonate Hai	idling System			
> Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)	
1	1	30	1	440	
Seographic Coordina					
	63.854619	Longitude	-148.950214	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Description	None				
Data Source	Engineering Estimate				

		Emiss	ion Unit 10		
> Specifications					
ID	10		Design Capacity	240 ton/hr	
Description	Coal Handling System (	Dust Collector No. 2)			
Manufacturer	Not Available		Manufactured Year	Not Available	·
Model Number	Not Available		Serial Number	Not Available	
Regulations					
Regulation/Description					
IO CFR 60 Subpart Y	******				
Control Equipment					
Capture Efficiency (%)	Not Available	<u> </u>			
ystem Description		, Inc 276RF8 Reverse Pulse	Raghouse		
quipment Type(s)	Fabric Filter/Baghouse	, me 27 on o neverse ruise	. Dagnouse		~ <u>.</u>
Pollutants Controlle	<del></del>				
Pollutant Description				Dadresta Fffi to Jack	
M10 Primary (Filt + Cond	1			Reduction Efficiency (%)	
M2.5 Primary (Filt + Cond				Not Available	
	21			Not Available	
Processes	Ia : a				
rocess	Primary Process				
CC Code	30510103	·		<del></del>	
	> Industrial Processes				<del></del>
	> Mineral Products				
	> Bulk Materials Conve	eyors		<u> </u>	<del></del>
Annual of Dunca	> Coal		-		
Material Processed	Coal		I	Landard Committee	
eriod Start	1/1/2016		Period End	12/31/2016	
Throughput					
otal	TO SELECT OF A VALUE OF THE SELECT	Summer %	Fall %	Winter %	Spring %
lot Applicable	Not Applicable	36	24	26	14
<b>Operational Schedule</b>					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
	3	7	1,211		
Fuel Characteristics					
leat Content	Flem. Sulfur Content	H2S Sulfur Content	Ash Content		
	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Elem. Sulfur Content Not Applicable	H2S Sulfur Content Not Applicable	Ash Content Not Applicable		
Not Applicable Heating		Not Applicable		lu-svd-s-Gsi-	
Not Applicable Heating Heat Input		Not Applicable  Heat Output		Heat Values Convention	
Not Applicable Heating Heat Input Not Applicable		Not Applicable		Heat Values Convention Not Applicable	
Not Applicable Heating Heat Input Not Applicable Emissions	Not Applicable	Not Applicable Heat Output Not Applicable	Not Applicable	Not Applicable	
Not Applicable Heating Heat Input Not Applicable Emissions	Not Applicable  Emission Factor	Not Applicable  Heat Output Not Applicable  EF Numerator	Not Applicable  EF Denominator	Not Applicable  EF Source	Tons
lot Applicable Heating leat Input lot Applicable Emissions follutant arbon Monoxide(CO)	Not Applicable  Emission Factor Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Not Applicable  EF Denominator  Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	Emission Factor Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Not Applicable  EF Denominator  Not Applicable  Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Not Applicable  Emission Factor Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Not Applicable  EF Denominator  Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable	Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02,	Not Applicable Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Emission Factor Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Not Applicable  EF Denominator  Not Applicable  Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B	Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant farbon Monoxide(CO) Ammonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + cond)(PM10-PRI) M2.5 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02,	Not Applicable Not Applicable Not Applicable 2.08
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B	Not Applicable Not Applicable Not Applicable 2.08 2.08
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) wh10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) ulfur Dioxide(SO2)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02,	Not Applicable Not Applicable Not Applicable 2.08
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Inmmonia (NH3) litrogen Oxides(NOX) litrogen O	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Immonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) Cond)(PM25-PRI) Fulfur Dioxide(SO2) Polatile Organic	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B	Not Applicable Not Applicable Not Applicable 2.08 2.08
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) M10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Volatile Organic Compounds(VOC) ead and lead compounds	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) lond)(PM25-PRI) ulfur Dioxide(SO2) lolatile Organic lompounds(VOC) ead and lead compounds M Condensible (< 1	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO)mmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) ulfur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO)mmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) ulfur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1 licron)(PM-CON)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO) mmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) ulfur Dioxide(SO2) olatile Organic ompounds(VOC) lead and lead compounds M Condensible (< 1 licron)(PM-CON) rocess	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) ulfur Dioxide(SO2) 'colatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1 //icron)(PM-CON) rocess	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
Jot Applicable Heating Jeat Input Jot Applicable Emissions Jollutant Jordon Monoxide(CO) Jordon Monoxide(SOX) Jordon Mon	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) ulfur Dioxide(SO2) 'colatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1 //icron)(PM-CON) rocess	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) ulfur Dioxide(SO2) 'colatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1 //icron)(PM-CON) rocess	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant arbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + cond)(PM10-PRI) M2.5 Primary (Filt + cond)(PM25-PRI) ulfur Dioxide(SO2) colatile Organic compounds(VOC) ead and lead compounds M Condensible (< 1 filcron)(PM-CON) rocess CC Code	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Available Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) lummonia (NH3) litrogen Oxides(NOX) litrogen O	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + cond)(PM10-PRI) M2.5 Primary (Filt + cond)(PM25-PRI) ulfur Dioxide(SO2) colatile Organic compounds(VOC) lead and lead compounds M Condensible (< 1 dicron)(PM-CON) rocess CC Code  Material Processed leriod Start	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) Volatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Alicron)(PM-CON) Process CC Code  Material Processed Paterial Processed	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Available	Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Volatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Nicron)(PM-CON) Process CCC Code  Material Processed Period Start Throughput	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Period End	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %
lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Available	Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) ulfur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compounds M Condensible (< 1 flicron)(PM-CON) rocess CC Code  laterial Processed eriod Start Throughput ot Applicable Operational Schedule	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable Not Applicable Period End Fall % Not Applicable	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process SCC Code  Material Processed Period Start Throughput Total Not Applicable Operational Schedule	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Period End	Rot Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable  Permit AQ0173TVP02,  Table B  Permit AQ0173TVP02,  Table B  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Not Applicable Not Applicable 2.08 2.08 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	<u> </u>	
Heating					
Heat Input	The state of the second	Heat Output		Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	
Emissions		T DESCRIPTION			
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
D	Description			Туре	Apportion %
LO	Coal Handling System (D	ust Collector No. 2)		Horizontal	100
HATELESS NAMES			se Point 10		
> Specifications		, tereu.			
	10		Туре	Horizontal	
170-7	Coal Handling System (D	ust Collector No. 2)	туре	Inousousai	<del></del>
> Stack Parameters	cour nanding system (c	ust conector No. 2)			
	Stack Diameter (ft)	Fuit Cas Town (F)	Enils Con Malanta (f. 1	le veren en e	
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	ctm)
Coorenhie Coorenhie	<u> </u>	Jou		20,000	
> Geographic Coordina					
atitude	63.854989	Longitude	-148.950558	Datum	NAD 1983
Base Elevation	1,260 None	Accuracy	1		

		Emiss	ion Unit 11		
> Specifications					
ID	11		Design Capacity	Not Applicable	
Description	Haul Road (located on G)	/FA property)	locaign capacity	INOT Applicable	
Manufacturer	Not Applicable	er property)	Manufactured Year	Not Applicable	
Model Number	Not Applicable		Serial Number		*
	INOT Applicable		Seriai Number	Not Applicable	
> Regulations					
Regulation/Description					
Not Applicable				-	
> Control Equipment					
Capture Efficiency (%)	50				
System Description	Water application				
Equipment Type(s)	Dust Suppression		-		<del></del>
> Pollutants Controlle	d				
Pollutant Description			and the second service w	Reduction Efficiency (%	of vittee a purely of
PM10 Primary (Filt + Cond				50	
PM2.5 Primary (Filt + Cond	1)	-		50	<del></del>
> Processes					
Process	Driman, Draces				
	Primary Process		· · · · · · · · · · · · · · · · · · ·		<del></del>
SCC Code	30501090				
	> Industrial Processes				
	> Mineral Products				
	> Coal Mining, Cleaning,	and Material Handling (S	ee 305310)		
	> Haul Roads: General			4	
Material Processed	Fugitive Dust				<del></del>
Period Start	1/1/2016		Period End	12/31/2016	
Throughput	. , ,		1. arraw arra	122/02/2010	
		To at	[- was		
Total		Summer %	Fall %	Winter %	Spring %
788	Vehicle Miles Travelled	22	22	39	17
	I(VMT)				
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
7	24	52	8,784		
Fuel Characteristes	124	132	0,704		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	Short a Market Contract of the	STEPS AND LONG TO STATE
Not Applicable	Not Applicable				
Applicable	HAOT Wholicanie	Not Applicable	Not Applicable		
	(NOT Applicable	Not Applicable	Not Applicable		
Heating	into i Applicable		Not Applicable	Hast Values Convention	
Heating Heat Input	(NOT Applicable	Heat Output	Not Applicable	Heat Values Convention	
Heating Heat Input Not Applicable	Trot Applicable		Not Applicable	Heat Values Convention	
Heating Heat Input Not Applicable Emissions	THOU Applicable	Heat Output	Not Applicable		
Heating Heat Input Not Applicable Emissions	Emission Factor	Heat Output	Not Applicable		Tons
Heating Heat Input Not Applicable Emissions Pollutant	Emission Factor	Heat Output Not Applicable EF Numerator	EF Denominator	Not Applicable  EF Source	Tons
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	Emission Factor Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable	EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Tons Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3)	Emission Factor Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Tons Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Emission Factor Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Tons Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Emission Factor Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable	EF Source Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Tons Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable VMT	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2	Tons Not Applicable Not Applicable Not Applicable 0.61
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 1.54	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable VMT	EF Source Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable VMT	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2	Tons Not Applicable Not Applicable Not Applicable 0.61
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2)	Emission Factor Not Applicable Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61  0.06 Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic	Emission Factor Not Applicable Not Applicable Not Applicable 1.54	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable VMT	EF Source Not Applicable Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2	Tons Not Applicable Not Applicable Not Applicable 0.61
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61  0.06 Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61  0.06 Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2  AP-42 Section 13.2.2  Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2  AP-42 Section 13.2.2  Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) Photo Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating deat Input dot Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) ditrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) duffur Dioxide(SO2) //olatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Alicron)(PM-CON) drocess	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process GCC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) //olatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CCC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code  Material Processed	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code  Material Processed Period Start	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) ead and lead compounds PM Condensible (< 1 Aicron)(PM-CON) Process CCC Code	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable Not Applicable 0.61 0.06 Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code  Material Processed Period Start	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable O.61 O.06 Not Applicable Not Applicable Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM25 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process CCC Code  Material Processed Period Start Throughput Total	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Period End	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Tons Not Applicable Not Applicable O.61 O.06 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %
Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) lolifur Dioxide(SO2) lolatile Organic lompounds(VOC) lead and lead compounds M Condensible (< 1 Micron)(PM-CON) rocess CC Code  Material Processed leriod Start Throughput lot Applicable	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable	Tons Not Applicable Not Applicable O.61 O.06 Not Applicable Not Applicable Not Applicable Not Applicable
Heating Heat Input Hot Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Hitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) Hother Compounds Compounds(VOC) Head and lead compounds M Condensible (< 1 Alicron)(PM-CON) Horcess CC Code  Material Processed Heriod Start Throughput Otal Hot Applicable Operational Schedule	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS  POUNDS  Not Applicable Not Applicable Not Applicable Not Applicable  Not Applicable  Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Fall % Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Tons Not Applicable Not Applicable O.61 O.06 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM25 Primary (Filt + Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process ECC Code  Material Processed Period Start Throughput Total Not Applicable Operational Schedule Days/Week	Emission Factor Not Applicable Not Applicable 1.54 0.15 Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable POUNDS POUNDS Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable VMT VMT Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Period End	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable AP-42 Section 13.2.2 AP-42 Section 13.2.2 Not Applicable Not Applicable Not Applicable Not Applicable  Not Applicable  Vot Available  Not Available  12/31/2016	Tons Not Applicable Not Applicable O.61 O.06 Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Spring %

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		March Shows Said Start
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating		, ita i rippii ca a i c	рискириски		
Heat Input	ATTENDED TO THE STREET	Heat Output	CONTROL DE MOUNTAINE	Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions		11001110		Not Applicable	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points		3 1 - 1		<del>'</del>	
ID	Description			Туре	Apportion %
11	Haul Road (located on G	VEA property)		Fugitive	100
			se Point 11	It agrees	
> Specifications		ive i e a	JC I OHIL II		
	laa.			I	
D Description	11	1/54	Туре	Fugitive	
	Haul Road (located on G	vex property)			
> Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)	
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Seographic Coordina					
Latitude	63.855392	Longitude	-148.945955	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Description		ar split in haul road by sub	station		
Data Source	Engineering Estimate				

STEEL STEEL STEEL		Emiss	ion Unit 12		
> Specifications					
ID	12		Design Capacity	372,000 cubic feet	
Description	Coal Storage Pile				
Manufacturer	Not Applicable		Manufactured Year	Not Applicable	
Model Number	Not Applicable		Serial Number	Not Applicable	
> Regulations					
Regulation/Description					English Symbol (1992)
Not Applicable					
> Control Equipment					
Capture Efficiency (%)	50				1,
System Description	Water application				
Equipment Type(s)	Dust Suppression				
> Pollutants Controlle	d				
Pollutant Description				Reduction Efficiency (%)	
PM10 Primary (Filt + Cond				50	
PM2.5 Primary (Filt + Cond	1)			50	
> Processes					
rocess	Primary Process				
SCC Code	30510303				
	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Open	Stockpiles			
Manager 1	> Coal				
Material Processed	Coal		I	The state of the s	
Period Start	1/1/2016		Period End	12/31/2016	
Throughput		<del></del>			
Total		Summer %	Fall %	Winter %	Spring %
.97,000	tons	22	22	39	17
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		TREE TO THE PERSON
7	24	52	8,784		
Fuel Characteristics					
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
leat Input		Heat Output	MOVED THE WAR TO WE	Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
litrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
M10 Primary (Filt +	0.55	TONS	YEAR	AP-42 Sections 13.2.2,	0.55
ond)(PM10-PRI)		10113	TEAR	13.2.4, and 13.2.5	0.00
M2.5 Primary (Filt +	0.06	TONS	YEAR	AP-42 Sections 13.2.2,	0.06
ond)(PM25-PRI)				13.2.4, and 13.2.5	
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
/olatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	NOT Applicable	Not Applicable	Not Applicable	- Tot / Ippiicabic	
PM Condensible (< 1	Not Available	Not Available	Not Available	Not Available	Not Available
M Condensible (< 1 ficron)(PM-CON)	Not Available	-		<del></del>	Not Available
M Condensible (< 1 ficron)(PM-CON) rocess	Not Available Secondary Process	-		<del></del>	Not Available
<u> </u>	Not Available Secondary Process Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 /icron)(PM-CON) rocess	Not Available Secondary Process Not Applicable Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 /icron)(PM-CON) rocess	Not Available Secondary Process Not Applicable Not Applicable Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 /icron)(PM-CON) rocess	Not Available Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 Micron)(PM-CON) rocess CC Code	Not Available Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 Micron)(PM-CON) rocess CC Code	Not Available Secondary Process Not Applicable	-	Not Available	Not Available	Not Available
M Condensible (< 1 Micron)(PM-CON) rocess CC Code  Material Processed eriod Start	Not Available Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	-		<del></del>	Not Available
M Condensible (< 1 Micron)(PM-CON) Process CC Code  Material Processed Period Start Throughput	Not Available Secondary Process Not Applicable	Not Available	Not Available	Not Available	
M Condensible (< 1 Micron)(PM-CON) rocess CC Code  Material Processed eriod Start Throughput otal	Not Available Secondary Process Not Applicable 1/1/2016	Not Available  Summer %	Not Available  Period End  Fall %	Not Available  12/31/2016  Winter %	Spring %
M Condensible (< 1 Micron)(PM-CON) rocess CC Code  Material Processed eriod Start Throughput otal lot Applicable	Not Available Secondary Process Not Applicable	Not Available	Not Available	Not Available	
M Condensible (< 1 Micron)(PM-CON) rocess CC Code  Material Processed eriod Start Throughput otal lot Applicable Operational Schedule	Not Available Secondary Process Not Applicable 1/1/2016	Not Available  Summer %	Not Available  Period End  Fall %	Not Available  12/31/2016  Winter %	Spring %

Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	II Ant Applicable	INOCAPPIICABIE	[NOT Аррисавіе		
		11			
Heat Input Not Applicable		Heat Output		Heat Values Convent	ion
Emissions		Not Applicable		Not Applicable	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
D	Description	1/2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	A RESIDENTIAL PROPERTY.	Туре	Apportion %
.2	Coal Storage Pile			Fugitive	100
		Polon	se Point 12	I agitive	
> Specifications		itelea.	SE FOIIIL 12		
D	12		Туре	Fugitive	
Description	Coal Storage Pile	<del></del>	likhs	Fugitive	· .
> Stack Parameters	reconstolage rile				
	Short Diameter (ft)	Fuit Con Town IF			
tack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	ctm)
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Geographic Coording					
atitude	63.854556	Longitude	-148.946703	Datum	World 1984
Base Elevation	1,260	Accuracy	1		
Description	None				
Data Source	Engineering Estimate				

		Emiss	ion Unit 13				
> Specifications							
ID	13		Design Capacity	264 HORSEPOWER			
Description	Firewater Pump Engine			<u></u>			
Manufacturer	Caterpillar		Manufactured Year	1997			
Model Number	3406B		Serial Number	6TB14931			
> Regulations							
Regulation/Description	Balling and the						
40 CFR 63 Subpart ZZZZ		·	4	4			
> Control Equipment							
Capture Efficiency (%)	Not Applicable				2,		
System Description	Not Applicable				<del></del>		
Equipment Type(s)	Not Applicable			·			
> Pollutants Controlle							
Pollutant Description				Reduction Efficiency (	2/1		
Not Applicable				Not Applicable	/6)		
> Processes			***************************************	INOT Applicable			
	Daimani Duasasa						
Process SCC Code	Primary Process 20200102			<del></del>	<del></del>		
occ code	> Internal Combustion Eng	iner	<u></u>	·			
	> Internal Compustion Eng	ines					
	> Distillate Oil (Diesel)						
	> Reciprocating						
Material Processed	Distillate Oil		·				
Period Start	1/1/2016	·	Period End	12/31/2016			
Throughput	11/1/2010		renou chu	12/31/2010			
Total		Summer %	Fall e/	100-40/	le		
84	gallons	25	Fail %	Winter %	Spring %		
Operational Schedule	Iganons	]25	]25	25	25		
	17.		T. I				
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
0.005	0.02	0.04	6				
Fuel Characteristics							
Heat Content (Btu/gal)	Elem. Sulfur Content (wt.	H2S Sulfur Content	Ash Content				
	pct. S)		(wt. pct. ash)	S BM SPACE BY ASI			
138,222	0.0015	Not Available	Not Available				
Heating							
Heat Input (MMBtu/hr)		Heat Output (horsepov	ver)	Heat Values Convention	on		
2		264		нну			
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	6.68E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	0.01		
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available		
Nitrogen Oxides(NOX)	0.031	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	0.02		
PM10 Primary (Filt +	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	0.00		
Cond)(PM10-PRI)	2.21.03	T COMDS	HORSEFOWER-HOOK	AF-42 Table 3.3-1	0.00		
PM2.5 Primary (Filt +	Not Available	Not Available	Not Available	Not Available	Blat Aveilable		
				INULAVANADIE	Not Available		
Cond)(PM25-PRI)	- Tot Handse		Tot Ataliante				
Sulfur Dioxide(SO2)	2.05E-04	POUNDS	GALLON	Mass Balance	0.00		
Sulfur Dioxide(SO2)	2.05E-04	POUNDS	GALLON				
Sulfur Dioxide(SO2) Volatile Organic				Mass Balance AP-42 Table 3.3-1	0.00		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC)	2.05E-04 2.51E-03	POUNDS	GALLON				
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1	2.05E-04 2.51E-03	POUNDS POUNDS	GALLON HORSEPOWER-HOUR	AP-42 Table 3.3-1	0.00		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON)	2.05E-04 2.51E-03 Not Available Not Available	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	2.05E-04 2.51E-03 Not Available Not Available Secondary Process	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	2.05E-04 2.51E-03 Not Available Not Available Secondary Process Not Applicable	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	2.05E-04 2.51E-03 Not Available Not Available Secondary Process Not Applicable Not Applicable	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	2.05E-04 2.51E-03 Not Available Not Available Secondary Process Not Applicable Not Applicable Not Applicable	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process	2.05E-04 2.51E-03 Not Available Not Available Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		
Cond)(PM25-PRI) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds PM Condensible (< 1 Micron)(PM-CON) Process SCC Code  Material Processed	2.05E-04 2.51E-03 Not Available Not Available Secondary Process Not Applicable Not Applicable Not Applicable	POUNDS POUNDS Not Available	GALLON HORSEPOWER-HOUR Not Available	AP-42 Table 3.3-1 Not Available	0.00 Not Available		

Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	<del></del>	Inocrappicable	INOC Applicable	[NOT Applicable	1Not Applicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period	и по в предоставления в предоставления в предоставления в предоставления в предоставления в предоставления в п	The second second second
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics		1100110	receppicable		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	1011
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	пот Аррисавіе	Not Applicable
PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI)			Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)					Mot Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1					
Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
> Release Points					
D	Description		Peners and Administration (Co.	Type	Apportion %
13	Firewater Pump Engine			Horizontal	100
	I we water to unip engine	Dalas	se Point 13	Inonzontar	1100
		Kelea	ise Point 13		
> Specifications					
ID	13		Туре	Horizontal	
Description	Firewater Pump Engine				
> Stack Parameters					
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
10	1	300	90	283	
Seographic Coordina					
Latitude	63.854956	Longitude	-148.951181	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Description	None				
Data Source	Engineering Estimate		·	-	

Hours by Season (%)	-	www.er	13.6	176 775 4.0	2 299		25.0	0.55	Coal Consumetion by Season (%)	fall Whiter Cecins	300	200		Density Avg. Density	1	0.8538	0.8538	0.8532	0.8534	0.8050	0.8050	_	05080	0.8048	0.8049	0.8032	20000														
	Summer	Summer 35 p	97.0			35.8	25.0			Summer	21.0			Date		6/8/2016	6/8/2016	6/8/2016	9/8/2018	10/19/2016	10/13/2016	10/23/2016	10/24/2016	10/25/2016	10/28/2016	10/31/1016	0/37/7018														
4	E 50	u	, ,	. 8	6	10	13			EV ID	11 and 12				adá i ana			1			5		L	1 1		1															
_	T	Ī,	1 0	ıle	مرا			1	_			-															_														
	Total	627.63	243 588	35.817	27.775	,	84																																		
	200	5 463	30000	13	16.942		7			Total	164,044	32,956	197,000													Average	138,222		Total	8,021	39	8,060	1,283	1.375	999	276		1,211		49	1,374
	Nov	37 888	25 120	2.153	10,734		7			Dec	14.081		14,081													Dac	138,365		Dec			739		1.	0	214		88		,	. 112
	to o	17 573	109.124	971	,	,	7			Nov	12.602		12,602	MANARes.		11,439.7	2,351,862.0	73,569.2	413,130.4							Nov	138,252		Nov			698		34	40	8		16			. %
	Seo	7 243	502	1,462			7			250	15.434	-	15,434	Final Tume	201	†	Coal	ופות	i	And and the facts	School (W.	30.74				100	138,627		001			743		208	93		,	105		,	208
18)	Aue	698			,		7			Sep	14.722	-	14,722	in Cities	t		+		$\left  \right $	1 80.2		╀					Н					200		-	26			98		-	a (2
Fuel Consumption (gallons)	¥	820			,		7			H	128		15,881			-		2			Fuel Tone	Coal				Sen	Ï		Sep			744			  -			176			00.00
Fuel Consur		E 8	L				7		ption (tons)	Aug	15,522 15,		15,522 15,	Γ	Ţ		18.9	80	0 0	2 2 8	4 6	25.0	]		Btu/eat)	Aur	F	Hours	Aug			743		-		,		181		,	
	A Jun		L				7		Coal Consumption (tons)	To Just	11,818 15		11,818 15,	(30)	-	2	0.0		93.1		61.0				Fuel HHV (Btu/raf)	TOT	137,960 137,794	Operating Hours	Pref			720					_	76		_	
	r May	929	L	25,763			7			y Jun	75		13,775 11,	nee by Seasor	1 1	T WHITE	95.1			17.8						H	Н		y Jun			2/2		-			_	71		,	
	Apr	362	L		L		7			May	564	L	3,264 13	Fuel Us	Г	Τ.	0.1		 	  -		25.0				May	H		May		-	187		-	503		_	18		,	
	Mar	1.090	L	L	,		7			Apr	L	2,280			_	Summer		1	-		-					Apr	H		Apr			675		29		2		76		2	5 29
	- F		ľ							Mar	15,350		17,629		Fuel Type	25 11	100	dSin	Coal	dSTI	OSJN	OSTO				Mar	138,633		Mar												
	Jan	1,178	57,708	330			7			Feb	15,237	21,018	36,255		EUD		1		2	F.	4	2				윤	138,705		Feb			969		629		,		103		25	659
File! Tyrae	add i and	ulsb	ULSD	กเรอ	กเรอ	ULSD	ULSD			Jan	16,359	9,659	26,018	_									•			Jan	138,698		Jan			739 (		406	9			131		19	406
Description	reaction of	Unit 1	Unit 2			enerator	Firewater Pump		Description	in the second second	Unit 1	Unit 2	Total		Coal Properties	Fuel HHV (Btu/lb)	7 158	7.187	Ash (wt. %)		6.47	Sulfur (wt. %)	0.152	0.129		Loci iype	urso	Description		Unit 1 Coal	Unit 1 Oil	Unit 1 Total	Unit 2 Oil	Unit 2	Auxiliary Boller 1	Auxiliary Boller 2	Diesel Electric Generator	Crusher		Lime Storage Silo	Lime Storage Silo Flyash Storage Silo
EU ID	2	-	2	3	4	П	13		G	2	-	2			E0 ID		-	2			2		1	2				EUID			٠		7	_	П	П	П	9	Ì	П	7 88

2016 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Pι	ıb]	lic	N	<u>oti</u>	ce	D	rai	<u>t</u>	
	2016 Actual PM	Emissions		2.35 tpy 1	0.61 tpy 1	0.06 tpy 1	2.35 tpy	0.61 tpy	0.06 tpy
		2016 Actual Operation			788 VMT		Total PM Emissions	Total PM <sub>10</sub> Emissions	Total PM <sub>2.5</sub> Emissions
	- Contractor Pander	Emission ractor		5.97 Ib/VMT	1.54 Ib/VMT	0.15 Ib/VMT			
,	- Contraction	Emission		PM	PM <sub>10</sub>	PM <sub>2.5</sub>			
		racior kelerence			AP-42, Section 13.2.2				
	Emission Unit	Description			Coal Haul - Unpaved Portion				
		QI			7				

Notes: <sup>1</sup> Coal Haul Road

Unpaved Road Emission Factor AP-42, Section 13.2.2, Equation 1a:  $E \left( \begin{array}{c} lb \end{array} \right) = \frac{1}{L} \left( \begin{array}{c} S \end{array} \right)$ 

PM <sub>2.5</sub>	0.15 from AP-42, Table 13.2.2-2	5.1 percent, from AP-42, Table 13.2.2-1	167.5 tons, estimate - average of full (230 ton) and empty (105 ton) truck	0.9 from AP-42, Table 13.2.2-2	0.45 from AP-42, Table 13.2.2-2	0.42 Ib/VMT	50% assumed control effiency for water	0.21 Ib/VMT
PM <sub>10</sub>	1.5	5.1	167.5	6.0	0.45	4.24	20%	2.12
PM	4.9	5.1	167.5	0.7	0.45	16.45	%09	8.23
MT/ "(12) (3)	<u> </u>	s = surface material silt content (haul road)	W = mean vehicle weight	a (empirical constant)	b (empirical constant)	E (uncontrolled) =	Efficiency =	E (controlled) =

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

$$E_{ext} = E\left(\frac{365 - P}{365}\right)$$

 $E_{\rm ext} = {
m annual \ size-specific \ emission \ factor \ extrapolated \ for \ water \ mitigation, \ Ib/VMT$ 

E = emission factor from Equation 1a P = number of days in a year with at least 0.01 inches of precipitation

	Ib/vMT
PM <sub>2.5</sub>	0.15
PM <sub>10</sub>	1.54
PM	5.97
	E (controlled) =

2016 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Coal Throughput	
Unit 1 actual coal throughput	164,044 tons
Unit 2 actual coal throughput	32,956 tons
Total potential coal throughput	197,000 tons
Vehicle Miles Traveled (VMT)	
Throughput (tons) $\times$ Roundtrip Distance	$\binom{miles}{trip}$
$Vol 1 = \frac{1}{Haul Truck Capucity \left(\frac{tons}{trip}\right)}$	
Haul truck capacity	125 tons, estimate
Unpaved distance from coal pile to paved road (round trip)	0.50 miles/trip
Unpaved road VMT =	788.00 miles

2016 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

PM		Emission Unit					
Truck Drop Onto Stockpile	O	Description	ractor Reference	Emission	Emission Factor	Actual Operation	Actual PM Emissions
Truck Drop Onto Stockpile							
Truck Drop Onto Stockpile				PM	2.69E-05 lb/ton		2.7E-03 tpv 1
Front End Loader Drop Into Grizzly   PM-2, Section 13.2.4   PM <sub>10</sub>   2.69E-05 lb/ton		Truck Drop Onto Stockpile	AP-42, Section 13.2.4	PM <sub>10</sub>	1.27E-05 lb/ton	197,000 tpy	1.3E-03 tpv 1
Front End Loader Drop Into Grizzly	_1			PM <sub>2.5</sub>	1.93E-06 lb/ton		1.9E-04 tpv 1
Front End Loader Drop Into Grizzly	_			PM	2.69E-05 lb/ton		2.7E-03 tpv 1
Front End Loader Movement - Coal Pile to Grizzly		Front End Loader Drop Into Grizzly	AP-42, Section 13,2,4	PM <sub>10</sub>	1.27E-05 lb/ton	197,000 tpy	1.3E-03 tpv 1
Front End Loader Movement - Coal Pile to Grizzly         AP-42, Section 13.2.2         PM <sub>10</sub> 3.72 lb/VMT           Stockpile Wind Erosion         AP-42, Section 13.2.5         PM <sub>10</sub> 0 g/m²-yr    AP-42, Section 13.2.5  PM <sub>2.5</sub> PM <sub>2.5</sub> PM <sub>2.5</sub> PM <sub>2.5</sub> PM <sub>2.5</sub> PM <sub>2.5</sub> TT	12			PM <sub>2,5</sub>	1.93E-06 lb/ton		1.9E-04 tpv 1
AP-42, Section 13.2.2 PM <sub>10</sub> 1.06 lb/vMT PM <sub>2.5</sub> 0.11 lb/vMT PM 0 g/m²-yr AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr PM <sub>2.5</sub> 0 g/m²-yr T1				PM	3.72 Ib/VMT		1.93 tpv <sup>2</sup>
PM <sub>2.5</sub> 0.11 Ib/VMT PM 0 g/m²-yr AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr PM <sub>2.5</sub> 0 g/m²-yr T		Front End Loader Movement - Coal Pile to Grizzly	AP-42, Section 13.2.2	PIM <sub>10</sub>	1.06 Ib/VMT	1,036 VMT	5.5E-01 tpv 2
AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr PM <sub>25</sub> 0 g/m²-yr T				PM <sub>2.5</sub>	0,11 Ib/VMT		5.5E-02 tpy 2
AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr PM <sub>2.5</sub> 0 g/m²-yr T				PM	0 g/m²-yr		0 tpv 3
0 g/m²-yr T		Stockpile Wind Erosion	AP-42, Section 13.2.5	PM <sub>10</sub>	0 g/m²-yr	10,150 m <sup>2</sup>	0 tpy 3
Total PM Emissions Total PM <sub>0</sub> Emissions Total PM <sub>0</sub> Emissions	$\exists$			PM <sub>2.5</sub>	0 g/m²-yr		0 tpy 3
Total PM <sub>0</sub> Emissions Total PM <sub>0</sub> Emissions						Total PM Emissions	1.94 tpy
Total PM <sub>3</sub> , Emissions						Total PM <sub>10</sub> Emissions	0.55 tpy
			:			Total PM <sub>2.5</sub> Emissions	0.06 tpy

<sup>1</sup> Truck Drop onto Stockpile and Front End Loader Drop to Grizzly Drop Operation Emission Factor: AP-42, Section 13.2.4

 $\frac{k \times 0.0037 \times \left(\frac{U}{5}\right)^{1.3}}{}$  $E\left(\frac{lb}{ton}\right)$ -

AP-42, Section 13.2.4 Per www.ncdc.noaa.gov for calendar year 2016, McKinley Airport ASOS (PAIN) From 2016 coal proximate analyses

miles/hr percent

0.053 3.03 30.74 93E-06

0.35 3.03 30.74 .27E-05

U = mean wind speed M = coal moisture content E =

P

Annual Stockpile Throughput:

32,956 tons 197,000 tons 164,044 tons Unit 1 potential coal throughput Unit 2 potential coal throughput Total potential coal throughput

<sup>2</sup> Front End Loader Movement Coal moved per trip:

Coal Density  $\left(\frac{lb}{f \Gamma^3}\right) \times 27 \left(\frac{f \Gamma^3}{y d^3}\right) \times \operatorname{Rucket. Size(yd^3)}$ 8 yd<sup>3</sup> 50 lb/ft<sup>3</sup> 5.4 tons  $\frac{lp}{ton}$ Size of load bucket Density of coal Cool(tons) = -

Coal moved per trip

Appendix III.K.13.F-485

2016 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

AP-42, Section 13.2.2, Equation 1a: **Emission Factor** 

		from AP-42, Table 13.2.2-2	percent, from AP-42, Table 13.2.2-1	tons, estimate	from AP-42, Table 13.2.2-2	from AP-42, Table 13.2.2-2	Ib/vMT	assumed control effiency for water	IbA/AsT
	PM <sub>2.5</sub>	0.15	8.4	27	6.0	0.45	0.29	%09	0.15
	PM <sub>10</sub>	1.5	8.4	27	6.0	0.45	2.92	20%	1 46
	PM	4.9	8.4	27	0.7	0.45	10.26	%09	5.13
$R = \frac{1}{2} \left( \frac{M}{M} \right)^{n} \left( \frac{S}{S} \right)^{n} \left( \frac{M}{M} \right)^{n}$	" (VMT) " (12) (3)	<b>Y</b>	s = surface material silt content (haul road)	W = mean vehicle weight	a (empirical constant)	b (empirical constant)	E (uncontrolled) =	Efficiency =	= (controlled) =

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Westem Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

 $E_{osc} = E\left(\frac{365 - P}{365}\right)$ 

E<sub>ert</sub> = annual size-specific emission factor extrapolated for water mitigation, IbVMT E = emission factor from Equation 1a P = number of days in a year with at least 0.01 inches of precipitation PM<sub>2.5</sub> PM<sub>10</sub>

1.06

Vehicle Miles Traveled (VMT)

Throughput (tons) × Roundtrip Distance  $\frac{miles}{(trip)}$ Haul Truck Capacity (tons VMT = -

5.4 tons 150 feet 1,036 Coal moved per trip
Approximate distance from coal pile to grizzly (round trip)
WMT = vehicles miles traveled per year

197,000 tons

Total Potential Coal Throughput

AP-42 Section 13.2.5, Equation (2)

Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF Use maximum wind gust speed recorded at McKinley Airport ASOS for each month in 2015 (see table below) k = particle size multiplier (AP-42 Section 13.2.5.3) N = number of disturbances per year P i= erosion potential corresponding to the fastest mile of wind for the ith period between disturbances,  $g/m^2$ 2016 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant Engineering estimate of projected use  $u^*=\text{friction velocity (cm/s)}\\ u(z)=\text{wind speed at height z above test surface (cm/s)}\\ z=\text{height above test surface (cm)}$ 10,150 m<sup>2</sup> u<sub>t</sub> = threshold friction velocity (m/s) Zo = roughness height, cm u\* = friction velocity (m/s) Erosion potential function for a dry exposed surface, P Surface area of active face =  $P = 58 (u^* - u_e^*)^2 + 25 (u^* - u_e^*)$ Friction velocity,  $u^*$   $u^* = \frac{0.4 \times u(z)}{\sqrt{z^{*}}} \quad \text{when } z > z_o$ 10 365 30  $P=0 \text{ for } u^* \leq u_t^*$ AP-42 Section 13.2.5, Equation (1) AP-42 Section 13.2.5, Equation (3) N Z <sup>3</sup> Stockpile Wind Erosion Coal Pile Surface Area Data:

disturbances/year for active face, estimated

average disturbances/month

2016 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions
Golden Valley Electric Association - Healy Power Plant

			•		John Carloy	Colocii vailey Electric Association - Healy Flower Flack	or cleany rou	Vel Flacit						
					Uncrusted Coal Pile b (Table 13.2.5-2)	Coal Pile <sup>b</sup> 3.2.5-2)					Ground Coal* (Table 13.2.5-2)			
Month-Year	Maximum Wind Speed (u(10)) <sup>a</sup>	/ind Speed	Wind Direction	Roughness Height (z <sub>o</sub> )	Threshold Friction Velocity (u <sub>t</sub> )	Calculated Friction Velocity (u*)	Erosion potential function,	Roughness Height (z <sub>o</sub> )	Threshold Friction Velocity (u,)	Calculated Friction Velocity (u*)	Erosion potential function,	g X	*	Emission Factor, EF
	hdm	s/m	deg	cm	m/s	m/s		ш	s/m	m/s				a/m²-vr
Jan-16	31	13.9	206	0.3	1.12	0.68	0	0.01	0.55	0.48	0	0		
Feb-16	29	13.0	197	0.3	1.12	0.64	0	0.01	0.55	0.45	0	c		
Mar-16	56	11.6	194	0.3	1.12	0.57	0	0.01	0.55	0.40				
Apr-16	29	13.0	179	0.3	1.12	0.64	0	0.01	0.55	0.45		0		
May-16	26	11.6	164	0.3	1.12	0.57	0	0.01	0.55	0.40	0	0		
Jun-16	30	13.4	177	0.3	1.12	99.0	0	0.01	0.55	0.47	0	0		
Jul-16	20	8.9	172	0.3	1.12	0.44	0	0.01	0.55	0.31	0	0		
Aug-16	25	11.2	178	0.3	1.12	0.55	0	0.01	0.55	0.39	0	c		
Sep-16	34	15.2	193	0.3	1.12	0.75	0	0.01	0.55	0.53	c	)   0		
Oct-16	30	13.4	194	0.3	1.12	99.0	0	0.01	0.55	0.47				
Nov-16	23	10.3	232	0.3	1.12	0.51	0	0.01	0.55	0.36		,		
Dec-16	31	13.9	224	0.3	1.12	0.68	0	0.01	0.55	0.48				
PM Annual Total											,	,	-	000
PM <sub>10</sub> Annual Total							c				c		- 6	300
PMs. Annual Total							,				>	>	0.0	0.00
									R. Carlotte and St.				0.075	0.00
Post of the same											-			

\* Per www.ncdc.noaa.gov for calendar year 2015, McKinley Airport ASOS (PAIN).

The erosion potential factor for the uncrusted coal pile is zero for all months. Therefore, wind erosion of the uncrusted coal pile is not a significant source of PM emissions.

The erosion potential factor for ground coal is zero for all months. Therefore, wind erosion of the ground coal is not a significant source of PM emissions.



Your Touchstone Energy Cooperative

March 28, 2018

Certified Mail Return Receipt Requested 7017 1450 0000 8485 6095

Alaska Department of Environmental Conservation Air Permits Program ATTN: Molly Birnbaum 410 Willoughby Avenue, Suite 303 PO Box 111800 Juneau, AK 99811-1800

Subject:

Golden Valley Electric Association – Healy Power Plant 2017 Point Source Triennial Emission Inventory

Dear Ms. Birnbaum.

Golden Valley Electric Association (GVEA) is submitting a 2017 Triennial Point Source Emission Inventory for the Healy Power Plant in accordance with Condition 98 (Information Requests) of Air Quality Permit No. AQ0173TVP02 Revision 1.

The 2017 Triennial Point Source Emission Inventory request letter from the Alaska Department of Environmental Conservation (ADEC) to GVEA dated January 31, 2018 mentions both an Excel template and guidance document available on the ADEC website at

http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory. The facility-specific template posted on the ADEC website requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Primary (Filt + Cond)(PM25-PRI); and
- PM Condensable (< 1 Micron)(PM-CON).

The guidance document posted on the ADEC website requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

Public Notice Draft March 28, 2018 ADEC – 2017 Point Source Emission Inventory Page 2

Due to the discrepancies between the excel template and guidance document, GVEA has chosen to report the following PM-related pollutants in the 2017 Triennial Point Source Emission Inventory.

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Primary (Filt + Cond)(PM25-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

If you have any questions or would like any additional information please contact me by phone at 907-458-4557 or by email at <a href="mailto:nmknight@gvea.com">nmknight@gvea.com</a>. The certification from Lynn Thompson, Vice President of Power Supply, follows.

Sincerely,

Naomi Morton Knight, P.E. Environmental Officer

**Enclosure** 

## Certification

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.

Sincerely,

Lynn N. Thompson

Vice President of Power Supply

	Stationary Source Detail
Inventory Start Date	1/1/2017
Inventory End Date	12/31/2017
ADEC ID	173
AFS ID	0229000002
Census Area	Denali Borough (068)
Name	Healy Power Plant
Physical Location	Mile 2.5 Healy Spur Rd
	Healy, AK 99743
	Lat 63.85 Long -148.96
	Legal Description: Not available
Owner Name, Address,	Naomi Morton Knight, P.E.
and Contact Number	Golden Valley Electric Association
	PO Box 71249
	Fairbanks, AK 99707-1249
	907-458-4557
Line of Business (NAICS)	221112
Line of Business (SIC)	4911
Facility Status	Operating
Facility Status Year	1967

BENDELLARING		Emiss	sion Unit 01		
Specifications					
ID	01		Design Capacity	327 MILLION BTU PER H	OUR
Description	Unit No. 1		Emission Unit Status	Operating	
Manufacturer	Foster-Wheeler		Manufactured Year	Prior to 1967	
Model Number	Not Applicable		Serial Number	78-266	
Initial Startup Date	Installed November 196	57	Retired Date	Not Applicable	
Regulations					
Regulation/Description				SVGS RESVENIENCENT	
40 CFR 63 Subpart UUUU	IU TO THE RESERVE TO				
Control Equipment			HIS NEW TO BE SHOULD BE SO WATER		
System Description	Low NOx hurners with	overfire air (OFA) Dry Sorh	ent Injection (DSI), and Bagi	house	ACCOUNT SECURIOR SECU
Control Measures/	Low NOx burners with (		ent injection (DSI), and bug	iouse	
Devices		ases including SO <sub>2</sub> and HCl	100 - 100		
		and remove the dry mate	rial generated by the DSI		
Control Efficiency (%)	99.9				
Capture Efficiency (%)	99.9			Maria and a second	
	Particulate Matter	Light of the last		Reduction Efficiency (%)	99.9
Pollutants Controlled	Sulfur Dioxide		the state of the s	Reduction Efficiency (%)	Not Available
	Nitrogen Oxides (NOx)			Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process				
SCC Code	10100224	leaning the street of the		THE CHARLES	na marka
	> External Combustion	Boilers			
	> Electric Generation				
	> Bituminous/Subbitu	minous Coal			
	> Spreader Stoker (Sul		Thin Bulletin		
Material Processed	Coal	181 74 T	L Jane III H		- Indiana and a second
Period Start	1/1/2017		Period End	12/31/2017	
Throughput			)		
Total	TO DESCRIPTION	Summer %	Fall %	Winter %	Spring %
173,463	Tons	18	29	27	26
Operational Schedul			William Control of the Control		
Days/Week	Hours/Day	Weeks/Period	Hours/Period	HERIOGRAPH WARREN	CONTRACTOR DATE:
6	21	46	7,690	- 1	
Fuel Characteristics			Carrier Constant and Carrier Constant	CONTRACTOR ASSESSMENT	
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
MMBtu/ton)	(weight %)	(ppmv)	(weight %)		
14.1	0.122	Not Available	7.010		
Heating			A STREET WATER	Description of the second	
Heat Input (MMBtu/hr)		Heat Output (MMBtu/		Heat Values Convention	
319		Not Applicable	III)	HHV	total a comment of the second
Emissions		delication process	ENVERNMENT DE LES CONTRACTORS	Name of the second state o	ne vericular de composition du
Pollutant	Emission Easter	GC Alvertout a	EE Doromination	EF Course	
Carbon Monoxide(CO)	Emission Factor 130.8	EF Numerator POUNDS	EF Denominator	EF Source	Tons
Ammonia (NH3)	Not Available	Not Available	HOUR Not Available	CEMS Not Available	5.029E+02
litrogen Oxides(NOX)	60.0	POUNDS	HOUR	CEMS	Not Available
PM10 Primary (Filt +	-			CEINIO	2.307E+02
Cond)(PM10-PRI)	0.204	POUNDS	HOUR	CEMS	7.843E-01
PM2.5 Primary (Filt +			+	-	
Cond)(PM25-PRI)	0.204	POUNDS	HOUR	CEMS	7.843E-01
PM2.5 Filterable		· †			
PM25-FIL)	0.204	POUNDS	HOUR	CEMS	7.843E-01
PM Condensible					
PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available
ulfur Dioxide(SO2)	77.1	POUNDS	HOUR	CEMS	2.964E+02
ead and lead compound					
	0.00042	POUNDS	TON	AP-42 Table 1.1-18	3.643E-02
olatile Organic					
compounds(VOC)	0.06	POUNDS	TON	AP-42 Table 1.1-19	5.204E+00
rocess	Secondary Process		Till 153 - (2) - 11 - 11 - 11		
CC Code	10100501	HI FAMILIA DE			
		loilers			
	> External Compustion E				
	> External Combustion E > Electric Generation				
	The same of the sa				

Material Processed	Distillate Oil	ng chiancia			
Period Start	1/1/2017		Period End	12/31/2017	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
34,599	galtons	26	40	15	19
<b>Operational Schedule</b>					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		ALTERNATION FOR THE PARTY OF
0.0	0.0	0.1	15		
Fuel Characteristics					
Heat Content (Btu/1,000	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	DOZADOS DE OLIVENJA JE INC.	PERSONAL PROPERTY.
gal)	(weight %)	(ppmv)	(weight %)		
137	0.0015	Not Available	Not Available	THE POSITION OF	
Heating					
Heat Input (MMBtu/hr)	THE THE PARTY OF THE PARTY OF	Heat Output (MMBtu/	hr)	<b>Heat Values Convention</b>	
319		Not Applicable		HHV	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	8.650E-02
Ammonia (NH3)	0.011	POUNDS	MILLION BTUS	Engineering Test	2.598E-02
Nitrogen Oxides(NOX)	24	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	4.152E-01
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	3.979E-02
PM2.5 Primary (Fift + Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	2.681E-02
PM2.5 Filterable (PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	4.325E-03
PM Condensible (PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	2.249E-02
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	3.548E-03
Lead and lead compounds	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	1.557E-07
Volatile Organic Compounds(VOC)	0.2	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	3.460E-03
Release Points		E SECTION OF THE			Bellet Programme Comment
D	Description			Туре	Apportion %
01	Unit No. 1			Vertical	100
		Relea	se Point 01		
Specifications					
D	01		Туре	Vertical	
Description	Unit No. 1		The Bld of	de la companya di mangana	
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	bosticalitatiga (javonio
122	85	294	58	135,460	
Geographic Coordinat	e				
Latitude	63.854831	Longitude	-148.950006	Datum	NAD 1983
Base Elevation	1.260	Accuracy	1	- 40400	ILAND TARA
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Source Test				***

		Emiss	sion Unit 02		
Specifications					
ID	02		Design Capacity	658 MILLION BTU PE	R HOUR
Description	Unit No. 2		Emission Unit Status	Not Operating	KIIOOK
Manufacturer	TRW		Manufactured Year	1996	
Model Number	Not Applicable		Serial Number	1	
nitial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description	TOP TO THE PARTY OF THE			THE WAY IN COMMON AND REAL PROPERTY.	
40 CFR 60 Subpart Da, 40	CFR 63 Subpart UUUUU				
Control Equipment			Pinera manduken kan	HE WEST OF THE STREET	SANTONIA SALOS DISCHAR
System Description	Spray Dry Absorber (SD	A) and Raghouse	SELECTED SET ATTE SECRET ASSOCIATION AND A		
Control Measures/		ases including SO2 and HC			N
Devices		and remove the dry mate			PH 134
Control Efficiency (%)	100	and remove the dry mate	nai generated by the 3DA		
Capture Efficiency (%)	100				
THE WATER CONTRACTOR OF THE PARTY OF THE PAR	Particulate Matter			Reduction Efficiency	(%) 99.95
Pollutants Controlled	Sulfur Dioxide			Reduction Efficiency	
Processes					TELL STATE OF THE
Process	Primary Process		and the second s	remailment and selections	
SCC Code	10100221				
	> External Combustion I	Roilers			
	> Electric Generation			HIET OF COMME	
	> Bituminous/Subbitur	ninous Coal			
	> Pulverized Coal: Wet				MINE TO THE RESERVE OF THE PERSON NAMED IN COLUMN TO THE PERSON NA
Material Processed	Coal				
Period Start	1/1/2017	1031 11 11 11 11	Period End	12/31/2017	
Throughput					A MARCHES OF SERVICE STREET
Total		Summer %	Fall %	Winter %	Spring %
n	tons	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule			INOT Applicable	Into Applicable	INOT Applicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	A STATE OF THE PARTY OF THE PAR	
Fuel Characteristics	(NOT Applicable	Inot Applicable	INOT Applicable		THE WAR SANCES WERE VEGOVER OF THE
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(MMBtu/ton)	(weight %)	(ppmv)	(weight %)	The second second	
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)	THE RESERVE OF THE PARTY OF THE	Heat Output (MMBtu/	hr I The Software No. 10 Leville	Heat Values Convent	tion
Not Applicable	THE RESERVE AND ADDRESS OF THE PERSON OF THE	Not Applicable		HHV	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI)			· · · · · · · · · · · · · · · · · · ·	. Tot repared to	Tot Applicable
PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI)					
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM25-FIL)					приновие
PM Condensible	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
/olatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Process	Secondary Process	المتناق بولند			
SCC Code	10100501				
	> External Combustion E	oilers		10/07/1	
	> Electric Generation	Marian -			
	> Distillate Oil - Grades	1 and 2			
	> Boiler				
Material Processed	Distillate Oil				

Total	THE PROPERTY OF SELECTION	Summer %	Fall %	Winter %	Spring %
0	gallons	25	25	25	25
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period	A Very Walley A - Mark	
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		Maria District Wash
(Btu/1,000 gal)	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Available	Not Available		n.
Heating					445 431 48045 AVE
Heat Input (MMBtu/hr)	nos has a magazinas s	Heat Output (MMBtu/	hr) (The explored worth to the	Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	aon accessor
Emissions		Mark The Park State of the Park		ATTENDED TO THE PERSON OF THE	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +					
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +	N-A A	No. A continue			
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Alex Applicable	Alex Applicable	Nan Assallantia	N-A A	
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible	Not Applicable	Net Applicable	Net Applieshie	Net Ameliaskia	New Amelia - 4:4:
PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
William Control of the Control	- repplicable	THE Applicable		110t Applicable	Not Applicable
/olatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)			- Tot Applicable	or ubburease	110t Applicable
Release Points					
D. Harry March Co., Bridge Co.	Description			Туре	Apportion %
)2	Unit No. 2	11 11 11 11 11		Vertical	100
		Relea	se Point 02		
Specifications					
D	02	A STATE OF THE OWNER OWN	Туре	Vertical	
Description	Unit No. 2		1 Abc	Actificat	
Stack Parameters					
	Stock Diameter (ft)	Evit Cos Torro (E)	Full Con Malania (f. 1)	Full Con Flow C	
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	ctmj
		208	84.2	253,943	den i areign period i apocar
Geographic Coordinate					
atitude	63.854183	Longitude	-148.951639	Datum	NAD 1983
Base Elevation  Ocation Description	1,260	Accuracy	1		
ACSTION Description	Healy, AK	Retired Date	Not Applicable		

		Emiss	ion Unit 03				
pecifications							
D - State Control	03		Design Capacity	12.554 MILLION BTU PER	HOUR		
Description	Auxiliary Heater No. 1		Emission Unit Status	Operating	THOOK		
Manufacturer	Cleaver-Brooks		Manufactured Year	1967	111		
Model Number	CB 189-300		Serial Number	L-39759	-		
nitial Startup Date	Installed 1967		Retired Date	Not Applicable			
Regulations							
Regulation/Description		avaense van bewer					
O CFR 63 Subpart JJJJJ			AND DESCRIPTION OF THE PERSON NAMED AND DESCRIPTION OF THE PERSON		SANGER CONTRACTOR OF THE CONTRACTOR OF T		
Control Equipment	British and American United	Carlo Company (Com	医外层环状性 化医外层 医毒类 医毒素 医电影				
system Description	Not Applicable		SERVED DESCRIPTION OF THE SERVED SERV				
Control Measures/	Not Applicable		E				
Devices	Not Applicable						
Control Efficiency (%)	Not Applicable						
Capture Efficiency (%)	Not Applicable						
ELECTRIC WEST AND ADDRESS.	Not Applicable			Reduction Efficiency (%)	Not Applicable		
Collutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable		
rocces	INOT Applicable	to vivings a proper singular		Reduction Emclency (%)	INOT Applicable		
rocesses	Indexes 2				AT THE SECOND SERVICE WELL AND ALL		
rocess	Primary Process						
CC Code	10200502	Pallam					
	> External Combustion I	ouie12	A DESCRIPTION OF THE PROPERTY		The second secon		
	> Industrial			- Interval	100000000000000000000000000000000000000		
		> Distillate Oil					
Material Processed	> 10-100 Million Btu/f	SF			_		
	Distillate Oil		lo-t-dr-d	140 (04 (0047			
Period Start	1/1/2017	AND THE RESERVE OF THE PARTY OF THE PARTY.	Period End	12/31/2017	et anno anno anno anno anno anno anno ann		
Throughput	<b>经济运动的经济</b> 自然的经济	至。 程序 计通道 计系统		和任何等的是例析完美和信息企会			
Total		Summer %	Fall %	Winter %	Spring %		
3,962	gallons	25	0	30	45		
<b>Operational Schedule</b>							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
0.2	0.6	1.3	221				
Fuel Characteristics				Carlotterin Carlotte			
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
Btu/1,000 gal)	(weight %)	(ppmv)	(weight %)				
137	0.0015	Not Available	Not Available				
Heating							
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convention			
	I for the later of	Not Applicable	1 111 1	HHV			
Emissions			的复数医动脉 医皮肤	<b>。</b>			
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	2.241E-02		
mmonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available		
litrogen Oxides(NOX)	20	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	8.962E-02		
M10 Primary (Filt +				AP-42 Tables 1.3-2 and			
Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	1.3-7	1.031E-02		
M2.5 Primary (Filt +	4.55	DOLLAIGE.	TUQUETUR	AP-42 Tables 1.3-2 and			
Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	1.3-7	6.946E-03		
M2.5 Filterable							
PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	1.120E-03		
M Condensible	4.2	DOLLNICA	PHOLICANIA A				
PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	5.825E-03		
ulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	9.191E-04		
ead and lead compound	s o						
	٦	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	4.033E-11		
		POUNDS	THOUGH 112 CALL CALL				
olatile Organic	0.24	CASE MI INITED.	THOUSAND GALLONS	AP-42 Table 1.3-3	1.524E-03		
	0.34	POONDS			•		
ompounds(VOC)	0.34 Secondary Process	POONDS					
compounds(VOC) Process		POONDS					
compounds(VOC) Process	Secondary Process Not Applicable	POONDS					
compounds(VOC) Process	Secondary Process Not Applicable Not Applicable	FOUNDS					
Volatile Organic Compounds(VOC) Process CCC Code	Secondary Process Not Applicable	rounus					
Compounds(VOC) Process	Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	1700103					
Compounds(VOC) Process	Secondary Process Not Applicable Not Applicable Not Applicable	FOUNDS					

Throughput Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule		THOU Applicable	INOC Applicable	INOC Applicable	(NOC Applicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period	SECTION AND ADDRESS OF THE PARTY.	
Not Applicable	Not Applicable	Not Applicable	Not Applicable		- 71 a
Fuel Characteristics		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	an company to the second	
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	(br)	Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	alon.
Emissions		Trock Applicable		team of a photosocial	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Fift +	1				
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +					
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable					The Hill Holling
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applies to			1	
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applied to
Compounds(VOC)	LAOC Whhiicanie	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description		ASSENTATION SIATUMBAN	Туре	Apportion %
03	Auxiliary Heater No. 1			Vertical	100
		Relea	se Point 03		ALCO (CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DE LA CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DE LA CALORIDA DE LA CALORIDA DE LA CALORIDA DEL CALORIDA DE LA CALORIDA DE LA CALORIDA DE LA CALORIDA DE LA CALORIDA DEL CALORIDA DEL CALORIDA DE LA CALORIDA DE LA CALORIDA DEL CALORIDA DEL CALORIDA DEL CALORIDA DEL CALORIDA DE
Specifications		NGICE			
ID	03		Туре	Vertical	ON WALLES AND DESCRIPTION
Description	Auxiliary Heater No. 1		likhe	Actrical	
Stack Parameters	promisery reduct 140. 1				elenkan sanaga zaza
	Shark Diameter (61)	Full Con Town (C)			
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	ctm)
85	]1.9	450	21	3,600	
Geographic Coordinat		<b>第三十四年,1987年</b>			
Latitude Table 1	63.854883	Longitude	-148.950131	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate				

	THE REPORTS	Emiss	sion Unit 04		ENGINEERS OF	
Specifications					signal and the state of the sta	
ID	104		Design Capacity	23 MILLION BTU PER HO	HIR	
Description	Auxiliary Heater No. 2		Emission Unit Status	Operating	OIL	
Manufacturer	Cleaver-Brooks		Manufactured Year	1996	·	
Model Number	CBI 100-800-15		Serial Number	OLO94777		
Initial Startup Date	Installed 1996		Retired Date	Not Applicable		
Regulations						
Regulation/Description	CHESTERN OF THE HAZ	Delice Assembly and				
40 CFR 60 Subart Dc and 4	O CFR 63 Subpart IIIII		A STATE OF THE STA		CONTRACTOR DE ANTICO DE CONTRACTOR DE CONTRA	
Control Equipment	in Park Walter					
System Description	Not Applicable	SELECTION OF THE INVESTMENT	SECURITION AND ADDRESS OF THE PARTY OF	AND PROPERTY OF THE PARTY OF TH	ELANONIA DE LA TRANSPORTATION DE LA PROPERTIE	
Control Measures/	Not Applicable					
Devices	Not Applicable					
Control Efficiency (%)	Not Applicable					
Capture Efficiency (%)	Not Applicable					
Deliver to the client of the Paris	Not Applicable			Reduction Efficiency (%)	Not Applicable	
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable	
CONTROL OF CHART OF CONTROL OF	Mot Applicable	erikabil internetini internetini e		[Reduction Efficiency (%)	INOT Applicable	
Processes						
Process	Primary Process					
SCC Code	10200502	Pallara			jt i	
	> External Combustion I	poliers			The state of the s	
	> Industrial					
	> Distillate Oil > 10-100 Million Btu/h					
Material Processed	Distillate Oil					
Period Start	1/1/2017		Davied End	12/21/2017		
	11/1/201/	PRODUCE SINGLE OF THE PROPERTY.	Period End	12/31/2017		
Throughput						
Total	WESTERNEING BROWNING	Summer %	Fall %	Winter %	Spring %	
5,124	gallons	0	0	31	69	
Operational Schedule		MED 1897 1997 1998 1998				
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
0.1	0.3	0.6	93			
Fuel Characteristics	1 10					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
(Btu/1,000 gal)	(weight %)	(ppmv)	(weight %)			
137	0.0015	Not Available	Not Available			
Heating						
Heat Input (MMBtu/hr)	LANGUAGE TENER	Heat Output (MMBtu/	hr)	Heat Values Convention	petitilization propins	
7		Not Applicable		HHV	4	
Emissions					4. 10 10 10 10 10 10 10 10 10 10 10 10 10	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	1.281E-02	
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available	
Nitrogen Oxides(NOX)	20	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	5.124E-02	
PM10 Primary (Filt +				AP-42 Tables 1.3-2 and		
Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	1.3-7	5.893E-03	
PM2.5 Primary (Filt +	4.55	nounies.	THOUGHT	AP-42 Tables 1.3-2 and		
Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	1.3-7	3.971E-03	
PM2.5 Filterable						
(PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	6.405E-04	
PM Condensible	4.0	BOLINES				
PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	3.331E-03	
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	5.255E-04	
ead and lead compounds						
	۲	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	2.306E-11	
/olatile Organic						
Compounds(VOC)	0.34	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	8.711E-04	
rocess	Secondary Process					
	Not Applicable		The second		are a tella Mien	
SCC Code	Not Applicable					
	Not Applicable					
	Not Applicable					
				L-4-4		
Material Processed	Not Applicable					

Total	NUMBER OF STREET	Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Operational Schedule</b>	A CONTRACTOR OF THE SECOND				
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		pm me
Fuel Characteristics				CONTROL OF THE VIEW	
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmy)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	CARDON CERTIFICATION CONTRACTOR	LEY COMPANY OF THE			AUX SUPERIOR DE LA COMP
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	(hr)	Heat Values Convent	ion
Not Applicable		Not Applicable	,	Not Applicable	ion
Emissions		O IN SHARE WE WIND IN CHARLES		I vot Applicable	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +					
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +				К	
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	AL. A. B. L.				
PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible	Not Applicable	Net Applicable	Nan Augliantia	N	
PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
		Hot Whileanie	Hot Applicable	Not Applicable	Mor Applicable
/olatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)	· · · · · · · · · · · · · · · · · · ·		or Applicable	Trot Applicable	Inor Applicable
Release Points					
D	Description	HOUSE ESONS DESIGNA	NO MINERAL MICHAEL	Туре	Apportion %
)4	Auxiliary Heater No. 2			Vertical	100
		Relea	se Point 04		
Specifications					
	04		Туре	Vertical	
	Auxiliary Heater No. 2	40.00	Туре	vertical	
Stack Parameters	munically ricates No. 2	CARSO SHEED AND SPACEN		TEVER REPORTS OF THE	SSRNE del XIII (File IV/File IVI
			2019年18年11日月1日日日18年1		MARKET AND STATE OF THE STATE OF
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
	1.9	450	25	[4,269	
Geographic Coordinate				(4) And 12 (1) (4) (4)	
	63.854956	Longitude	-148.951181	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
ocation Description	Healy, AK	Retired Date	Not Applicable		

		Emis	sion Unit 05		
Specifications					
ID	los		Design Consults	2.75 MEGAWATTS	WAS INDEXESSED AND
Description	Diesel Generator Engin	e No. 1	Design Capacity Emission Unit Status	Not Operating	
Manufacturer	Electro-Motive Diesel	E NO. 1	Manufactured Year	1967	
Model Number	20-645-E4		Serial Number	67-81-1152	
Initial Startup Date	Installed 1967		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 63 Subpart ZZZZ			Approximate the property of the second	MARKET LE MINE CONTRACTOR	INVANCED WORLD WEEK TO BE
Control Equipment				NUMBER OF STREET	
System Description	Nat Applicable		ADMINISTRAÇÃO DE MONTO DE LA PROPERTA DEL PROPERTA DEL PROPERTA DE LA PROPERTA DEL PROPERTA DE LA PROPERTA DEL PROPERTA DE LA PROPERTA DEL PROPERTA DEL PROPERTA DE LA PROPERTA DE LA PROPERTA DE LA PROPERTA DE LA PROPERTA DEL PROPE	<b>外提供的一种是</b> 的是不是特殊的。	
Control Measures/	Not Applicable Not Applicable				
Devices	Not Applicable				
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
THE RESERVE THE PERSON NAMED IN COLUMN	Not Applicable			Reduction Efficiency (%)	Not Applicable
Pollutants Controlled	Not Applicable	Roy De H		Reduction Efficiency (%)	Not Applicable
Processes	Mot Applicable		in the substitution of the	Reduction Entitlerity (78)	Hot Applicable
The state of the s	Drimany Deces		CONTRACTOR OF THE PROPERTY OF THE PARTY OF T	en manet envolversamble variableb	eserchanicambianum it Bartani
Process SCC Code	Primary Process 20100102				
occ code	> Internal Combustion	Enginee			
	> Electric Generation	riigii(e)	1 - 100 (1910)		
	> Distillate Oil (Diesel)				
	> Reciprocating				
Material Processed	Diesel				
Period Start	1/1/2017		Period End	12/31/2017	
James State and			JEFFOU ENG	[12/31/201/	AND THE PROPERTY OF THE PARTY O
Throughput	THE PROPERTY OF THE PERSON OF	CHECK TO SERVICE AND SERVICE	le-uv	<b>在3.21的时间3.21</b> 80000000	ACCORDANGE OF THE ACCORDANGE O
Total	And British and Andrews Spines	Summer %	Fall %	Winter %	Spring %
	gallons	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedul		SEALWRINGERS (1997)	<b>化原则证明的股份的原则的</b>	2016年1月2日 1月1日 1月1日 1月1日 1月1日 1月1日 1月1日 1月1日	<b>以他的智能的思想。</b>
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(Btu/1,000 gal)	(weight %)	(ppmv)	(weight %)	Manager Standard Contains	
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)		Heat Output (Megawa	itts)	Heat Values Convention	
Not Applicable		Not Applicable	The state of the s	HHV	
Emissions					
Pollutant	<b>Emission Factor</b>	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +					
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +	Net Applies his	Net Appli	Nat Amelia da	Nas Amelia Li	01-04 0 II 1 1
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Net Applies !-	Net Applicable	No. A	At-A A	Atas Analia II
PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible	Nat Applicable	Nat Ameliant	No. A	A1 - A	01-0-0
PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
/olatile Organic	Not Applicable	Not Applicable			VIII
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compound	s Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
				rippinante	John Capie
Process	Secondary Process				
CC Code	Not Applicable		134-315-11	Teller of the state of the stat	UI TO THE WAY
A PERSONAL PROPERTY AND ADDRESS OF THE PARTY A	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable Not Applicable				
Material Processed Period Start	Not Applicable		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12/31/2017	

Total	and the second second second	Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule				<b>被复加发出,然后被</b>	
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		SHIP OF STREET, STREET
Fuel Characteristics	With the second second	E PROTEKTI KANDANI			A A STATE OF
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		MSMAUSS (CONTINUE
Several participation of the second	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	THE RESERVE OF THE PARTY OF THE	
Heating	2080.057.05% (58.05%)	<b>建粉在集山东风水或自身</b> 统			
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	TOIL
Emissions		gorano es es arrigina		A STATE OF THE STA	over a period A 14 oper
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +					
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
D	Description	AND DESCRIPTION OF THE PARTY OF	Constant Constant	Туре	Apportion %
05	Diesel Generator Engine	No. 1		Vertical	100
		Relea	se Point 05		
Specifications					
D	05		Туре	Vertical	
Description	Diesel Generator Engine	No. 1			
Stack Parameters	AKWI KAMENIN KATAN				
itack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
18.25	3.33	950	25	13.180	ciril
Geographic Coordinate			TEN ACTOR TO THE PROPERTY OF THE PARTY.		
Latitude		Longitudo	140 04000C		NAD 1002
Base Elevation	63.855217 1,260	Longitude	-148.948886	Datum	NAD 1983
Location Description	Healy, AK	Accuracy Retired Date	Not Applicable		
ocation Description	neary, AR	Iveruen nare	140f Abblicanie		

Halle of Spirit Burkle		Emiss	sion Unit 06		
Specifications					
ID	06		Design Capacity	400 ton/hr	DWGCAPSIDAESIDAESIAASIASIASI
Description	Crusher System (Dust C	ollector No. 1)	Emission Unit Status	Operating	
Manufacturer	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	885247 (Secondary Crus 844034 (Secondary Crus	•
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	HET NO. 21
Regulations	EAST ASSESSMENT OF THE			THE Applicable	
Regulation/Description					
10 CFR 60 Subpart Y	THE RESERVE AND PROPERTY OF THE PERSON NAMED IN	***************************************	AND	PACKETAL PROPERTY OF THE PACKET OF THE PACKE	AND DESCRIPTION OF THE PARTY OF
Control Equipment	SAN CONTRACTOR STATEMENT	ASSESSMENT AND THE	AND AND DESCRIPTION OF THE OWNER.		in may rather 2 to 9 to 100
	Down Callest and A				
System Description Control Measures/	Dust Collector No. 1			No. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	
	Fabric Filter/Baghouse				
Devices	Block Avelleble				
Control Efficiency (%) Capture Efficiency (%)	Not Available				
apture emclency (%)	Not Available			B 4 - 1 - 545 - 1 - 100	Alex Avelleble
Pollutants Controlled	PM10 Primary (Filt + Co			Reduction Efficiency (%)	Not Available
onutants Controlled	PM25 Primary (Filt + Co			Reduction Efficiency (%)	
	PM2.5 Filterable (PM25	-ril)	PROPERTY OF A PR	Reduction Efficiency (%)	Not Available
rocesses	T-				
rocess	Primary Process		Deals -		
CC Code	30510103	Hall Parti			
	> Industrial Processes				
	> Mineral Products		11 11 101		
	> Bulk Materials Conve	eyors			
	> Coal				
Material Processed	Coal	4 K = 22 H	II A LANGE OF THE STATE OF THE		The Res No. 10
Period Start	1/1/2017	AVII CIM III	Period End	12/31/2017	
Throughput					
Total State of the	A STATE OF THE PARTY OF THE PAR	Summer %	Fall %	Winter %	Spring %
173,463	tons	17	29	29	25
<b>Operational Schedule</b>	<b>机厂、建筑设施设施的</b> 设施		<b>在前分</b> 位于1000年,1000年的	<b>以上,2009年起到1999年</b>	
Days/Week	Hours/Day	Weeks/Period	Hours/Period	HOVE ANY THE RESIDENCE TO BE SELECT	
0.9	3.0	6.6	1,104		
Fuel Characteristics		NEW YORK TO SERVER STORY			SEARCH ENGLISHED
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	A CONTRACTOR OF THE CONTRACTOR	
Total Content	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	i de reponeasie		and replicable		dy to the control of the control of the
		Mack Custows		Island Makes Commention	
feat Input		Heat Output	SALING METERS OF THE PARTY OF T	Heat Values Convention	II N. January B. Walder and K.
Not Applicable	SATERA DE LA SERVICIO DE LA SERVICIONE DE LA SERVICIO DEL SERVICIO DEL SERVICIO DE LA SERVICIO DEL SERVICIO DE LA SERVICIO DEL SE	Not Applicable		Not Applicable	NAME OF THE OWNER OF THE
Emissions		ME TO MAKE THE WAS A SECOND	MENORSHIP BERTHANDA	PRINCIPLE MARKET SERVICE	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
mmonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
litrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
M10 Primary (Filt + Cond)(PM10-PRI)	2.05	POUNDS	HOUR	Permit AQ0173TVP02, Table B	1.131E+00
M2.5 Primary (Fift +	<del> </del>	+	+	Permit AQ0173TVP02,	
	2.05	POUNDS	HOUR	Table B	1.131E+00
Cond)(PM25-PRI) PM2.5 Filterable			<del></del>	Permit AQ0173TVP02,	
PM25-FIL)	2.05	POUNDS	HOUR	Table B	1.131E+00
PM Condensible		+		1 anis p	
	Not Available	Not Available	Not Available	Not Available	Not Available
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Mot Whhileanis	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2)		Not Applicable	Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2) olatile Organic	Not Applicable		î .	<del></del>	
ulfur Dioxide(SO2) olatile Organic ompounds(VOC)	-		Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2) colatile Organic compounds(VOC) ead and lead compounds	Not Applicable Secondary Process		Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2)  colatile Organic  compounds(VOC)  ead and lead compounds	Not Applicable Secondary Process Not Applicable		Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2) folatile Organic compounds(VOC) ead and lead compounds	Not Applicable Secondary Process Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable
ulfur Dioxide(SO2)  colatile Organic  compounds(VOC)  ead and lead compounds	Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable
PM-CON) iulfur Dioxide(SO2) /olatile Organic compounds(VOC) ead and lead compounds /rocess	Not Applicable Secondary Process Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable

Material Processed	Not Applicable				
Period Start	1/1/2017		Period End	12/31/2017	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Operational Schedule</b>					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	The state of the s	
Fuel Characteristics		PALLA COMPANIE LA CALLA	o navare a conservación de especial de		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	nemeshiar navansel	
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input	ANT TO THE THE THE THE	Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead a <mark>nd le</mark> ad compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points			<b>建设置的</b> 基础的		
Disease and the state of the state of	Description		STORE THE SECOND	Туре	Apportion %
06	Crusher System (Dust 0	Collector No. 1)		Downward-facing Vent	100
			se Point 06		
Specifications		rayon the second of the			
David a selli (dilinia)	06		Туре	Downward-facing Vent	
Description	Crusher System (Dust C	ollector No. 1)		V	
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	
l3	3.08	30	27	12.000	NAME OF TAXABLE PARTY OF TAXABLE PARTY.
Geographic Coordinate	A STATE OF THE PARTY OF THE PAR		14.	146,000	Francisco de la composição
Latitude	63.855014	Longitude	-148.949925	Datum	NAD 1003
Base Elevation	1,260	Accuracy	1	Datum	NAD 1983
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate	Ivenied pare	Not Applicable		

		Emiss	ion Unit 07			
Specifications						
D	07		Design Capacity	314 tons		
Description	Limestone Storage Silo		Emission Unit Status	Not Operating		
Manufacturer	Not Available		Manufactured Year	Not Available		
Model Number	Not Available		Serial Number	Not Available		
nitial Startup Date	Installed 1996		Retired Date	Not Applicable		
Regulations						
Regulation/Description	Wilder Or we was parts	SAME ASSESSMENT OF SAME	BETAN KAN DA WESTER DIT		HAVISANSINSINSINSINSINSIN	
Not Applicable						
Control Equipment			Karanan menangkan kanan	Male will be the contract of the		
system Description	Baghouse	AT MANUAL STRANGERS STRANGERS SERVICE	VOLUMENTON HOMOTORISM AND REAL PROPERTY.	ARIST A SEPTEMBER AND LOCAL DESIGNATION OF THE SECTION OF THE SECT		
Control Measures/	Dust Suppression					
Devices	Fabric Filter/Baghouse					
Control Efficiency (%)	Not Applicable					
apture Efficiency (%)	Not Applicable	The second law			Harain take	
	PM10 Primary (Filt + Co	nd)		Reduction Efficiency (%)	Not Available	
Pollutants Controlled	PM25 Primary (Filt + Co	nd)		Reduction Efficiency (%)	Not Available	
	PM2.5 Filterable (PM25	-FIL)		Reduction Efficiency (%)	Not Available	
rocesses						
rocess	Primary Process			THE PARTY OF THE P		
CC Code	30510205					
	> Industrial Processes	De Hillian I		10000000		
	> Mineral Products			والمراب فالمحارب ومعمق	والبوا والمراولات	
	> Bulk Materials Storage Bins					
	> Limestone					
Material Processed	Limestone					
Period Start	1/1/2017		Period End	12/31/2017		
Throughput				<b>为作者性别是否因是是为</b> ,但是独	LEAR AGAING THE AGAIN	
otal		Summer %	Fall %	Winter %	Spring %	
Vot Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
<b>Operational Schedule</b>						
Days/Week	Hours/Day	Weeks/Period	Hours/Period		Contract to Original	
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
F. 1 Cl.			inot Appacable	the second of th		
Fuel Characteristics			INOT Applicable			
	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	AND RESPONSE VALUE OF THE PROPERTY OF THE PARTY OF THE PA	H2S Sulfur Content	Ash Content			
leat Content	Elem. Sulfur Content (weight %) Not Applicable					
leat Content	(weight %)	H2S Sulfur Content (ppmy)	Ash Content (weight %)			
leat Content lot Applicable Heating	(weight %)	H2S Sulfur Content (ppmy)	Ash Content (weight %)	Heat Values Convention		
leat Content lot Applicable Heating leat Input	(weight %)	H25 Sulfur Content (ppmy) Not Applicable	Ash Content (weight %)	Heat Values Convention Not Applicable		
leat Content lot Applicable Heating leat Input	(weight %)	H25 Sulfur Content (ppmy) Not Applicable Heat Output	Ash Content (weight %)			
leat Content  lot Applicable  Heating leat Input lot Applicable  Emissions	(weight %)	H25 Sulfur Content (ppmy) Not Applicable Heat Output	Ash Content (weight %)		Tons	
Heat Content Not Applicable Heating Heat Input Not Applicable	(weight %) Not Applicable	H25 Sulfur Content (ppmy) Not Applicable Heat Output Not Applicable	Ash Content (weight %) Not Applicable	Not Applicable	Tons Not Applicable	
leat Content lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO)	(weight %) Not Applicable  Emission Factor	H25 Sulfur Content (ppmy) Not Applicable Heat Output Not Applicable  EF Numerator	Ash Content (weight %) Not Applicable  EF Denominator	Not Applicable  EF Source		
leat Content lot Applicable Heating leat Input lot Applicable Emissions follutant larbon Monoxide(CO)	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Ammonia (NH3)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable	Not Applicable Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Ammonia (NH3) litrogen Oxides(NOX)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable	H25 Sulfur Content (ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable	Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions follutant larbon Monoxide(CO) ammonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable Not Applicable	
Heat Content  Hot Applicable Heating Heat Input Hot Applicable Emissions Follutant Harbon Monoxide(CO) Harbon Monoxide(CO) Harbon Monoxide(NOX) Harbon Monox	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable  Not Applicable	Not Applicable Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) lond)(PM25-PRI) M2.5 Frimary (Filt + lond)(PM25-PRI)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) M2.5 Filterable PM2.5 Filterable PM25-FIL)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions collutant larbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + cond)(PM10-PRI) M2.5 Primary (Filt + cond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO) mmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON)	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable	
eat Content  ot Applicable Heating eat Input ot Applicable Emissions ollutant arbon Monoxide(CO) mmonia (NH3) itrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) ulfur Dioxide(SO2)	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable	
leat Content  Iot Applicable Heating leat Input lot Applicable Emissions Collutant lear Monoxide(CO) Introduction Monoxide(CO) Introduction Monoxide(CO) Introduction Monoxide(CO) Monomia (NH3) Itrogen Oxides(NOX) Itrogen Oxide(SOZ) Itrogen Ox	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable Not Available Not Applicable	
leat Content  Iot Applicable Heating leat Input lot Applicable Emissions Collutant lear Monoxide(CO) Introduction Monoxide(CO) Introduction Monoxide(CO) Introduction Monoxide(CO) Monomia (NH3) Itrogen Oxides(NOX) Itrogen Oxide(SOZ) Itrogen Ox	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions ollutant arbon Monoxide(CO) Inmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) ulfur Dioxide(SO2) olatile Organic ompounds(VOC)	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	
leat Content  lot Applicable  Heating leat Input lot Applicable  Emissions ollutant arbon Monoxide(CO) mmonia (NH3) litrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) ulfur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compounds	(weight %) Not Applicable  Emission Factor Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable Not Available Not Applicable	
leat Content  lot Applicable  Heating leat Input lot Applicable  Emissions ollutant arbon Monoxide(CO) Inmonia (NH3) Itrogen Oxides(NOX) M10 Primary (Filt + ond)(PM10-PRI) M2.5 Primary (Filt + ond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) Infur Dioxide(SO2) olatile Organic ompounds(VOC) ead and lead compound- rocess	(weight %) Not Applicable  Emission Factor Not Applicable South Applicable Not Applicable South Applicable South Applicable South Applicable South Applicable South Applicable South Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions lollutant larbon Monoxide(CO) Introduction (NH3) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) Luffur Dioxide(SO2) lolatile Organic lompounds(VOC) lead and lead compound rocess	(weight %) Not Applicable  Emission Factor Not Applicable South Applicable Not Applicable Not Applicable Not Applicable Not Applicable South Applicable South Applicable Secondary Process Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions  collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) ulfur Dioxide(SO2) //olatile Organic compounds(VOC) lead and lead compound rocess	(weight %) Not Applicable  Emission Factor Not Applicable South Applicable Not Applicable Not Applicable Not Applicable Not Applicable South Applicable South Applicable South Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions  collutant larbon Monoxide(CO) litrogen Oxides(NOX) M10 Primary (Filt + lond)(PM10-PRI) M2.5 Primary (Filt + lond)(PM25-PRI) M2.5 Filterable PM25-FIL) M Condensible PM-CON) ulfur Dioxide(SO2) //olatile Organic compounds(VOC) lead and lead compound rocess	(weight %) Not Applicable  Emission Factor Not Applicable Source Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	
leat Content  lot Applicable Heating leat Input lot Applicable Emissions	(weight %) Not Applicable  Emission Factor Not Applicable South Applicable Not Applicable Not Applicable Not Applicable Not Applicable South Applicable South Applicable South Applicable Not Applicable Not Applicable Not Applicable	H25 Sulfur Content (ppmy) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Ash Content (weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable Not Available Not Applicable Not Applicable	Not Applicable Not Available Not Applicable Not Applicable	

Public Notice Draft

Period Start	1/1/2017		Period End	12/31/2017	
Throughput	Value of the Very survey of		是大型的基本。 第二十二章		
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedul		N. C. A. B. B. B. B. B. B. C. A.			
Days/Week	Hours/Day	Weeks/Period	Hours/Period	Vicini Walley Co.	CHANGE SALES STOR
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics		ANY CHARLEST AND A STATE OF THE	图 [4] [4] [4] [4] [4] [4] [4] [4] [4] [4]	AP-IN-SYSTEM FIRST STATES	MARINERO BELEVINOS ROCINOS
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating			A STATE OF THE STA		
Heat Input		Heat Output	MANAGEMENT AND THE STATE OF THE	Heat Values Convention	
Not Applicable	mane de la Prima de la Companya de l	Not Applicable		Not Applicable	
Emissions	Market and the same of the same same same same same same same sam	INOL Applicable		INOT Applicable	
Pollutant	Emission Factor	CC Name and Co.	EC Desembates	Er Course	Total Control of the
Carbon Monoxide(CO)	Emission Factor   Not Applicable	EF Numerator Not Applicable	EF Denominator Not Applicable	EF Source Not Applicable	Tons Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable Not Applicable	Not Applicable	Not Applicable Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable  Not Applicable
PM10 Primary (Filt +	Not Applicable	140t Applicable	Not Applicable	NOT Applicable	Not Applicable
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +		-	····		
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable					
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible				+	
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic				''	
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compound	le Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Ameliants
	13 INOL Applicable	Not Applicable	140t Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Туре	Apportion %
07	Limestone Storage Silo	32-127-04	7 10 140	Downward-facing Vent	100
THE WATER STATE SE	des National State Park	Relea	se Point 07		
Specifications	THE REPORT OF A DIAMETER				
ID	07		Туре	Downward-facing Vent	
Description	Limestone Storage Silo		likhe	Powinatin-jacing Agur	
Stack Parameters	-mestone storage silv		Victoria de la Companya de la Compa		
	Charle Clauseter (C)	For Control of	Cott Control of 1	Euro Con Plant Base 4 of	
Stack Height (ft)	Stack Diameter (ft) 0.91	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	
139		30	[Δ]	800	ECOVERNMENT VIOLENCE HISTORY
Geographic Coordina		Broke the fall of the fall of the			
Latitude	63.854947	Longitude	-148.950628	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate				

医沙里 计图像编制器	Emiss	sion Unit 08	AND THE PERSONS			
	<b>表表示是一种的</b>					
08	THE STATE OF THE PROPERTY OF THE PARTY OF TH	Decign Conneity	670 tons			
				<del></del>		
	<del></del>					
				-		
	HATOS SEALURED DE LA CALLES	BOURSE AND AN ANALYSIS OF		Manager South March 19 (1987) And South South		
	AND DESCRIPTION OF THE PARTY OF	AND DESCRIPTION OF THE PARTY OF	THE RESERVE OF THE PARTY OF THE	THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TO THE PERS		
	CONTRACTOR STREET	Story as the property of the control of the C	TANK (1991)			
Rules let Racheuse	SELECT ENGLY METROPOLICE VICE	ANSION OF VEHICLE AND CONTRACTOR	HER BELLEVILLE VERTALENCE			
	The second second					
	4/ 2/ 2/ 2/					
	nd)		Reduction Efficiency (	%) Not Available		
The Rock of the Party of the Pa	SAVE ATTENDED		Incanction emiciently (	Mary State of the		
Drimany Process	SELECTION AND ACCUSED AND ACCUSED		ASSOCIATION AND PROPERTY OF			
	ring					
		Period End	12/31/2017			
	DE LONG CHENTE LA LINE DE LA CALE		12/31/2017	STEEL THE STEEL STEEL STEEL STEEL		
	Summer %	Eall of	Minton W	Spring %		
Not Applicable				Not Applicable		
	INOT Applicable	INOUAPPIICADIE	Not Applicable	[NOT Applicable		
7	Marke/Period	Marya (Pariod				
			CONTRACTOR DE LO COMPTENZA	HE WAS THE SECOND OF THE SECOND		
Troc Applicable	Menters and a market and and and	INOT Applicable	DATABLE AREA FOR THE STATE OF T			
Elem Culfun Contant	uac cuttur curatur			Marking and other strength of		
A CONTRACT OF STREET OF STREET, STREET	Charles and the contract of th	A STATE OF THE PARTY OF THE PAR				
			MARKET STATE OF THE PARTY OF TH	an length do think lines a		
INOT Applicable	[NOT Applicable		THE RESEARCH WHITE CONTROL OF THE	PARCONING AND ADVANCED OF THE PARCON		
				on		
	[NOT Applicable	Variable Value of the Control of the	Not Applicable	Average and the Average and		
			Participation of the Control of the			
*****				Tons		
				Not Applicable		
			Not Applicable	Not Applicable		
Not Applicable						
Not Applicable						
<del>                                     </del>		<del></del>	<del></del>			
Not Applicable						
1		-	+			
Not Applicable						
<del>                                     </del>		+		9-11-12-11-11-1		
Not Available						
Not Applicable	Not Applicable	Not Applicable				
1-10t Applicable	Luor whbiicapie	INOT Applicable	Not Applicable	Not Applicable		
Not Applicable						
Not Applicable						
Secondary Process						
Secondary Process						
Not Applicable						
Not Applicable Not Applicable						
Not Applicable Not Applicable Not Applicable						
Not Applicable Not Applicable						
	PM25 Primary (Filt + Co PM2.5 Filterable (PM25  Primary Process 30181003 > Industrial Processes > Chemical Manufactur > General Processes > Storage/Transfer Flyash 1/1/2017  Not Applicable  Hours/Day Not Applicable  Elem. Sulfur Content (weight %) Not Applicable  Emission Factor Not Applicable	O8 Flyash Storage Silo Not Available Not Available Installed 1996  Pulse Jet Baghouse Dust Suppression Fabric Filter/Baghouse Not Available Not Available PM10 Primary (Filt + Cond) PM25 Primary (Filt + Cond) PM25 Primary (Filt + Cond) PM2.5 Filterable (PM25-FiL)  Primary Process 30181003 > Industrial Processes > Chemical Manufacturing > General Processes > Storage/Transfer Flyash 1/1/2017  Summer % Not Applicable Not Applicable Not Applicable  Elem. Sulfur Content (weight %) Not Applicable	Flyash Storage Silo Not Available Not Available Installed 1996  Pulse Jet Baghouse Dust Suppression Fabric Filter/Baghouse Not Available PM10 Primary (Filt + Cond) PM25 Primary (Filt + Cond) PM25 Primary (Filt + Cond) PM25 Frimary Fritt + Cond) PM25 Frimary Frocess 30181003 > Industrial Processes > Chemical Manufacturing > General Processes > Storage/Transfer Flyash 1/1/2017  Period End  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable  Elem. Sumrer % Fall % Not Applicable	Design Capacity   570 tons		

Period Start	1/1/2017		Period End	12/31/2017	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		24 5 7 3 50 60 / SULE
Not Applicable	Not Applicable	Not Applicable	Not Applicable	The state of the s	
Fuel Characteristics			SEVERAL DESIGNATION OF THE PROPERTY OF THE PRO		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	Maria Dalla de la compania	
inship to the later of	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output	AVERS SHEW YOURS	Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI)	Mot Applicable	Troc Applicable	ног Аррисаріе	Not Applicable	Not Applicable
PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI)	riphuranie		not Applicable	Tot Applicable	Mor Wholicapis
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
(PM25-FIL)				ecuppiicubic	1404 Whiteanie
PM Condensible	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)					
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points				E EFERCY MENTER	erases on excession of
ID	Description			Tune	Anneal on W
	Flyash Storage Silo			Type Horizontal	Apportion %
MARKET PARKET	ir ryaan atorage and	in the same of the	an Daint OO	Inouronrai	1100
		Kelea	se Point 08		
Specifications					
D and the state of the	08	All Figure	Туре	Horizontal	
Description	Flyash Storage Silo	71			THE IN
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
100	0.91	30	128	5,000	
Geographic Coordinate					
Latitude	63.855036	Longitude	-148.951444	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Location Description	Healy, AK	Retired Date	Not Applicable	T-T-Timenor	
Data Source	Engineering Estimate				

		Emiss	sion Unit 09			
Specifications					Valve din State	
D CONTRACTOR OF THE CONTRACTOR	09		Design Capacity	50 tons		
Description	Sodium Bicarbonate Ha	ndling System	Emission Unit Status	Operating		
Manufacturer	Not Available	numg system	Manufactured Year	Not Available		
Model Number	Not Available		Serial Number	Not Available		
nitial Startup Date	Installed 1998					
	Illistatieu 1338	REMINDARY WHILL THE RESERVE HAVE BEEN DRAWN	Retired Date	Not Applicable	FAILTEN ASSEMBLE VIOLENCE	
Regulations	的自由自身的政治的自身的		<b>从</b> 上的自己是的。这是是这些人的任何。	Say Shugging Market		
Regulation/Description	COLUMN TO THE REPORT OF THE PARTY OF THE PAR					
40 CFR 60 Subpart OOO						
Control Equipment						
System Description	Horizon System 58-SF-1	6 Style II Pulse Air Baghous	ie			
Control Measures/	Fabric Filter/Baghouse				- 1 - 12 - 14 - 14 - 14 - 14 - 14 - 14 -	
Devices			Water	3 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,01	
Control Efficiency (%)	Not Available					
Capture Efficiency (%)	Not Available					
EN WAS RESUMNED	PM10 Primary (Filt + Co	nd)		Reduction Efficiency (%)	Not Available	
Pollutants Controlled	PM25 Primary (Filt + Co			Reduction Efficiency (%)	Not Available	
	PM2.5 Filterable (PM25			Reduction Efficiency (%)	Not Available	
Processes	Market Brown Control of the Control	BINGON BARBAR MEMBER	ENVENERAL SERVICE AND SERVICE	Introduction Findiculty (70)	Constitution Const	
	Original Property of the Control of					
rocess	Primary Process			The state of the s		
SCC Code	30181003			FILE STATE OF THE		
	> Industrial Processes					
	> Chemical Manufactur	ing				
	> General Processes					
	> Storage/Transfer					
Material Processed	Sodium Bicarbonate					
Period Start	1/1/2017		Period End	12/31/2017		
Throughput						
otal		Summer %	Fall %	Winter %	Spring %	
lot Applicable	Not Applicable	26	0	10	64	
<b>Operational Schedul</b>				<b>"国际"</b> 从作从世中宣传程序在影响		
Days/Week	Hours/Day	Weeks/Period	Hours/Period		THE COURSE SAID BOX TO THE	
) ays/ week	O O	0	39	Many and the state of the state	SHORIUMAN SHOOT CONTINUE	
	NEW SECOND OF THE PARTY OF THE	Kewesoms and as any or mise and any	SIGNATURE CONTROL OF THE SECOND SECON	AND SHARE AND SHARE SHEET AND SHEET	Castriano Nasobilista Castriano.	
Fuel Characteristics		生活体的医生产系统 自己的 医内内 医皮肤	COMPANY TO A STREET OF THE STREET	ESTATEMENT FOR CONTRACT AND DESCRIPTION		
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ppmv)	(weight %)			
iot Applicable	Not Applicable	Not Applicable	Not Applicable	DI FINA		
Heating				· 斯里德爾斯特斯特 海绵 医皮肤		
leat Input		Heat Output		Heat Values Convention		
lot Applicable		Not Applicable		Not Applicable		
Emissions		The state of the s				
ollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
arbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable		Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable		Not Applicable		
litrogen Oxides(NOX)	Not Applicable					
	Mor Abblicable	MOT APPIICABIE	Not Applicable	Not Applicable	Not Applicable	
M10 Primary (Filt +	0.02	GRAINS	DRY STANDARD CUBIC	Design Specifications	1.478E-03	
ond)(PM10-PRI)	<del>-</del>	<del></del>	FOOT			
M2.5 Primary (Filt +	0.02	GRAINS	DRY STANDARD CUBIC	Design Specifications	1.478E-03	
ond)(PM25-PRI)			FOOT	- asign specimentons		
M2.5 Filterable	0.02	GRAINS	DRY STANDARD CUBIC	Design Specifications	1.478E-03	
PM25-FIL)		SIMILES	FOOT	Design Specifications	1.4/0E-U3	
M Condensible	Not Available	Not Available	Not Available	Alex Avellekts	Alex Aveilett	
PM-CON)	Not Available					
	Not Applicable					
ulfur Dioxide(SO2)					17	
		Not Applicable	Not Applicable	Not Applicable	Not Applicable	
olatile Organic	Not Applicable	1		<del>                                     </del>		
olatile Organic compounds(VOC)		Not Applicable	Not Applicable	Not Applicable	Not Applicable	
olatile Organic compounds(VOC) ead and lead compound	s Not Applicable		Not Applicable	Not Applicable	Not Applicable	
olatile Organic ompounds(VOC) ead and lead compound rocess	s Not Applicable Secondary Process		Not Applicable	Not Applicable	Not Applicable	
olatile Organic compounds(VOC) ead and lead compound rocess	s Not Applicable Secondary Process Not Applicable		Not Applicable	Not Applicable	Not Applicable	
olatile Organic compounds(VOC) ead and lead compound rocess	s Not Applicable Secondary Process Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable	
olatile Organic ompounds(VOC) ead and lead compound rocess	s Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable	
olatile Organic ompounds(VOC) ead and lead compound rocess	S Not Applicable  Secondary Process  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable		Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)  /olatile Organic Compounds(VOC)  Lead and lead compound  Process CCC Code	s Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable		Not Applicable	Not Applicable	Not Applicable	

Period Start	1/1/2017		Period End	12/31/2017		
Throughput				NATIONAL PROPERTY OF THE PARTY		
Total	A PART OF SERVICE A	Summer %	Fall %	Winter %	Spring %	
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Operational Schedul	e	NEWSCHIED WARE	MEEN THE THE THE TANK OF THE	Committee to the second		
Days/Week	Hours/Day	Weeks/Period	Hours/Period	SHE STREET, SOME		
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
<b>Fuel Characteristics</b>						
Heat Content	Elem. Sulfur Content (weight %)	H2S Sulfur Content	Ash Content (weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable		Sections that and ellipself-draft	
Heating						
Heat Input	Avanca de Mariana	Heat Output	Marketon Marketon Children	Heat Values Convent	an ( )	
Not Applicable		Not Applicable	TALL TO AN IN BUILDING	Not Applicable	IVII MANUSIONE MANUSINE MANUSI	
Emissions	The Aleston of the Religion		Tell teles and the same	HELES AND		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Filterable (PM25-FIL)	_				72 (11)	
PM Condensible (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compound	S Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Release Points					Charles The Street Con-	
ID	Description		MANAGEMENT OF THE PERSON	Туре	Apportion %	
09	Sodium Bicarbonate Ha	andling System		Downward-facing Ve		
			se Point 09	DOWN THE REAL PROPERTY OF THE PERTY OF THE P		
	EWITH CHILD IN THE STATE OF	nelea	ac rollit 03			
Specifications	Park at the Committee of the					
ID .	09	411	Туре	Downward-facing Ver	nt	
Description Co	Sodium Bicarbonate Ha	indling System		more than the second party of the second		
Stack Parameters						
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	:fm)	
58	0.45	30	46	440		
Geographic Coordina						
Latitude	63.854619	Longitude	-148.950214	Datum	NAD 1983	
Base Elevation	1,260	Accuracy	1			
Location Description	Healy, AK	Retired Date	Not Applicable			
Data Source	Engineering Estimate					

	Emis	sion Unit 10				
			Annia a di cara di cara			
110	EAUMIEMUESEEMUS MARKE	Design Consultation	A C A //-			
	Dust Collector No. 21					
	Dust Collector No. 2)					
	<del></del>					
Tinzraneg 1220		IKETIFED Date	Not Applicable			
TO HE WANTED THE						
		100				
Air-Cure Environmental	, Inc 276RF8 Reverse Pulse	Baghouse				
Fabric Filter/Baghouse	4-31516	1 500,000				
Not Available						
	The state of the second	021000000000000000000000000000000000000	The second second			
	nd)		Reduction Efficiency (%)	Not Available		
		I The second sec				
		CONTRACTOR OF THE PARTY OF THE	incuaction Efficiency (%)	I-AOT WAGIIGHIG		
		MATERIAL SECTION OF THE SECTION OF T				
		*		THE RESERVE OF THE PARTY OF THE		
		ora page 10 kg to 10 kg				
	> Industrial Processes					
	> Mineral Products					
> Bulk Materials Conveyors						
		the think in the	Julie II is			
1/1/2017	4,0.1819	Period End	12/31/2017			
	Summer %	Fall %	Winter %	Spring %		
Not Applicable	17	29		25		
	<b>第三年</b> /罗克·欧洲的		19 15 型 15 15 15 15 15 15 15 15 15 15 15 15 15	programme to the		
	Mooks/Design	Manus (Basins)				
			nemerous production and the second	and the second s		
uraeasinesees saanta et	NAMES OF STREET	1,104	of Wilder and the property of the Conference of	Marethan assumentation		
Tet. 0.16 0		THE PARTY OF THE PARTY.	2.4 风音加速指导的影响影响 新沙克			
A RESIDENCE OF COMMENTS AND ADDRESS OF COMME	THE PERSON NAMED AND ADDRESS OF THE PARTY.	STATE OF THE PROPERTY AND ADDRESS OF THE PARTY				
				Pro distrib		
Not Applicable	Not Applicable	Not Applicable				
	Heat Output	CONTRACTOR OF THE PARTY OF THE	<b>Heat Values Convention</b>	PRESIDENTIAL PROPERTY.		
N-10-10-10-10-10-10-10-10-10-10-10-10-10-	Not Applicable		Not Applicable			
				/Ede Sura Educate Folkstan		
Emission Factor	EF Numerator	FF Denominator	FF Source	Tons		
				Not Applicable		
				Not Applicable		
I uhhueane	1.40r Whileanie	140t Applicable	Permit AQ0173TVP02,	Not Applicable		
				4 0000.00		
3.43	POUNDS	HOUR	· ·	1.893E+00		
	POUNDS	HOUR	Table B	1.893E+00		
	POUNDS	HOUR	Table B Permit AQ0173TVP02,	1.893E+00 1.893E+00		
3.43			Table B Permit AQ0173TVP02, Table B			
3.43			Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02,	1.893E+00		
3.43	POUNDS	HOUR	Table B Permit AQ0173TVP02, Table B			
3.43	POUNDS POUNDS	HOUR	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B	1.893E+00 1.893E+00		
3.43 3.43 3.43 Not Available	POUNDS POUNDS Not Available	HOUR HOUR Not Available	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available	1.893E+00		
3.43 3.43 3.43	POUNDS POUNDS	HOUR	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B	1.893E+00 1.893E+00		
3.43 3.43 Not Available Not Applicable	POUNDS POUNDS Not Available Not Applicable	HOUR HOUR Not Available Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable	1.893E+00 1.893E+00 Not Available Not Applicable		
3.43 3.43 3.43 Not Available	POUNDS POUNDS Not Available	HOUR HOUR Not Available	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available	1.893E+00 1.893E+00 Not Available		
3.43 3.43 Not Available Not Applicable	POUNDS POUNDS Not Available Not Applicable	HOUR HOUR Not Available Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable	1.893E+00 1.893E+00 Not Available Not Applicable		
3.43 3.43 Not Available Not Applicable Not Applicable	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
3.43 3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable Not Applicable Not Applicable	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable	POUNDS  POUNDS  Not Available  Not Applicable  Not Applicable	HOUR HOUR Not Available Not Applicable Not Applicable	Table B Permit AQ0173TVP02, Table B Permit AQ0173TVP02, Table B Not Available Not Applicable Not Applicable	1.893E+00  1.893E+00  Not Available  Not Applicable  Not Applicable		
	Not Available Not Available Installed 1996  Air-Cure Environmental Fabric Filter/Baghouse  Not Available Not Available PM10 Primary (Filt + Co PM25 Primary (Filt + Co PM25 Primary (Filt + Co PM25 Primary Process 30510103 > Industrial Processes > Mineral Products > Bulk Materials Conve > Coal Coal 1/1/2017	10     Coal Handling System (Dust Collector No. 2)   Not Available   Not Available   Installed 1996	Coal Handling System (Dust Collector No. 2)   Emission Unit Status	Design Capacity   240 ton/hr		

Period Start	1/1/2017		Period End	12/31/2017		
Throughput	STANDARD CO.					
Total		Summer %	Fall %	Winter %	Spring %	
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
<b>Operational Schedu</b>	e	· 图图图 1004 06 22				
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
<b>Fuel Characteristics</b>						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ymqq)	(weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating					THE STREET AND VALUE OF THE STREET	
Heat Input	AT THE HISTORY OF THE STATE OF	Heat Output		Heat Values Convent	ion	
Not Applicable		Not Applicable		Not Applicable	aon .	
Emissions		TELEVISION SELECTION OF THE		I vot Applicable		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Tons Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable Not Applicable	Not Applicable Not Applicable	
PM10 Primary (Filt +						
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt +				<del>                                     </del>		
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Filterable				<del></del>		
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM Condensible	AL-A A					
[PM-CON]	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic	Nat Analisable					
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compound	ls Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	and the second of the second o	CONTRACTOR BURNISHES AND	D. A. T. G. S. W. Children, M. C. Stranger, Stranger, and S. C. S. Children, and S. Children, and S. C. S. Children, and S. C. S. Children, and S. Children, and S. Children, and S. C. S. Children, and S. Children			
Release Points			<b>建筑的有效。这种的特别的特别的特别</b>			
DIEW Edward Edward	Description			Туре	Apportion %	
10A	Coal Handling System (		The state of the s	Horizontal	0	
108	Temporary Dust Collect			Horizontal	100	
		Releas	se Point 10A			
Specifications	<b>经过的企业和特别的</b>	在25年间10日中15日本自16日的		也以公司即使他们是对抗。	经国际 生性 医多色体 经国际 医三甲基	
D	10A		Туре	Horizontal	CONTRACTOR OF THE PROPERTY OF THE PARTY OF T	
Description	Coal Handling System (	Dust Collector No. 2)	Туре	Inonzontal		
Stack Parameters			Mark Table 1 To the Land Control of the Control of			
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Evit Con Flow But - 1-		
127	3.32	30	39	Exit Gas Flow Rate (a 20,000		
Seographic Coordina			STATEMENT HOUSE AND	120,000	NAME OF TAXABLE PARTY AND DESCRIPTION OF TAXABLE PARTY.	
atitude	63.854989		440 050555			
Base Elevation	1,260	Longitude	-148.950558	Datum	NAD 1983	
Jase Elevation		Retired Date	Not Applicable	0.0		
ocation Description	Hook AV		INOT ADDIICADIE		The second secon	
	Healy, AK	Retired Date				
	Healy, AK Engineering Estimate				of our live por transcript of the same	
Data Source			e Point 10B			
Pata Source						
pecifications			se Point 10B	Horizontal		
pecifications	Engineering Estimate	Releas		Horizontal		
Data Source  Specifications  D  Description	Engineering Estimate	Releas	se Point 10B	Horizontal		
pecifications Description Stack Parameters	Engineering Estimate  10B Temporary Dust Collect	Releas	SE Point 10B		(fm)	
pecifications Description Stack Parameters Stack Height (ft)	10B Temporary Dust Collect Stack Diameter (ft)	or Exit Gas Temp (F)	Type  Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)	
pecifications Description Stack Parameters Stack Height (ft)	108 Temporary Dust Collect Stack Diameter (ft) 1.07	Releas	SE Point 10B		sfm)	
Specifications D Description Stack Parameters Stack Height (ft) G Geographic Coordina	10B Temporary Dust Collect Stack Diameter (ft) 1.07	Releas  Or  Exit Gas Temp (F) 30	Type  Exit Gas Velocity (fps)  111	Exit Gas Flow Rate (ad		
Data Source  Specifications  D  Description Stack Parameters Stack Height (ft)  G  Geographic Coordina	108 Temporary Dust Collect  Stack Diameter (ft) 1.07 te 63.85520	Releas  Or  Exit Gas Temp (F)  30  Longitude	Type  Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm) NAD 1983	
Cocation Description Data Source  Specifications D Description Stack Parameters Stack Height (ft) G Geographic Coordina Atitude Base Elevation Cocation Description	10B Temporary Dust Collect Stack Diameter (ft) 1.07	Releas  Or  Exit Gas Temp (F) 30	Type  Exit Gas Velocity (fps)  111	Exit Gas Flow Rate (ad		

Public Notice Draft

THE NEW YORK RESIDENCE	Emis	sion Unit 11				
	45 reseases an east source	S.O.I OIIIC 22		PROMIT OF SHIPS HAVE A SHIP ABOVE		
用在1955年的1950年的2015年1				<b>在自我是是通過與其他的</b>		
	(FA managed)					
	VEA property)					
· · · · · · · · · · · · · · · · · · ·				···		
[1967 (estimate)	the trace as easile was	Retired Date	Not Applicable			
Mark the Mark to the Control of		E PULL MEAN ENGLISH STANK				
				M = 4 8		
				THE ALL MENTS WERE THE		
Water application						
Dust Suppression		THE PARK IN				
				## = 1		
50						
Not Applicable	الريداء اللاراك في					
	d)		Reduction Efficiency (%)	50		
		The teach		50		
				50		
		STANS HOS ASSESSMENT AND	The section Emercine (78)			
Dulana and Duna and		CONTRACTOR ASSAULT	System Continue of France and S			
			1			
> Industrial Processes						
	- 1111					
1/1/2017		Period End	12/31/2017			
是一种主义的 1000000000000000000000000000000000000						
AND THE STATE OF T	Summer %	Fall %	Winter %	Spring %		
Vehicle Miles Travelled	18	29	27	26		
(VMT)						
		alentersky met francisco				
Hours/Day	Weeks/Period	Hours/Period	real to a second Helia consequence			
				Contract of the Contract of th		
		[6,704				
		ALBRIDATE AREAS OF CASE				
A MARKET DE TRANSPORTE DE L'ANDRE	A SECULIAR DESCRIPTION OF THE PARTY OF THE P	THE RESIDENCE OF STREET STREET, STREET				
			SECTION SHOWS IN SECURIOR	LINERSON CHECK DISEASES		
Not Applicable	Not Applicable	Not Applicable				
	STREET, CONTRACTOR OF THE PARTY		San Property and Company			
			Heat Values Convention			
	Not Applicable		Not Applicable			
Transpersion Construction						
Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
				Not Applicable		
				Not Applicable		
				Not Applicable		
1.54	POUNDS	VMT	AP-42 Section 13.2.2	5.344E-01		
<del></del>	<del>                                     </del>		_			
0.15	POUNDS	VMT	AP-42 Section 13.2.2	5.344E-02		
	1		+			
0.15	POUNDS	VMT	AP-42 Section 13.2.2	5.344E-02		
-	<del>                                     </del>	<del></del>	<del></del>			
Not Available	Not Available	Not Available	Not Available	Not Available		
Net Applies to	<del></del>					
NOT Applicable	INOT Applicable	Not Applicable	Not Applicable	Not Applicable		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
				Not Applicable		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Not Applicable Secondary Process	Not Applicable	Not Applicable	Not Applicable	пот Аррисавіе		
Not Applicable Secondary Process Not Applicable Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Not Applicable Secondary Process Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	Not Applicable Not Applicable 1967 (estimate)  Water application Dust Suppression  For Manage of Part	11	Haul Road (located on GVEA property)  Not Applicable  Not Applicable  1967 (estimate)  Water application  Dust Suppression  So  Not Applicable  PM10 Primary (Filt + Cond)  PM2.5 Filterable (PM25-FIL)  Primary Process 30501090  Industrial Processes  Mineral Products  > Coal Mining, Cleaning, and Material Handling  > Haul Roads  Fugitive Dust  1/1/2017  Period End  Vehicle Miles Travelled  (VMT)  Hours/Day  Weeks/Period  Hours/Period  Bleen. Sulfur Content (weight %) Not Applicable  Not Applicable	Haul Road (located on GVEA property)		

March 30, 2022

Material Processed	Not Applicable	the state of the s			
Period Start	1/1/2017		Period End	12/31/2017	
Throughput	ALC THE VIEW MICHIGAN				
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Operational Schedule</b>		We like the later to		Sandahan in series	
Days/Week	Hours/Day	Weeks/Period	Hours/Period	NEW WINDS AND STREET	www.completing.organics
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	racida e son es e de planta de la			证 医阴道术 的复数	THE HAT OF HAT ALL DESIGNATION
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	ALBERT STANFON ON	PHE MICHIEL BROOKS
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating				News are the second	
Heat Input	Market Transport	Heat Output	Harrish to both dashin two	Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	
Emissions		有一个,基础的AVA			<b>证法的特色形态</b>
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +			- Till -	1	
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +	Nes Anniinelle	Na Australia			
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Not Applicable	Not Applicable	Net Applicable	N-A A	01-0-0
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
(PM-CON)		Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)			Тосторисани	тот присави	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Pologgo Points	Diskus and Reduction and		Carlo Carlo Calabian complete a succession		SALVANIA DE SERVENCIA DE LA CONTRACTOR D
Release Points					
ID 11	Description	Manufacture (12 )		Туре	Apportion %
	Haul Road (located on GV			Fugitive	100
		Relea	se Point 11		
Specifications					
D filling the same of the way	11		Туре	Fugitive	
Description	Haul Road (located on GV	EA property)			
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	rfm)
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Geographic Coordinate					
atitude	63.855392	Longitude	-148.945955	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1	Datum	INAU 1303
Location Description	Location determined near		Not Applicable		
	split in haul road by	TOTAL DATE	Ant Whhitania		
N. M. M. C.	substation; Healy, AK				
Data Source					
Data Source	Engineering Estimate				

		Emiss	sion Unit 12		AND THE PARTY OF THE PARTY.		
Specifications							
ID	12		Design Conneity	372,000 cubic feet			
Description	Coal Storage Pile		Design Capacity Emission Unit Status	Operating			
Manufacturer	Not Applicable		Manufactured Year	Not Applicable			
Model Number	Not Applicable		Serial Number	Not Applicable			
Initial Startup Date	1967 (estimate)		Retired Date	Not Applicable			
Regulations				itot Applicable			
Regulation/Description		MARINES NATIONAL PRODUCTION					
Not Applicable	CONTRACTOR CONTRACTOR	CONTRACTOR OF SECURIOR SEC		Manufacture of the Authority of	M. S.		
Control Equipment			Margarine and a many a state of the m	n servicione de la compania del compania de la compania del compania de la compania del la compania de la compa			
System Description	lateter emplication			els de la commence d	Maria da de la composição		
Control Measures/	Water application  Dust Suppression						
Devices	Dust Suppression						
Control Efficiency (%)	50						
Capture Efficiency (%)	Not Applicable						
Suprare Emerciney (70)	PM10 Primary (Filt + Co	ndì	The same of the sa	Reduction Efficiency (%)	50		
Pollutants Controlled	PM25 Primary (Filt + Co			Reduction Efficiency (%)			
	PM2.5 Filterable (PM25			Reduction Efficiency (%)			
Processes				President Efficiency (70)			
rocess	Primary Process		·····································		OF ASSESSED FOR EXAMPLE AND EXAMPLE OF		
CC Code	30510303						
ENDOGNIA BITCHE	> Industrial Processes	the state of the second		The state of the s			
	> Mineral Products						
	> Mineral Products > Bulk Materials Open Stockpiles						
	> Coal						
Material Processed	Coal				The same of the sa		
Period Start	1/1/2017	Total Harrison	Period End	12/31/2017	to the process of the same		
Throughput			A CONTRACTOR OF THE PROPERTY OF THE PARTY OF				
otal		Summer %	Fall %	Winter %	Spring %		
173,463	tons	18	29	27	17		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
	24	52	8,784				
Fuel Characteristics							
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Vot Applicable	Not Applicable	Not Applicable	Not Applicable		E CONTRACTOR OF THE PARTY AND		
Heating			经等国际公司企业 医侧侧侧面				
leat Input	No. 12 and the Control of The Control	Heat Output	Is a resolution to the control of th	Heat Values Convention			
lot Applicable		Not Applicable		Not Applicable	THE RESERVE THE PROPERTY OF THE PARTY OF THE		
Emissions		Zanada masa masa kata kata		INOC Applicable			
ollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
arbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
mmonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
litrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
M10 Primary (Filt +				AP-42 Sections 13.2.2,			
ond)(PM10-PRI)	4.865E-01	TONS	YEAR	13.2.4, and 13.2.5	4.865E-01		
M2.5 Primary (Filt +	4 0755 00			AP-42 Sections 13.2.2,			
ond)(PM25-PRI)	4.875E-02	TONS	YEAR	13.2.4, and 13.2.5	4.875E-02		
M2.5 Filterable	4 9755-02	TONS	VEAD	AP-42 Sections 13.2.2,	4.0755.00		
PM25-FIL)	4.875E-02	TONS	YEAR	13.2.4, and 13.2.5	4.875E-02		
M Condensible	Not Available	Not Available	Not Available		Net Avellets		
PM-CON)	HACK WAGIIGNIG	IAOL WAGIIADIG	Not Available	Not Available	Not Available		
ulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
olatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
ompounds(VOC)		or whhicapie	- Tot Applicable		Not Applicable		
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
ead and lead compounds							
	Secondary Process						
rocess	Secondary Process Not Applicable			- Tanital - Tanital			
rocess							
ead and lead compounds rocess CC Code	Not Applicable						
rocess	Not Applicable Not Applicable						
rocess	Not Applicable Not Applicable Not Applicable						

Period Start	1/1/2017 Period End		12/31/2017		
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Operational Schedule</b>				COLUMN SEE COLUMN	E 198 DE LA PREMIUNION DE
Days/Week	Hours/Day	Weeks/Period	Hours/Period		eta y tenanga ety at a
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		AUSTO BETTALK THE BUTTON
	(weight %)	(vmqa)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	And Andrews				Antalia de la Carta de Maria de Carta
Heat Input		Heat Output		Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	
Emissions	to contact of the re-		Extended to the local	STATILITY OF THE STATE OF THE S	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +					
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
D	Description			Туре	Apportion %
12	Coal Storage Pile			Fugitive	100
		Relea	se Point 12	The state of the s	
Specifications		Merce .			
D	12		Tune	Eugliting.	SECURIOR NEW YORK AND SECURIOR
Description	Coal Storage Pile		Туре	Fugitive	
Stack Parameters	Jevai Storage File		GLIOSEUS DIKSEKSKELDISVA		and a restallable and the rest
	Facel Diese A Mai	Sula Con T (7)	Sub-Caraba A. M. A.		
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	ANER-Walter Hermanijaan ke sa
Geographic Coordinat					
Latitude	63.854556	Longitude	-148.946703	Datum	World 1984
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate				

		Emis	sion Unit 13				
Specifications				rapid Statistics			
ID	13	N HIS HOLD BY AS IN THE HOLD BY A COLUMN TO THE REAL PROPERTY OF THE PARTY OF THE P	Design Capacity	264 HORSEPOWER			
Description	Firewater Pump Engine		Emission Unit Status	Operating			
Manufacturer	Caterpillar		Manufactured Year	1997			
Model Number	3406B		Serial Number	6TB14931			
Initial Startup Date	Installed 1997		Retired Date	Not Applicable			
Regulations							
Regulation/Description		Walker More division	Server up to the way	Value of the Verte	ENDINEST BUTTOURS DIVIN		
40 CFR 63 Subpart ZZZZ		10-14-14-1					
Control Equipment				AND THE PARTY OF THE PARTY OF THE			
System Description	Not Applicable	SCOTT OF THE RESIDENCE OF SPECIAL SPEC					
Control Measures/	Not Applicable		E. 12. 15. 15. 10.	The state of the s	and the latest terminal termin		
Devices	Not Applicable						
Control Efficiency (%)	Not Applicable			21 (0)	12/1		
Capture Efficiency (%)	Not Applicable				Kadaman and		
Pollutants Controlled	Not Applicable		100	Reduction Efficiency (	%) Not Applicable		
Tonutants Controlled	Not Applicable	Colored to The Colored		Reduction Efficiency (			
> Pollutants Controlle	d						
Pollutant Description		5.79% (715 and 25 and	August and a state of	Reduction Efficiency (	%)		
Not Applicable				Not Applicable			
Processes			V MUTTIER VERTEX TEXTILIZATION		<b>经营产</b> 管理营业的		
Process	Primary Process		The second secon				
SCC Code	20200102						
	> Internal Combustion Engines						
	> Industrial						
	> Distillate Oil (Diesel)						
	> Reciprocating	RELATION OF	Participant of the latest of t				
Material Processed	Distillate Oil						
Period Start	1/1/2017		Period End	12/31/2017	F F 1/		
Throughput							
Total	DAMES BY COLUMN	Summer %	Fall %	Winter %	Spring %		
34	gallons	25	25	25	25		
<b>Operational Schedule</b>		THE ROLL THE SERVICE					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		as the state of the state of the		
0.005	0.02	0.04	6				
Fuel Characteristics							
leat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
Btu/1,000 gal)	(weight %)	(ppmv)	(weight %)				
137	0.0015	Not Available	Not Available	(I			
Heating			N 2011 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		EVERTIBLE RESPONDED TO		
leat Input (MMBtu/hr)		Heat Output (horsepov	uer)	Heat Values Convention			
		264	VGI)	HHV			
Emissions			SAVE VANCED ON VERSION	SELECTION AND ADDRESS OF THE			
Pollutant	Emission Factor	EF Numerator	EE Donominator	PERMIT AND EXCEPTION AND AND REAL PROPERTY.	FOR STATE OF THE PARTY OF THE P		
Carbon Monoxide(CO)	6.68E-03		EF Denominator	AP-42 Table 3-3-1	Tons		
	Not Available	Not Available	Not Available	AP-42 Table 3.3-1 Not Available	5.291E-03		
litrogen Oxides(NOX)	0.031	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	Not Available 2.455E-02		
M10 Primary (Filt +			MORSEPOWER-HOUR	MF-44 18016 2:2-1	Z.433E-UZ		
Cond)(PM10-PRI)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03		
M2 5 Primary (Filt +		1	<del>-  </del>	<del></del>			
Cond)(PM25-PRI)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03		
M2.5 Filterable		+	<del></del>	-			
PM25-FIL)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03		
M Condensible				<del>                                     </del>			
PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available		
	2.05E-04	POUNDS	GALLON	Mass Balance	2.564E-06		
olatile Organic			· ·	1			
ompounds(VOC)	2.51E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.988E-03		
ead and lead compounds	not Available	Not Available	Not Available	Not Available	Not Available		
rocess	Secondary Process						
	Not Applicable						
THE RESERVE AND THE PROPERTY OF THE PERSON O	Not Applicable						
	Not Applicable		THE RESERVE THE PROPERTY OF THE PERSON NAMED IN				

	Not Applicable		1115-201-2010		
Material Processed	Not Applicable				
Period Start	1/1/2017		Period End	12/31/2017	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule		DESCRIPTION OF THE PERSON OF T			
Days/Week	Hours/Day	Weeks/Period	Hours/Period		need to the second second second
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					2019年代·基金社会共和党委员会发展
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		WINDS OF THE PROPERTY OF THE PARTY OF THE PA
	(weight %)	(vmqq)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating				元的 医神经 医多色红皮炎	<b>医2克克以及2克尔以及2型皮基</b>
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	ion .
Emissions			ASSAULT STATE OF THE STATE OF	24 TOTAL PROCESS	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
ead and lead compound	s Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
D	Description			Туре	Apportion %
3	Firewater Pump Engine			Horizontal	100
		Relea	se Point 13		
Specifications				<b>这种特别。第496</b>	Z
D	13		Туре	Horizontal	
Description	Firewater Pump Engine	ili swe ji sa	LINE COLUMN TO THE COLUMN TO T		
tack Parameters					
tack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
.0	1	300	6	283	
Geographic Coordina	o the state of the				
atitude	63.854956	Longitude	-148.951181	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1	Juatum	MAU 1983
ocation Description	Healy, AK	Retired Date	Not Applicable		
Pata Source	Engineering Estimate	Inemed pare	[Aot Applicable		

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GVEA - Healy Power Plant 2017 Point Source Inventory

EUB	S. School of Description of Parties (S.	Food Tyme	MINISTER STREET	STREET, STREET	Scotoling State	(Interpretation)	SANDAMINE DAY	Fuel Fuel	Fuel Consumption (galls	(suopp	Manage States	Not production	AND SAME SAME	edinistrations	distribution and the	100	SALT AND COMPLEX	Month of the Month	Hours by Season (%)	ALCOHOLD SE	
1	E HERSTEIN STATE OF BEHAVIOR OF	Stores will be	the banks at	Feb	Mar Mar	- Apr	Mary	Jun	Jul	Aug	Sep	ğ	Nov	Jed C	Total	200	Summer	Parties and	Whiter	S COLUMN	Soring
-	Unit 1	8	2,283	1.992	6.186	┺	391	ŀ	8.817	147	2 845	F55.7	6417	200	34 500	4		1.5	90	١	
7		asn							-			-				2	  -		4/8	C) 4/A	2/1
9		S	1,116	1,536	3,894	ļ.	164	2,171	56	28		6		19	8.962				N/A	4/10	NA.
4		so	1,579		3,545			•	-		ŀ			×	5.124	ľ				-	2
s		SO			-	[		-		ļ.				ŀ		ç			30	30	1
23	Firewater Pump	S	Considerate 7. La	<b>7</b> 100 000 000 000 <b>1</b>	2.854(4)254(4)	V66995587	Schlebbin 7	encassa, 7. p	Antonia 7 april	Webcould di	ACCOUNTS OF	OQuadd000207.	SEGMOSTS 2	A. A. S.	PARCONE SE	13			25	52	25
																					1
60.00	Description	The Chyllogia	ADDIOSES TOPS	Service Cappy Species	of Michigan a	Codescelladores.	190	Coel Consumption (tons)	ons)	S.C. Children or other	And American Contraction of	MARCH SIGNATURE	This is the second second	Charles of the		Ca id	POTENTIAL PROPERTY.	Coel Cons	umption by Season	液	ONCORE.
Sections.	NASSONAL A	on Immons	92	day Mar 5000	Mess	9	Aun	Scali Aut Asset of	MANGGOOD AND	Sep	g	Nov Nov	Dec	Total		ALC: 100	Summer	3	Fell Winter	Spring	J.
-	Unit	16,395	13,523	14,563	15,938	15,076		13,485	17,036	16,312	17,314	17,041	16,779	173,463		11 and 12	12	18	29	H	36
┨	Onit 2		+				•			•									0.0000000		
	Total	16,395	13,523	14,563	15,938	15,076		13,485	17,036	16,312	17,314	17,041	16,779	173,463						١	
1							- 14		l	ł						200000	Ste will have	1000	Density (sefer) Aver Density (h.fort)	Very V	
EUD	Cost Proceedies	05	GIB	First Tone	Spirations.	Fuel Usage by	Season (%)	Whetlighton-	100	EUID	Fuel Type	MMBtu				Fuel Type	200	g	Mary Parties of		
Section 1	160000		William State of the		Summer		Winter	Spring	L	r	ดราก	4.723.7					71/2017	╀	L	Γ	
	Fuel HHV (Btu/lb)	-	<u> </u>	OS IN	25.9	L	14.9	19.7		_	-8	2 449 171 €				<u>ව</u>	L	1	T g		
-	2.060		_	3	17.6	L	l	26.3	1		5	4,44,44,5					1/1//	4		7	
ŀ		_	$\dagger$	911		l	l			7	3	·									
1	Ach (wt. %)		7	150	25.0	0.62	0.00	72.0	L		8										
ŀ		_	†	3	0.62			720	•												
-	7.01	_		OSIN	24.8	0.1	29.8	45.3	100	95	Moisture (wt.										
~			4	OLSD			30.8	69.2	86	Fuel Type	20										
	Sulfur (wt. %)		2	OLSD	25.0	25.0	25.0	25.0	_	Coal	32.72										
-	0.122	ı							j												
~																					
	The state of the s	and children of	a Linguistic Company of the	September Septem	may restor a restor	No. Contractions	- 13	Fuel HHV (Btu/mail	Section of the second	THE PERSON NAMED IN	Asia) of Simonda	Control Section	Sample and Street	Theory Committee							
	SECTION OF SECTION OF SECURITY OF	raf .	Feb	Mar	Apr	May	hun		Aug	Seo	8	Nov	oed O	Average							
	asin	ŀ	132,907				T.	140,146	,	*	ŀ			136.527							
													1								
9	THE PERSON NAMED IN COMPANY OF	Contraction of the Contraction o	SACCIMINATION AND STREET	SALIS CONTRACTOR	Containing	GLANCE CONTRACTOR	Control of the last	perating Hours	September 198	CONTRACT CANADACA	Self-Carbada ba	CALLES CALLES	WELLINGS STANK	0.04000-5010-6							
2	A 5822.091.	Jen	Feb	Mar	VOC	May	and and	control and the control	Aug	Sep	8	Nov	Dec	Total							
	Unit 1 Coal	が行るないがからの	STATES CASE	White Strategics	Manager Starts	ASSESSED SELECTION OF THE PERSON NAMED IN COLUMN NAMED IN COLU	Unistantiable College	Section of the Section	STRAID PROPERTY	AUGUSTON SALES	State State State	SENSON CHARLES	Department of	7,690							
-	Unit 1 Oil	SHEETS AND TAKE	TARREST SERVICE	SPECIFICATION CO.	2018	10000	STATE SALVES	1200 N. C.		Charles of the State of the Sta		STREET, STREET	No. of Persons Street, or other Persons Street	15							
	Unit 1 Total	726	607	682	720	695		632	744	712	725	719	743	7,704							
	Unit 2 Coal		APPRASTANCE.		STATE OF THE PARTY	Marry Property	AND STATE	を行うというない	1062-18-525	and home and	Ship Service Service	を行うなななながってい	125 PK 0859								
7	Unit 2 Oil	SCAMPENSOR STATES	Selection of the Control of the Cont	SHREETING STORY	THE PROPERTY.	(Augmention)	WASHINGTON	WISHEST-FORCER	THE RESERVE THE PARTY OF T	SECTION AND ASSESSMENT	ALLESS CONTRACTOR	GEO-9815-186-145	Water Color								
	Unit 2							-	-  -		٠	ļ-	•								
۳	Auxiliary Boller 1	23	49	72		5	02	1	1	*	0	ď	٦	221							
4	Auxillary Boller 2	27	-	99	8			-	L	-	•			93							
۰	Diesel Electric Generator		-		[.] [.]		86	*6	×		19		ŀ								
ø	Crusher	109	26	94	26	91	•	88	- 6	88	101	123	123	1.104							
^	Lime Storage Silo		\- '		•						ŀ										
8	Flyash Storage Silo	<b>.</b>	Η,			[		ŀ													
6	Sodium Bicarbonate System	۲		15					10		ļ.		4	39							
ឧ	Coal Handling System	109	36	X	92	16	Glocal.te.	88	- 62	93	101	123	123	1,104							
١							١														

## 2017 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

	Emission Unit				THE REPORT OF THE PARTY OF THE	2017 Actual PM
D	Description	Factor Reference	Emission	Emission Factor	Emission Factor 2017 Actual Operation	Emissions
+						
			₽ d	5.97 Ib/VMT		2.07 tpy 1
_	Coal Haul - Unpaved Portion	AP-42, Section 13.2.2	PM <sub>10</sub>	1.54 Ib/VMT	694 VMT	0.53 tpy 1
			PM <sub>2.5</sub>	0.15 Ib/VMT		0.05 tpy 1
					Total PM Emissions	2.07 tpy
					Total PM <sub>10</sub> Emissions	0.53 tpy
					Total PM <sub>2.6</sub> Emissions	0.05 tpy

Coal Haul Road

Unpaved Road Emission Factor AP-42, Section 13.2.2, Equation 1a:

$MT^{-1}(12)(3)$	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
~	4.9	1.5	0.15	from AP-42, Table 13.2.2-2
s = surface material silt content (haul road)	5.1	5.1	5.1	percent, from AP-42, Table 13.2.2-1
W = mean vehicle weight	167.5	167.5	167.5	tons, estimate - average of full (230 ton) and empty (105 ton) truck
a (empirical constant)	0.7	6.0	0.9	from AP-42, Table 13.2.2-2
b (empirical constant)	0.45	0.45	0.45	from AP-42, Table 13.2.2-2
E (uncontrolled) =	16.45	4.24	0.42	Ib/vMT
Efficiency =	20%	20%	20%	assumed control effiency for water
= (controlled) =	8 23	2 12	0.21	Th//A/T

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

$$_{\text{ave}} = E\left(\frac{365 - P}{365}\right)$$

 $E_{\text{ext}}$  = annual size-specific emission factor extrapolated for water mitigation, Ib/VMT

E = emission factor from Equation 1a P = number of days in a year with at least 0.01 inches of precipitation

	Ib/vMT	
PM <sub>2.5</sub>	0.15	
PM <sub>10</sub>	1.54	
PM	5.97	
	E (controlled) =	

Coal Throughput

173,463 tons	0 tons	173,463 tons
Unit 1 actual coal throughput	Unit 2 actual coal throughput	Total actual coal throughput

GVEA - Healy Power Plant 2017 Point Source Inventory

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ctual Emissions Calculations - Haul Road Particulate Matter Emissions	Golden Vallev Electric Association - Healv Power Plant
2017 Actual En	<u> </u>

	$troughput (tons) \times Roundtrip Distance \left(\frac{miles}{trip}\right)$	Haul Truck Capacity $rac{tons}{trip} ight)$
Vehicle Miles Traveled (VMT)	Throughpu	

Hord twice sometime.	107	
	27	125 tons.
•		
change from some all all to not the second factors at the		
	20.00	
/		
	-	١,
=   M   cad NM   =	693.85 miles	miles

, estimate s/trip

2017 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

PM   2.44E-05 lb.non   173,463 tpy   1.15E-05 lb.non   173,463 tpy   1.15E-05 lb.non   173,463 tpy   PM <sub>25</sub>   1.75E-06 lb.non   173,463 tpy   PM <sub>25</sub>   0.11 lb.n/mT   913 v.mT   PM <sub>25</sub>   0.11 lb.n/mT   913 v.mT   PM <sub>25</sub>   0.11 lb.n/mT   Total PM <sub>16</sub> Emissions   Total PM	2000	Emission Unit		O Statement of the Party of the			· 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图
Truck Drop Onto Stockpile	<b>₽</b>	Description	-actor Kererence	Emission	Emission Factor	2017 Actual Operation	2017 Actual PM Emissions
Truck Drop Onto Stockpile							
Truck Drop Onto Stockpile         AP-42, Section 13.24         PM <sub>to</sub> 1.15E-05 lb/non         173,463 tpy         1.15E-05 lb/non         1.15E-05				PM	2.44E-05 lb/ton		2.1E-03 tpv 1
Front End Loader Drop Into Grizzly		Truck Drop Onto Stockpile	AP-42, Section 13.2.4	PM <sub>10</sub>	1.15E-05 lb/ton	173,463 tpy	1.0E-03 tpy 1
Front End Loader Drop Into Grizzly				PM <sub>2.5</sub>	1.75E-06 lb/ton		1.5E-04 tpv 1
Front End Loader Drop Into Grizzly         AP-42, Section 13.24         PM <sub>to</sub> 1.15E-05 lb/ton         173,463 tpy         1.15E-05 lb/ton         1.15E-05 lb/ton <th< td=""><td></td><td></td><td></td><td>PM</td><td>2.44E-05 lb/ton</td><td></td><td>2.1E-03 tpv 1</td></th<>				PM	2.44E-05 lb/ton		2.1E-03 tpv 1
Total PM   1.75E-06 lb/non   1.05 lb/not		Front End Loader Drop Into Grizzly	AP-42, Section 13.2.4	PM <sub>10</sub>	1.15E-05 lb/ton	173,463 tpy	1.0E-03 tpv 1
Front End Loader Movement - Coal Pile to Grizzly	5			PM <sub>2.5</sub>	1.75E-06 lb/ton		1.5E-04 tpv 1
AP-42, Section 13.2.2 PM <sub>10</sub> 1.06 lb/NMT 913 VMT 4.  PM <sub>2s</sub> 0.11 lb/NMT 4.  AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr 10,150 m² PM <sub>2s</sub> 0 g/m²-yr Total PM Emissions 1 Total PM Emissions 1 Total PMs. Emissions 2	!		!	PM	3.72 Ib/VMT		1.70 tpv <sup>2</sup>
AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr 10,150 m² PM <sub>2s</sub> 0 g/m²-yr 10,150 m²		Front End Loader Movement - Coal Pile to Grizzly	AP-42, Section 13.2.2	PM <sub>10</sub>	1.06 Ib/VMT	913 VMT	4.8E-01 tpy 2
AP-42, Section 13,2,5 PM <sub>10</sub> 0 g/m <sup>2</sup> -yr 10,150 m <sup>2</sup> PM <sub>2s</sub> 0 g/m <sup>2</sup> -yr Total PM Emissions Total PM <sub>2s</sub> Emissions				PM <sub>2.5</sub>	0.11 Ib/VMT		4.8E-02 tpv <sup>2</sup>
AP-42, Section 13.2.5 PM <sub>10</sub> 0 g/m²-yr 10,150 m² PM <sub>25</sub> 0 g/m²-yr Total PM Emissions 1.  Total PM <sub>10</sub> Emissions 0.			1.0040	PM	0 g/m²-yr		6 tov 3
0 g/m²-yr		Stockpile Wind Erosion	AP-42, Section 13.2.5	PM <sub>10</sub>	0 g/m²-yr	10,150 m²	0 tpy 3
				PM <sub>2.5</sub>	0 g/m²-yr		0 tpy 3
						Total PM Emissions	
						Total PM <sub>10</sub> Emissions	
						Total PM <sub>2.5</sub> Emissions	

1 Truck Drop onto Stockpile and Front End Loader Drop to Grizzly

Drop Operation Emission Factor: AP-42, Section 13.2.4

 $\left(\frac{lb}{ton}\right) - \frac{k \times 0.0032 \times \left(\frac{U}{5}\right)^{2.5}}{k \times 0.0032 \times \left(\frac{U}{5}\right)^{2.5}}$ 

9.35 3.03 33.00 15E-05 U = mean wind speed M = coal moisture content (<u>k</u>

AP-42, Section 13.2.4
Per www.ncdc.noaa.gov for CY2016, McKinley Airport ASOS (PAIN)
From CY2017 coal proximate analyses

miles/hr percent lb/ton

PM<sub>25</sub> 0.053 3.03 33.00 .75E-06

Annual Stockpile Throughput:

173,463 tons 0 tons 173,463 tons Unit 1 actual coal throughput Unit 2 actual coal throughput Total actual coal throughput

<sup>2</sup> Front End Loader Movement

Coal moved per trip:

Coal Density  $\left(\frac{lb}{f^{*3}}\right) \times 27 \left(\frac{f^{*3}}{\sqrt{d^{3}}}\right) \times Rucket Size(yd^{3})$ 8 yd³ 50 lb/ft³ 5.4 tons  $\frac{lb}{ton}$ Size of load bucket
Density of coal
Coal moved per trip  $Coal\ (tons) = -$ 

GVEA - Healy Power Plant 2017 Point Source Inventory

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2017 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Heaty Power Plant

Emission Factor AP-42, Section 13.2.2, Equation 1a:

PM         PM <sub>10</sub> PM <sub>25</sub> nntent (haul road)         8.4         1.5         0.15           an vehicle weight         27         27         27           princial constant)         0.7         0.9         0.9           nprincial constant)         0.45         0.45         0.45           Efficiency = 50%         50%         50%         50%           Efficiency = 5.13         1.46         0.15	$(M)$ $(s)$ $(q_1)$ $(q_2)$				
4.9 1.5 0.15 8.4 8.4 8.4 27 27 27 0.7 0.9 0.9 0.45 0.45 10.26 2.92 0.29 50% 50% 50% 5.13 1.46 0.15	$= (VMT)^{-1} = (12)^{-1} = (13)^{-1}$	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
8.4 8.4 8.4 27 27 27 27 0.5 0.5 0.45 0.45 0.29 0.29 5.08 5.08 5.13 1.46 0.15	يرا	4.9	1.5	0.15	from AP-42, Table 13.2.2-2
27 27 27 27 0.9 0.9 0.9 0.45 0.45 0.45 0.45 0.29 0.29 0.29 0.29 0.29 0.29 0.39 0.45 0.15	s = surface material sift content (haul road)	8.4	8.4	8.4	percent, from AP-42, Table 13.2.2-1
0.7 0.9 0.9 0.9 0.9 0.45 0.45 0.45 0.29 0.29 50% 50% 5.13 1.46 0.15	W = mean vehicle weight	27	27	27	tons, estimate
0.45 0.45 0.45 10.29 10.29 50% 50% 50% 50% 5.13 1.46 0.15	a (empirical constant)	0.7	6.0	6.0	from AP-42, Table 13.2.2-2
10.26     2.92     0.29       50%     50%     50%       5.13     1.46     0.15	b (empirical constant)	0.45	0.45	0.45	from AP-42, Table 13.2.2-2
50% 50% 50% 5.13 1.46 0.15	E (uncontrolled) =	10.26	2.92	0.29	IbVMT
5.13 1.46 0.15	Efficiency =	20%	20%	20%	assumed control effiency for water
	E (controlled) =	5.13	1.46	0.15	Ib/vMT

Table 13.2.2-1

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Westem Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

$$E_{\rm core} = E \left( \frac{365 - P}{365} \right)$$

E<sub>ed</sub> = annual size-specific emission factor extrapolated for water mitigation, Ib/VMT
E = emission factor from Equation 1a
P = number of days in a year with at least 0.01 inches of precipitation
PM PM₁₀ PM₂₅

PM<sub>2.5</sub> E (controlled) =

Vehicle Miles Traveled (VMT)

Throughput (tons) × Round trip Distance  $\left(\frac{miles}{\text{trip}}\right)$ VMT = -

Haul Truck Capacity (tons)

173,463 tons Total Potential Coal Throughput

5.4 tons 150 feet 913

Coal moved per trip
Approximate distance from coal pile to grizzly (round trip)
VMT = vehicles miles traveled per year

<sup>3</sup> Stockpile Wind Erosion Coal Pile Surface Area

AP-42 Section 13.2.5, Equation (2)
Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF Engineering estimate of projected use

10,150 m<sup>2</sup>

Surface area of active face =

$$EF\left(\frac{g}{m^2yr}\right) - k\sum_{i=1}^{n} P_i$$
 where

k = particle size multiplier (AP-42 Section 13.2.5.3) N = number of disturbances per year P = erosion potential corresponding to the fastest mile of wind for the ith period between disturbances,  $g/m^2$ 

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GVEA - Healy Power Plant 2017 Point Source Inventory

0.00 0.00

2017 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Heaty Power Plant

Erosion potential function for a dry exposed surface, P  $P = 58(u^* - u_t^*)^2 + 25(u^* - u_t^*)$ AP-42 Section 13.2.5, Equation (3)

 $P=0 \ for \ u^* \le u^*_c$ 

 $u_t$  = threshold friction velocity (m/s) u\* = friction velocity (m/s)

Friction velocity,  $u^*$   $u^* = \frac{0.4 \times u(z)}{\ln(\frac{z}{z_o})}$  when  $z > z_n$ where AP-42 Section 13.2.5, Equation (1)

u(z) = wind speed at height z above test surface (cm/s) z = height above test surface (cm) u\* = friction velocity (cm/s)

z, = roughness height, cm

Use maximum wind gust speed recorded at McKinley Airport ASOS for each month in CY2016 (see table below) disturbances/year for active face, estimated average disturbances/month

38,5

NZ

Data:

0.5 P×N 0 **Erosion potent** (Table 13.2.5-2) function, **Ground Coal** 4 0 Velocity (u") m/s s/m 3 3 Erosion potential function, Velocity (u\*) Calculated Uncrusted Coal Pile 3 30 E Wind Direction 197 197 197 Maximum Wind Speed (u(10)) \* 13.9 11.6 11.6 11.6 11.2 11.2 11.2 10.3 S/W Hdm ଅଧିକାର ଅଧିକାର ଓ ଅଧିକ PM<sub>10</sub> Annual Total PM25 Annual Total Month-Year Apr-17 Jun-17 Jul-17 Jul-17 Aug-17 Sep-17 Oct-17 Nov-17 Dec-17

Factor, EF Emission

g/m²-yr

Per www.ncdc.noaa.gov for CY2016, McKinley Airport ASOS (PAIN).

The erosion potential factor for the uncrusted coal pile is zero for all months. Therefore, wind erosion of the uncrusted coal pile is not a significant source of PM emissions.

The erosion potential factor for ground coal is zero for all months. Therefore, wind erosion of the ground coal is not a significant source of PM emissions.

March 30, 2022

RECEIVED

MAY 10 2019

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Your Touchstone Energy® Cooperative

May 7, 2019

Certified Mail Return Receipt Requested 7016 0340 0000 0399 4936

Alaska Department of Environmental Conservation Air Permits Program ATTN: Air Emissions Inventory 555 Cordova Street Anchorage, AK 99501

Subject:

Golden Valley Electric Association – Healy Power Plant

2018 Point Source Emission Inventory - REVISED

Dear Ms. Buck,

Golden Valley Electric Association (GVEA) is submitting a revised 2018 Point Source Emission Inventory for the Healy Power Plant in accordance with Condition 139 of Air Quality Permit No. AQ0173TVP03. The emission inventory report has been revised to update the EU ID 2 PM CEMS emission rate.

The form provided in Section 17 of Air Quality Permit No. AQ0173TVP03 requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI); and
- PM2.5 Primary (Filt + Cond)(PM25-PRI).

Condition 139.4 and the form provided in Section 17 of Air Quality Permit No. AQ0173TVP03 mention both an excel template and guidance document available on the ADEC website at

http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory. The guidance document posted on the ADEC website requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

The excel template posted ADEC website requires reporting of:

• PM10 Primary (Filt + Cond)(PM10-PRI).

Due to the discrepancies between the permit, excel template, and guidance document, GVEA has chosen to report the following PM-related pollutants in the 2018 Point Source Emission Inventory.

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Primary (Filt + Cond)(PM25-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

If you have any questions or would like any additional information please contact me by phone at 907-458-4557 or by email at <a href="mailto:nmknight@gvea.com">nmknight@gvea.com</a>. The certification from Gary P. Betsill, Vice President of Operations, follows.

Sincerely,

Naomi Morton Knight, P.E. Environmental Officer

**Enclosure** 

## Certification

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.

Sincerely

Gary P. Betsill

Vice President of Operations

	Stationary Source Detail
Inventory Start Date	1/1/2018
Inventory End Date	12/31/2018
ADEC ID	173
AFS ID	0229000002
Census Area	Denali Borough (068)
Name	Healy Power Plant
Physical Location	Mile 2.5 Healy Spur Rd
	Healy, AK 99743
	Lat 63.85 Long -148.96
	Legal Description: Not available
Owner Name, Address,	Naomi Morton Knight, P.E.
and Contact Number	Golden Valley Electric Association
	PO Box 71249
	Fairbanks, AK 99707-1249
	907-458-4557
Line of Business (NAICS)	221112
Line of Business (SIC)	4911
Facility Status	Operating
Facility Status Year	1967

		Emiss	sion Unit 01					
Specifications					CEALERING CO.			
ID CONTRACTOR	01	27 7.7 29 29	Design Capacity	227 MILLION DTLL DED LIG	NID			
Description	Unit No. 1		Emission Unit Status	327 MILLION BTU PER HO	JUK			
Manufacturer	Foster-Wheeler		Manufactured Year	Prior to 1967	<del></del>			
Model Number	Not Applicable		Serial Number	78-266				
Initial Startup Date	Installed November 196	7	Retired Date	Not Applicable				
Regulations			inclined bate	INOT Applicable				
Regulation/Description			ere i en					
40 CFR 63 Subpart UUUUL	L							
Control Equipment								
System Description	Law Nov by and the	f: . ' (054) 6 L						
Control Measures/	Low NOv burners with o	verfire air (OFA), Selective	Non-Catalytic Reduction (S	SNCR), Dry Sorbent Injection (	DSI), and Baghouse			
Devices	Low NOx burners with OFA SNCR to reduce NOx emissions							
Devices	DSI to neutralize acid gases including SO <sub>2</sub> and HCI							
		and remove the dry mate	wiel consusted by the DCI					
Control Efficiency (%)	99.9	and remove the dry mate	rial generated by the DSI					
Capture Efficiency (%)	99.9			*				
aupture emercincy (70)	Particulate Matter	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Doduction Fff 1	100.0			
Pollutants Controlled	Sulfur Dioxide		7 - 7 A A A A A A	Reduction Efficiency (%)	99.9			
	Nitrogen Oxides (NOx)		<del></del>	Reduction Efficiency (%) Reduction Efficiency (%)	Not Available			
Processes	T OSCII OXIGES (NOX)			reduction Efficiency (%)	Not Available			
Process	Drimary Dresses							
SCC Code	Primary Process	1	· 10.100					
occ code	10100224							
	> External Combustion Boilers > Electric Generation							
		aludud Calal						
	> Bituminous/Subbitur			in the second	40 11111			
Material Processed	> Spreader Stoker (Sub Coal	obituminous Coai)	1 1111 1 1 1 1					
Period Start	1/1/2018							
	11/1/2010		Period End	12/31/2018				
Throughput	NUMBER OF STREET		NAME OF THE OWNER					
Total		Summer %	Fall %	Winter %	Spring %			
178,076	Tons	23	25	28	24			
Operational Schedule								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
7	22	49	8,150					
Fuel Characteristics								
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
(MMBtu/ton)	(weight %)	(ppmv)	(weight %)					
14.3	0.140	Not Available	8.520		1			
Heating								
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convention				
312		Not Applicable	1	HHV				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	217.8	POUNDS	HOUR	CEMS	8.876E+02			
Ammonia (NH3)	0.011	POUNDS	MILLION BTUS	Engineering Test	1.400E+01			
Nitrogen Oxides(NOX)	57.6	POUNDS	HOUR	CEMS	2.347E+02			
PM10 Primary (Filt +			managan and		2.34/1402			
Cond)(PM10-PRI)	0.3	POUNDS	HOUR	CEMS	1.223E+00			
M2.5 Primary (Filt +	0.2	DOLLING			1.5 111.0			
Cond)(PM25-PRI)	0.3	POUNDS	HOUR	CEMS	1.223E+00			
PM2.5 Filterable	0.3	DOLLINGS	- Lucius		2.11			
PM25-FIL)	0.3	POUNDS	HOUR	CEMS	1.223E+00			
PM Condensable	Net Asselled	N A						
PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available			
Sulfur Dioxide(SO2)	84.9	POUNDS	HOUR	CEMS	3.460E+02			
	0.00042							
Lead and lead compounds	111 (1111/47)	POUNDS	TON	AP-42 Table 1.1-18	3.740E-02			
Lead and lead compounds	0.00042		S - 432440	The state of the s				
Lead and lead compounds  Volatile Organic	0.06	POUNDS	TON	AP-42 Table 1.1-19	5.342E+00			

		Emiss	sion Unit 01				
Process	Secondary Process	the Buch					
SCC Code	10100501						
	> External Combustion I	Boilers	The state of the s				
	> Electric Generation						
	> Distillate Oil - Grades	1 and 2			*		
	> Boiler	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
Material Processed	Distillate Oil		F 17, 171 23	1 2 2 3 3 3 3 3	11 121		
Period Start	1/1/2018		Period End	12/31/2018	1.1 0 1.11.1		
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
40,240	gallons	51	31	1	18		
Operational Schedule					110		
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
0.01	0.05	0.1	17				
Fuel Characteristics	0.03						
Heat Content	Flore College Contact	Tunes is a second			What is a second or a second or a second		
	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)				
	0.0015	Not Available	Not Available	45 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			
Heating	OF ASSESSMENT OF THE COURT						
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convention			
312		Not Applicable		HHV			
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	217.8	POUNDS	HOUR	CEMS	1.881E+00		
Ammonia (NH3)	0.011	POUNDS	MILLION BTUS	Engineering Test	2.967E-02		
Nitrogen Oxides(NOX)	57.6	POUNDS	HOUR	CEMS	4.975E-01		
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	4.628E-02		
PM2.5 Primary (Filt + Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	3.119E-02		
PM2.5 Filterable (PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	5.030E-03		
PM Condensable (PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	2.616E-02		
Sulfur Dioxide(SO2)	84.9	POUNDS	HOUR	CEMS	7.334E-01		
Lead and lead compounds		POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	1.811E-07		
Volatile Organic Compounds(VOC)	0.2	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	4.024E-03		
Release Points							
ID.	Description			Tuna	[Aurorate of		
01	Unit No. 1		1 1111 1 1 1	Type	Apportion %		
	Ome No. 1		D 1 1 04	Vertical	100		
		Relea	se Point 01				
Specifications							
ID .	01		Туре	Vertical			
Description	Unit No. 1			Thomas a a a a a a a			
Stack Parameters							
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Evit Gas Flow Bata /s -f-			
122	7	294	58	Exit Gas Flow Rate (acfm			
Geographic Coordinate	l'	<u> </u>  234	30	135,460			
		Trace and the second second	440.00000				
Latitude	63.854831	Longitude	-148.950006	Datum	NAD 1983		
Base Elevation	1,260	Accuracy	1				
Location Description	Healy, AK	Retired Date	Not Applicable	3			
Data Source	Source Test						

		Emiss	ion Unit 02				
Specifications							
ID .	02	27 17 17 17	Design Capacity	658 MILLION BTU PER HO	LIR		
Description	Unit No. 2	t. Itani.	Emission Unit Status	Operating	OK .		
Manufacturer	TRW		Manufactured Year	1996			
Model Number	Not Applicable		Serial Number	1			
Initial Startup Date	Installed 1996		Retired Date	Not Applicable			
Regulations							
Regulation/Description							
40 CFR 60 Subpart Da, 40 (	CFR 63 Subpart UUUUU	BOARDON BOARD ON THE CONTROL OF THE	AN ADDRESS OF BUT ARE DEPARTMENT OF THE PART OF THE PA				
Control Equipment							
System Description	Spray Dry Absorber (SD	A), Selective Catalytic Red	ustion, and Paghouse				
Control Measures/	SDA to neutralize acid s	ases including SO <sub>2</sub> and HC	action, and Bagnouse				
Devices	SCR to reduce NOx emi						
		shouse to control PM and remove the dry material generated by the SDA					
Control Efficiency (%)	100		nai generated by the SDA				
Capture Efficiency (%)	100	1					
	Particulate Matter		1	Reduction Efficiency (%)	99.95		
Pollutants Controlled	Nitrogen Oxides (NOx)			Reduction Efficiency (%)	Not Available		
	Sulfur Dioxide			Reduction Efficiency (%)	Not Available		
Processes				anteres (70)	3111111111111		
Process	Primary Process						
SCC Code	10100221		1 , 11 1 1				
	> External Combustion	Boilers					
	> Electric Generation	- in the second		1 11 1111			
	> Bituminous/Subbitu	minous Coal					
	> Pulverized Coal: We						
Material Processed	Coal	. 1. 1.1					
Period Start	1/1/2018		Period End	12/31/2018	Traction of the Company		
Throughput				12/01/2010			
Total		Summer %	Fall %	Winter %	To 1 or		
81,668	tons	13.293	73.640	13.067	Spring % 0.000		
Operational Schedule	Itoris	13.233	73.040	13.007	10.000		
Days/Week	Uayer/Day	Market Deviced	In 15 . 1				
Days/ week	Hours/Day 7	Weeks/Period	Hours/Period				
Fuel Characteristics		13	2,585				
	let	lugge If a	I I I I I I I I I I I I I I I I I I I				
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
(MMBtu/ton)	(weight %)	(ppmv)	(weight %)				
14.3	0.125	Not Available	8.060				
Heating		ewika naganananya kamanan					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convention			
452		Not Applicable	7i.i 1171	HHV	V		
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	3.6	POUNDS	HOUR	CEMS	4.654E+00		
Ammonia (NH3)	4.12E-04	POUNDS	MILLION BTU	December 2018 Source	2.407E-01		
				Test			
Nitrogen Oxides(NOX)	60.7	POUNDS	HOUR	CEMS	7.847E+01		
PM10 Primary (Filt +	5.060	POUNDS	HOUR	CEMS	6.541E+00		
Cond)(PM10-PRI)	No. of the Control of	1			3.3722700		
PM2.5 Primary (Filt +	5.060	POUNDS	HOUR	CEMS	6.541E+00		
Cond)(PM25-PRI)	2006-27-147				5.5711700		
PM2.5 Filterable	5.060	POUNDS	HOUR	CEMS	6.541E+00		
PM25-FIL)		28 80 58					
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available		
PM-CON)			The second				
Sulfur Dioxide(SO2)	21.3	POUNDS	HOUR	CEMS	2.753E+01		
Lead and lead compounds	0.00042	POUNDS	TON	AP-42 Table 1.1-18	1.715E-02		
Volatile Organic	0.04	POUNDS	TON	AP-42 Table 1.1-19	1.633E+00		
Compounds(VOC)							

		Emiss	ion Unit 02					
Process	Secondary Process	i, i.i.	1. 1. 1.	1				
CC Code	10100501							
	> External Combustion Boilers							
	> Electric Generation				1 1111			
	> Distillate Oil - Grades	1 and 2			1.1.11111			
	> Boiler							
Material Processed	Distillate Oil							
Period Start	1/1/2018		Period End	12/31/2018				
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
55,638	gallons	58	24	18	0			
<b>Operational Schedule</b>								
The second secon	Hours/Day	Weeks/Period	Hours/Period					
0.1	0.5	1.0	165		DV ASSESSED BURNING CONTROL OF THE C			
Fuel Characteristics			1-33					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)					
134	0.0015	Not Available	Not Available					
Heating	10.0010	Lister Available	I NOT Available					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/		lusas Valvas G				
452		Not Applicable	00)	Heat Values Convention				
		пот Аррисавіе		HHV				
Emissions	E	1						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	3.6	POUNDS	HOUR	CEMS	2.967E-01			
Ammonia (NH3)	4.12E-04	POUNDS	MILLION BTU	December 2018 Source Test	1.535E-02			
Nitrogen Oxides(NOX)	60.7	POUNDS	HOUR	CEMS	5.003E+00			
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	6.390E-01			
PM2.5 Primary (Filt +	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and	4.306E-01			
Cond)(PM25-PRI)			THOUSAND GALLONS	1.3-7	4.3001-01			
PM2.5 Filterable (PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	6.945E-02			
PM Condensable (PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	3.612E-01			
Sulfur Dioxide(SO2)	21.3	POUNDS	HOUR	CEMS	1.756E+00			
Lead and lead compounds	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	2.500E-06			
Volatile Organic Compounds(VOC)	0.2	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	5.556E-02			
Release Points								
D	Description	A CONTRACTOR STORES	TERSON STREET,		[A			
	Description			Type	Apportion %			
02	Unit No. 2		2	Vertical	100			
		Relea	se Point 02					
Specifications								
D 2124 (244 (244 (244 (244 (244 (244 (244	02	The same	Туре	Vertical				
Description	Unit No. 2							
Stack Parameters								
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm				
315	8	208	84.2	253,943				
Geographic Coordinate	L <del>-</del>	1-00	1941E	123,343				
Latitude	63.854183	Longitudo	149 051630	0-4	INAD 4005			
Base Elevation	1,260	Longitude	-148.951639 1	Datum	NAD 1983			
Location Description		Accuracy Poting Date	CRACE - LIVE		<del></del>			
	Healy, AK	Retired Date	Not Applicable		e i e bile			
Data Source	Source Test							

		Emiss	ion Unit 03			
Specifications						
ID STATE OF THE ST	03		Design Capacity	12.554 MILLION BTU PER	HOUR	
Description	Auxiliary Heater No. 1		Emission Unit Status	Operating	HOOK	
Manufacturer	Cleaver-Brooks		Manufactured Year	1967		
Model Number	CB 189-300		Serial Number	L-39759		
nitial Startup Date	Installed 1967		Retired Date	Not Applicable		
Regulations	mistanca 1507		Inetheu Date	Not Applicable		
					Commence of the second	
Regulation/Description						
40 CFR 63 Subpart JJJJJJ			5	** - 1.1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1, 1,4,1,1,1,1,1	
Control Equipment						
System Description	Not Applicable					
Control Measures/	Not Applicable			8.7 7 147	1. 1	
Devices	Not Applicable			A. 1. 2.1	1. 1.1	
Control Efficiency (%)	Not Applicable		2		* * * * * * * * * * * * * * * * *	
Capture Efficiency (%)	Not Applicable					
	Not Applicable	7, 22, 11, 11	1 1 2 2 2 2 2	Reduction Efficiency (%)	Not Applicable	
Pollutants Controlled	Not Applicable	**.	2. 2	Reduction Efficiency (%)	Not Applicable	
Processes				Incomment afficiency (70)	1.10t Applicable	
	Drimary Process					
Process SCC Code	Primary Process		47 414	0 100	2	
occ code	10200502					
	> External Combustion Boilers					
	> Industrial		<del>, , , , , , , , , , , , , , , , , , , </del>	<del></del>		
	> Distillate Oil				2 11201 2 2 2 2 2	
	> 10-100 Million Btu/h	r		1 1 111		
Material Processed	Distillate Oil					
Period Start	1/1/2018		Period End	12/31/2018		
Throughput						
Total		Summer %	Fall %	Winter %	Spring %	
5,763	gallons	6	0	0	94	
Operational Schedule						
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
0.1	0.4	1.0	161			
Fuel Characteristics	10.4	11.0	1101			
	Erom Erozania analisa o		11004 8032 5002 1003 1003 1003 1003			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)			
134	0.0015	Not Available	Not Available	5- 12. His.	a la Hin	
Heating						
Heat Input (MMBtu/hr)		Heat Output (MMBtu/I	hr)	Heat Values Convention		
5		Not Applicable		HHV		
Emissions						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	1.441E-02	
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available		
	20	POUNDS	THOUSAND GALLONS		Not Available	
Nitrogen Oxides(NOX)	20	FUUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	5.763E-02	
PM10 Primary (Filt +	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and	6.627E-03	
Cond)(PM10-PRI)				1.3-7		
PM2.5 Primary (Filt +	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and	4.466E-03	
Cond)(PM25-PRI)			3,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.3-7		
PM2.5 Filterable	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	7.204E-04	
PM25-FIL)			THOUSAND GALLONS	74 Table 1.3-7	7.2046-04	
PM Condensable	1.3	POUNDS	THOUSAND CALLONS	AD 42 Table 1 2 2	2 7465 02	
PM-CON)	1.5	- COND3	THOUSAND GALLONS	AP-42 Table 1.3-2	3.746E-03	
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	6.138E-04	
Lead and lead compounds	9	DOLINDS	DULLON G C			
1111	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	2.593E-11	
Volatile Organic	0.34	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	9.797E-04	

		Emiss	ion Unit 03		
Process	Secondary Process	1	1, 1,	1. 1.	
SCC Code	Not Applicable	F 1. 11 at	81 1.1. 3.1 81		:
	Not Applicable				
	Not Applicable	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2. 10 1. 1	* .**: .*	
	Not Applicable		Market 1 1 Market 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7	
	Not Applicable				
Material Processed	Not Applicable		27 1,1, 812 00		
Period Start	1/1/2018		Period End	12/31/2018	
Throughput					
Total Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	пчостиринальна	INOT Applicable	INOC Applicable	INOT Applicable	INOT Applicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	THE RESIDENCE OF THE PERSON OF		
Fuel Characteristics	INOT Applicable	INOCAPPIICABLE	Not Applicable		Allerania de la Caración de la Carac
	la a v		2704 Tevanorus automobiles (1904)		PEDIANDER WARREN BY STREET, TO THE
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Nick A II LI	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating		SO TO STATE OF THE			
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	nr)	Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			T	In-a-di-a
03	Auxiliary Heater No. 1			Type Vertical	Apportion %
	maximary rieater NO. 1			Ivertical	100
		Relea	se Point 03		
Specifications					
D.	03	a da lidaa	Туре	Vertical	
Description	Auxiliary Heater No. 1			T	
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Evit Gas Flour Bats /s	ofm)
35	1.9	450	21	Exit Gas Flow Rate (a 3,600	Citi)
Geographic Coordinat				13,000	
		Transaction and the		Language payor and a construction	CMC CMC
Latitude	63.854883	Longitude	-148.950131	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate				

		Emiss	ion Unit 04			
Specifications						
D	04	11 1.1.111.11	Design Capacity	23 MILLION BTU PER HOL	ID	
Description	Auxiliary Heater No. 2		Emission Unit Status	Operating	JK	
Manufacturer	Cleaver-Brooks		Manufactured Year	1996		
Model Number	CBI 100-800-15		Serial Number	OLO94777		
Initial Startup Date	Installed 1996		Retired Date	Not Applicable		
Regulations	mistanea 1990		nethed bate	INOT Applicable		
Regulation/Description	40 CFD C2 C					
40 CFR 60 Subpart Dc and	40 CFR 63 Subpart JJJJJJ		7 1.2.71	7 1 1 71	1	
Control Equipment						
System Description	Not Applicable		A 10 10 10 10 10 10 10 10 10 10 10 10 10		1 11	
Control Measures/	Not Applicable		<u> 41 1 111X</u>		1.1 1.1.1.1	
Devices	Not Applicable	1. 1.1		1. 1.1		
Control Efficiency (%)	Not Applicable		There is a second of the second	a name of the second		
Capture Efficiency (%)	Not Applicable					
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable	
	Not Applicable	Car institu	In the last	Reduction Efficiency (%)	Not Applicable	
Processes						
Process	Primary Process	1. 1	1	1. 1. 1. 1. 1.		
SCC Code	10200502		., 1 . 1.4			
	> External Combustion Boilers					
	> Industrial					
	> Distillate Oil					
	> 10-100 Million Btu/h	r	*******			
Material Processed	Distillate Oil					
Period Start	1/1/2018	<del></del>	Period End	12/31/2018	The state of the s	
Throughput	1/1/2010		Feriou Ellu	12/31/2018		
		I la sur la company	I-cwp	De Louis de la companya de la compan	Teachers and the horizontal memory	
Total		Summer %	Fall %	Winter %	Spring %	
	gallons	0	11	0	89	
Operational Schedule						
	Hours/Day	Weeks/Period	Hours/Period			
0.0	0.0	0.0	3		South Hit Harry	
Fuel Characteristics						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)			
134	0.0015	Not Available	Not Available	1 . 1.1		
Heating						
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convention		
13		Not Applicable		HHV		
Emissions		- INOL Applicable		IUU.		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	6.541E-04	
	Not Available	Not Available	Not Available	Not Available	Not Available	
Nitrogen Oxides(NOX)	20	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	2.617E-03	
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	3.009E-04	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	2.028E-04	
PM2.5 Filterable PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	3.271E-05	
PM Condensable PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	1.701E-04	
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Palance	2 7075 05	
Lead and lead compounds	9	POUNDS	BILLION GALLONS	Mass Balance AP-42 Table 1.3-10	2.787E-05 1.177E-12	
Volatile Organic	0.34	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	4.448E-05	

		Emiss	sion Unit 04		
Process	Secondary Process	1. 1,,	i i i i i i i i i i i i i i i i i i i	1.7	
SCC Code	Not Applicable			j. 1.1.1	
	Not Applicable				Hilly Barrie Wall
	Not Applicable			L tillian	
	Not Applicable				
	Not Applicable				
Material Processed	Not Applicable		40,000,419,49	Mark Bridge	T. A
Period Start	1/1/2018		Period End	12/31/2018	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule				interapplicable	INOT Applicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	INOC Applicable	Inot Applicable	INOT Applicable		
CAN PRODUCT OF THE OWNER OF THE OWNER.	Flam Cultur Cantant	Tunes is a second			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/	hr)	Heat Values Convent	tion
Not Applicable		Not Applicable		Not Applicable	* *
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Туре	Apportion %
04	Auxiliary Heater No. 2			Vertical	100
		Della	so Point 04	14 et cical	1100
		Kelea	se Point 04		
Specifications					
D	04		Туре	Vertical	
Description	Auxiliary Heater No. 2	. 2010-1 - 1			
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	acfm)
152	1.9	450	25	4,269	Lenn)
Geographic Coordinate		Librardina Para	123	1-1,203	
Latitude	63.854956	longit de	140 054404		
		Longitude	-148.951181	Datum	NAD 1983
Base Elevation	1,260	Accuracy	A A A A A A A A A A A A A A A A A A A		
Location Description	Healy, AK	Retired Date	Not Applicable	in the second	
Data Source	Engineering Estimate				

		Emiss	ion Unit 05				
Specifications							
ID STATE OF THE ST	05		Design Capacity	2.75 MEGAWATTS			
Description	Diesel Generator Engine	e No. 1	Emission Unit Status	Not Operating			
Manufacturer	Electro-Motive Diesel		Manufactured Year	1967			
Model Number	20-645-E4		Serial Number	67-B1-1152			
nitial Startup Date	Installed 1967		Retired Date	Not Applicable			
Regulations				- Trott rippiicable			
Regulation/Description							
40 CFR 63 Subpart ZZZZ		1 1.1. 11 11					
Control Equipment							
System Description	Not Applicable						
Control Measures/	Not Applicable	The space of the					
Devices	Not Applicable				<del>i i i i i i i i i i i i i i i i i i i </del>		
Control Efficiency (%)	Not Applicable						
Capture Efficiency (%)	Not Applicable						
Lapture Efficiency (%)				la 1m 1			
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable		
	Not Applicable	- 11	· · · · · · · · · · · · · · · · · · ·	Reduction Efficiency (%)	Not Applicable		
Processes							
Process	Primary Process	10 100	Land to the lands	in the training			
SCC Code	20100102						
	> Internal Combustion Engines						
	> Electric Generation						
	> Distillate Oil (Diesel)						
	> Reciprocating	20 2020					
Material Processed	Diesel				41.545		
Period Start	1/1/2018	and the factor of the factor o	Period End	12/31/2018			
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
	gallons	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Paradal I I At .	1. 1.1.1 1 1 1 1		
Fuel Characteristics							
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable	4- 4- 8-5 V	. 1 . 1.1		
Heating							
Heat Input (MMBtu/hr)		Heat Output (Megawa	Hs)	Heat Values Convention			
Not Applicable		Not Applicable		HHV	BASIS DE L'ANGE DE L		
Emissions		Trour repaired bit		THICK THE PROPERTY OF THE PROP			
Pollutant	Emission Factor	EF Numerator	EE Damawinatan	Fr. e			
	Not Applicable	Not Applicable	EF Denominator Not Applicable	EF Source Not Applicable	Tons		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable		Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt +	THOS Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Cond)(PM10-PRI) PM2.5 Primary (Filt +			(0.000)				
***	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Cond)(PM25-PRI) PM2.5 Filterable							
PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensable	* * * * * * * * * * * * * * * * * * * *				14.471 H		
PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PIVI-CUIVI	Not Applies !-!-	De English Andrews Mark Street Control of Control	•				
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)			Land Mary 1995 Control of the Contro	300 870	44 4 4 4		
Sulfur Dioxide(SO2) Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		

		Emissi	on Unit 05		
Process	Secondary Process	1. 1	1. 1	1, 1,	
SCC Code	Not Applicable		- 1. L. M.,		1 1.1
	Not Applicable		)		
	Not Applicable				
	Not Applicable				
	Not Applicable			11 4.11	
Material Processed	Not Applicable				14 15 55
Period Start	1/1/2018		Period End	12/31/2018	12 10000
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule				Troc ripplicable	InterApplicable
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	INOT Applicable	INOT Applicable	INOT Applicable		
COLUMBIA DE MANDE DE LA COLUMBIA DE	FL 6 (6 6				
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
leat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
AND THE RESIDENCE OF THE PERSON OF THE PERSO	Description			M+.02005 POS TO TO THE	I
D 05	Description Diesel Generator Engine	o No. 1		Type	Apportion %
	Preser denerator Engin			Vertical	100
		Releas	e Point 05		
Specifications					
D.	05		Туре	Vertical	
Description	Diesel Generator Engin	e No. 1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Evit Gas Town (5)	Evit Cas Valasitu (fr. s)	Full Can Flagge Day 1	
L8.25	3.33	Exit Gas Temp (F) 950	Exit Gas Velocity (fps) 25	Exit Gas Flow Rate (a	icim)
		טכנן	45	13,180	
Geographic Coordinate		Parada yang panadan da kambana			(SAFSEROW)
Latitude	63.855217	Longitude	-148.948886	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable	i. 11111	1 100
Data Source	Engineering Estimate				

		Emiss	ion Unit 06		
Specifications					
p	06		Design Capacity	400 ton/hr	
Description	Crusher System (Dust Co	llector No. 1)	Emission Unit Status	Operating	
Manufacturer	Not Available	meetor No. 17	Manufactured Year	Not Available	
Model Number	Not Available		Serial Number		N 4\
Woder Number	Not Available		Seriai Number	885247 (Secondary Crush 844034 (Secondary Crush	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 60 Subpart Y	in the second	<u>ie ieda</u>			
Control Equipment					
System Description	Dust Collector No. 1		_		
Control Measures/ Devices	Fabric Filter/Baghouse				
	Not Available				
Control Efficiency (%)					
Capture Efficiency (%)	Not Available		<del>,</del>		
D. II. 4 4. C	PM10 Primary (Filt + Cor			Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cor PM2.5 Filterable (PM25-			Reduction Efficiency (%) Reduction Efficiency (%)	Not Available Not Available
Processes				Control Control (70)	
Process	Primary Process				
SCC Code	30510103				
	> Industrial Processes		T	**	talia ila este este este este este este este est
	> Mineral Products				
	> Bulk Materials Conve	yors			
	> Coal		FA CANADA	24 22.	Record Records
Material Processed	Coal				
Period Start	1/1/2018	4 1 1 1 1 1	Period End	12/31/2018	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
259,744	tons	24	44	21	11
<b>Operational Schedule</b>					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
1.8	6.1	13.2	2,211	Managa Ayan - Baranga Katanga K	++ · · · · · ·
Fuel Characteristics			[6]		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	la to control		
neat Content			Ash Content		
NI	(weight %) Not Applicable	(ppmv)	(weight %)		
Not Applicable	LIVOT Applicable	Not Applicable	Not Applicable		
	пострыване			THE PROPERTY OF THE PARTY OF TH	
Heating	тостърневые				
Heat Input	The state of the s	Heat Output		Heat Values Convention	
				Heat Values Convention Not Applicable	
Heat Input		Heat Output			
Heat Input Not Applicable Emissions		Heat Output Not Applicable	EF Denominator	Not Applicable	Tons
Heat Input Not Applicable Emissions Pollutant	Emission Factor	Heat Output Not Applicable  EF Numerator	EF Denominator	Not Applicable  EF Source	Tons Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	Emission Factor Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable	EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3)	Emission Factor Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Not Applicable Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Emission Factor Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03,	Not Applicable Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 2.05	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 2.266E+00
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 2.05	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 2.266E+00
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	Emission Factor Not Applicable Not Applicable 2.05 2.05	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 2.266E+00 2.266E+00 2.266E+00
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	Emission Factor Not Applicable Not Applicable Not Applicable 2.05	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 2.266E+00 2.266E+00
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable	Emission Factor Not Applicable Not Applicable 2.05 2.05	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 2.266E+00 2.266E+00 2.266E+00 Not Available
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON)	Emission Factor Not Applicable Not Applicable 2.05 2.05 Not Available Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable	Not Applicable Not Applicable Not Applicable 2.266E+00 2.266E+00 2.266E+00 Not Available Not Applicable
Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	Emission Factor Not Applicable Not Applicable Not Applicable 2.05 2.05 Not Available	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available	EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 2.266E+00 2.266E+00 2.266E+00 Not Available

		Emiss	ion Unit 06				
Process	Secondary Process	1. 1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
SCC Code	Not Applicable						
	Not Applicable						
	Not Applicable	7 7 7 7					
	Not Applicable		10 (000) 111 11		******		
	Not Applicable						
Material Processed	Not Applicable	27 17 17 17	27 1.1. 211 22				
Period Start	1/1/2018		Period End	12/31/2018			
Throughput				1-2/0-7-0-20			
Total		Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule	inot ripplicable	Troc ripplicable	Trot Applicable	INOT Applicable	INOT Applicable		
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable					
Fuel Characteristics	INOL Applicable	INOT Applicable	Not Applicable				
	Production and account of the con-						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Heating							
Heat Input		Heat Output		Heat Values Convention			
Not Applicable		Not Applicable	1 01011 1 1 1	Not Applicable			
Emissions							
Pollutant	<b>Emission Factor</b>	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic			400 E 000 E 000 E	140t Applicable	Not Applicable		
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds PM Condensable (< 1	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Release Points							
ID see la se	Description			Туре	Apportion %		
06	Crusher System (Dust (	A CONTRACTOR OF THE PARTY OF TH	1,	Downward-facing Vent	100		
		Relea	se Point 06				
Specifications							
D	06	7	Type	Downward facts - 1/2 :			
Description	Crusher System (Dust C	ollector No. 1\	Туре	Downward-facing Vent			
See al Contra (Charles and Charles and Cha	Crusiler System (Dust C	onector No. 1)			Tamini I		
Stack Parameters	lan a sa			Graf Section and Control of the Cont			
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm			
13	3.08	30	27	12,000			
Geographic Coordinate							
Latitude	63.855014	Longitude	-148.949925	Datum	NAD 1983		
Base Elevation	1,260	Accuracy	1	1. 11 1.1			
Location Description	Healy, AK	Retired Date	Not Applicable				
Data Source	Engineering Estimate						

		Emiss	ion Unit 07		
Specifications					
D	07	11 1.1.111	Design Capacity	314 tons	
Description	Limestone Storage Silo		Emission Unit Status	Operating	
Manufacturer	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	Not Available	
nitial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations	mistaneu 1550		Methed Date	INOT Applicable	
					CONTROL DE LA CONTROL DE L
Regulation/Description					
Not Applicable				** 1.1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Control Equipment					
System Description	Baghouse				
Control Measures/	Dust Suppression				
Devices	Fabric Filter/Baghouse				
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
Pollutants Controlled	PM10 Primary (Filt + Cor			Reduction Efficiency (%)	Not Available
	PM25 Primary (Filt + Cor			Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-	FIL) 1. 111 11	11 11 11 11	Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process		38 Pun. 3-8 as		
SCC Code	30510205				
	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Storage Bins				
	> Limestone				
Material Processed	Limestone			The Allegands	
Period Start	1/1/2018		Period End	12/31/2018	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
57	tons	50	50	0	0
Operational Schedule			100 1 1 1		
	House/Dov	Weeks/Devied	lus de la		
Days/Week 0.1	Hours/Day 0.4	Weeks/Period 0.8	Hours/Period		
	10.4		139		
Fuel Characteristics	EUROPON CANCER DE PROPERTOR DE	THE PARTY OF THE P	THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERS		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
			(weight %)		
	(weight %)	(ppmv)			
Not Applicable		(ppmv) Not Applicable	Not Applicable		
	(weight %)				
Not Applicable  Heating  Heat Input	(weight %)	Not Applicable  Heat Output		Heat Values Convention	
Not Applicable  Heating  Heat Input	(weight %)	Not Applicable		Heat Values Convention Not Applicable	
Not Applicable  Heating  Heat Input	(weight %)	Not Applicable  Heat Output			
Not Applicable Heating Heat Input Not Applicable Emissions	(weight %) Not Applicable	Not Applicable  Heat Output  Not Applicable	Not Applicable	Not Applicable	Tons
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant	(weight %)	Not Applicable  Heat Output	Not Applicable  EF Denominator	Not Applicable  EF Source	Tons Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	(weight %) Not Applicable  Emission Factor	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source  Not Applicable	Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3)	(weight %) Not Applicable  Emission Factor Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator	Not Applicable  EF Denominator  Not Applicable  Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Not Applicable  EF Denominator  Not Applicable  Not Applicable	EF Source Not Applicable Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03,	Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable O.14	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	Rot Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR	EF Source Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable Ont Applicable 0.14 0.14	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable O.14	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	Rot Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	Emission Factor Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable 0.14  0.14	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable	Emission Factor Not Applicable Not Applicable Not Applicable Not Applicable Ont Applicable 0.14 0.14	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON)	Emission Factor Not Applicable  Not Applicable Not Applicable Not Applicable Not Applicable 0.14  0.14  Not Available	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Pormit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 9.695E-03 9.695E-03 Not Available
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PMCON) Sulfur Dioxide(SO2)	Emission Factor Not Applicable  Not Applicable  Not Applicable Not Applicable  0.14  0.14  Not Available  Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Available	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 9.695E-03 9.695E-03
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Emission Factor Not Applicable  Not Applicable Not Applicable Not Applicable Not Applicable 0.14  0.14  Not Available	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Pormit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 9.695E-03 9.695E-03 Not Available
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PMCON) Sulfur Dioxide(SO2)	Emission Factor Not Applicable  Not Applicable  Not Applicable Not Applicable  0.14  0.14  Not Available  Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Available	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable	Not Applicable Not Applicable Not Applicable 9.695E-03 9.695E-03 9.695E-03 Not Available Not Applicable

		Emiss	sion Unit 07					
rocess	Secondary Process	A. A. A.	1. 1. 1	i. invis				
CC Code	Not Applicable		1. 11. 1.1.					
	Not Applicable							
	Not Applicable	. " 1."						
	Not Applicable							
	Not Applicable	1						
Material Processed	Not Applicable							
Period Start	1/1/2018		Period End	12/31/2018				
Throughput								
Total Total		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Operational Schedule		THOU TO PRODUCE	Tree replicable	Trot Applicable	INOT Applicable			
Days/Week	Hours/Day	Weeks/Period	[Univer(Pavilled					
lot Applicable	Not Applicable	Not Applicable	Not Applicable					
Fuel Characteristics	INOL Applicable	[NOT Applicable	INOT Applicable					
AND REPORTED AND REPORT OF SHAREST PARTIES AND REPORTED AND REPORT OF SHAREST PARTIES AND REPORT	EL 6.15 6	I manage of the second		AN ENTREMENTAL SERVICE SERVICES	UNIVERSE PURSUITA DE LA PROPERTICIONE			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Heating								
leat Input		Heat Output		Heat Values Convention				
Not Applicable		Not Applicable	1 1 1 1 1	Not Applicable				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM Condensable PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
/olatile Organic	200 ASSAULT - 24 CA 42	The company was present	INOT Applicable	I Ant Applicable	Not Applicable			
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
ead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Release Points								
D	Description			Туре	Apportion %			
)7	Limestone Storage Silo		4 200 2 3 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Downward-facing Vent	100			
		Relea	se Point 07					
Specifications								
Specifications	la-:							
D	07		Туре	Downward-facing Vent	a la la a			
Description	Limestone Storage Silo							
Stack Parameters								
itack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm				
139	0.91	30	21	800				
Geographic Coordinate	8							
atitude	63.854947	Longitude	-148.950628	Datum	NAD 1983			
Base Elevation	1,260	Accuracy	1	- MANAGE STATE OF THE STATE OF	1400 2003			
ocation Description	Healy, AK	Retired Date	Not Applicable					
Data Source	Engineering Estimate	Additional and the second seco	1.10t. (ppcubic	3101.1	37 370 3			

		Emiss	ion Unit 08					
Specifications								
D a series of the series of th	08	P 11 11 11	Design Capacity	570 tons				
Description	Flyash Storage Silo		Emission Unit Status	Operating				
Manufacturer	Not Available		Manufactured Year	Not Available				
Model Number	Not Available		Serial Number					
nitial Startup Date	Installed 1996	THE STATE OF THE S	Retired Date	Not Available				
	ilistalieu 1550		Retired Date	Not Applicable				
Regulations		Acres are successive to the same successive of	TO THE WHILE THE SAME AND THE PARTY AND THE	TINGS IN THE TOTAL OF THE TOTAL				
Regulation/Description								
Not Applicable	M 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2011111	1					
Control Equipment								
System Description	Pulse Jet Baghouse	lse Jet Baghouse						
Control Measures/	Dust Suppression	to the second	in the the		4 4 4 4 4 4			
Devices	Fabric Filter/Baghouse	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	in the lefter					
Control Efficiency (%)	Not Available				1 3000 1 3 B B B B B			
Capture Efficiency (%)	Not Available		20 200					
	PM10 Primary (Filt + Cor	nd)		Reduction Efficiency (%)	Not Available			
Pollutants Controlled	PM25 Primary (Filt + Cor		1. 1	Reduction Efficiency (%)	Not Available			
	PM2.5 Filterable (PM25-		n In thin	Reduction Efficiency (%)	Not Available			
Processes	20 1 112 4 112 5			inconcion Emiliency (%)	Intor Available			
	Delmanus Dun							
Process	Primary Process							
SCC Code	30181003				3 0 9 3 1 1			
	> Industrial Processes							
	> Chemical Manufacturi							
	> General Processes		21 July 21 12 1		7			
	> Storage/Transfer							
Material Processed	Flyash				in the same			
Period Start	1/1/2018	F 12.15	Period End	12/31/2018	a la bla			
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	25	62	13	0			
Operational Schedule								
	Hours/Day	Weeks/Period	Hours/Period					
2.2	7.5	16.4	2,750					
	7.5	110.4	[2,730					
Fuel Characteristics	EXPERIOR DEL CONTROL DE CONTROL	Yet I are a superior and the second and the second		TO A STATE OF THE PARTY OF THE STATE OF THE				
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable	1 4 4 4 4 4 4				
Heating								
Heat Input		Heat Output		Heat Values Convention				
Not Applicable	100 P.	Not Applicable		Not Applicable	11 11 11 11			
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable					
Nitrogen Oxides(NOX)	Not Applicable			Not Applicable	Not Applicable			
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +	0.86	POUNDS	HOUR	Permit AQ0173TVP03,	1.183E+00			
Cond)(PM10-PRI)				Table B				
PM2.5 Primary (Filt +	0.86	POUNDS	HOUR	Permit AQ0173TVP03,	1.183E+00			
Cond)(PM25-PRI)				Table B				
PM2.5 Filterable	0.86	POUNDS	HOUR	Permit AQ0173TVP03,	1.183E+00			
PM25-FIL)	POSSESSINGS.			Table B				
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available			
PM-CON)		Trot Available	INOT VARIABLE	NOT AVAIIABLE	Not Available			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
	Not Applicable	Not Applicable	Not Applicable					
			LIVOT ADDUCADIO	Not Applicable	Not Applicable			
Volatile Organic	Not Applicable	Trot Applicable	Not Applicable					
Volatile Organic Compounds(VOC) Lead and lead compounds		Not Applicable	Not Applicable	Not Applicable	Not Applicable			

		Emiss	ion Unit 08		
Process	Secondary Process	1. 1771			
SCC Code	Not Applicable			10 10 10 10	G as 2 - 1 A 1 A
	Not Applicable				***
	Not Applicable	100	4 4 4 4 4		1 10 1 1
	Not Applicable		1.00.0111	1 111 111 11	To National West Comment
	Not Applicable				
Material Processed	Not Applicable	r in ma		1	
Period Start	1/1/2018		Period End	12/31/2018	**************************************
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	itoertphicable	Titot / ipplicable	Troc Applicable	INOT Applicable	INOT Applicable
Days/Week	Hours/Day	Weeks/Period	Unive (Payled		
Not Applicable	Not Applicable		Hours/Period		
	NOT Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	EVERTAL PROPERTY.			The second contract to the second	
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic		and Series Series	Hot Applicable	- Applicable	Not Applicable
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
D	Description			Туре	Apportion %
08	Flyash Storage Silo		0 1000 10 10 10 10 10 10 10 10 10 10 10	Horizontal	100
		Relea	se Point 08		
		nelea	oc. onicoo		
Specifications			Encomparation and the second	and the same of th	
D	08		Туре	Horizontal	a 1 a 1.2 a
Description	Flyash Storage Silo				CAR CHARGE SECTION AND ADDRESS.
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	icfm)
100	0.91	30	128	5,000	
Geographic Coordinate	9				
Latitude	63.855036	Longitude	-148.951444	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1	Datum	14VD 1302
Location Description	Healy, AK	Retired Date	Not Applicable		
			inot rippiicable		

		Emiss	ion Unit 09					
Specifications								
D	09		Dosign Conneity	50 tons				
Description	Sodium Bicarbonate Har	adling System	Design Capacity Emission Unit Status		***************************************			
Manufacturer	Not Available	iding system	Manufactured Year	Operating Not Available				
Model Number	Not Available		Serial Number	Not Available Not Available				
nitial Startup Date	Installed 1998		Retired Date	Not Available Not Applicable				
Regulations	instancu 1330		Retired Date	INOT Applicable				
		ORDER STANDARD STANDARD STANDARD			District State of the State of District State of			
Regulation/Description								
10 CFR 60 Subpart OOO		A111111	To available to the					
Control Equipment								
System Description		orizon System 58-SF-16 Style II Pulse Air Baghouse						
Control Measures/	Fabric Filter/Baghouse							
Devices		4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
Control Efficiency (%)	Not Available		7 220 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					
Capture Efficiency (%)	Not Available	27 . 11 11 11						
	PM10 Primary (Filt + Cor	nd)		Reduction Efficiency (%)	Not Available			
Pollutants Controlled	PM25 Primary (Filt + Cor			Reduction Efficiency (%)	Not Available			
	PM2.5 Filterable (PM25-			Reduction Efficiency (%)	Not Available			
Processes								
rocess	Primary Process							
CC Code	30181003			<del></del>				
Jee code	> Industrial Processes	1.1.1						
		ing		- 11.11.1.				
	> Chemical Manufacturing > General Processes							
Material Processed	> Storage/Transfer		<del></del>					
	Sodium Bicarbonate							
Period Start	1/1/2018		Period End	12/31/2018	o 1. iii			
Throughput								
Γotal		Summer %	Fall %	Winter %	Spring %			
383	tons	47	12	25	15			
<b>Operational Schedule</b>								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
0.1	0.2	0.4	70	1. 1				
Fuel Characteristics								
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		42/03/03/03/04/04			
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Heating	INOT Applicable	INOT Applicable	INOT Applicable					
		In the second						
Heat Input		Heat Output		Heat Values Convention				
Not Applicable		Not Applicable		Not Applicable				
Emissions								
			EF Denominator	EF Source	Tons			
Pollutant	Emission Factor	EF Numerator						
Pollutant Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Pollutant Carbon Monoxide(CO) Ammonia (NH3)	anniconon ructor				Not Applicable Not Applicable			
Pollutant Carbon Monoxide(CO) Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Not Applicable Not Applicable	Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable	Not Applicable			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable Not Applicable Not Applicable 0.02	Not Applicable Not Applicable Not Applicable GRAINS	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC	Not Applicable Not Applicable Not Applicable Design Specifications	Not Applicable Not Applicable 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable Not Applicable Not Applicable 0.02 0.02	Not Applicable Not Applicable Not Applicable GRAINS GRAINS	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications	Not Applicable Not Applicable 2.637E-03 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable	Not Applicable Not Applicable Not Applicable 0.02	Not Applicable Not Applicable Not Applicable GRAINS	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC	Not Applicable Not Applicable Not Applicable Design Specifications	Not Applicable Not Applicable 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable PM25-FIL)	Not Applicable Not Applicable Not Applicable 0.02 0.02	Not Applicable Not Applicable Not Applicable GRAINS GRAINS GRAINS	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications Design Specifications	Not Applicable Not Applicable 2.637E-03 2.637E-03 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable PM2.5 Filterable PM25-FIL) PM Condensable	Not Applicable Not Applicable Not Applicable 0.02 0.02	Not Applicable Not Applicable Not Applicable GRAINS GRAINS	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications	Not Applicable Not Applicable 2.637E-03 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON)	Not Applicable Not Applicable 0.02 0.02 0.02 Not Available	Not Applicable Not Applicable Not Applicable GRAINS GRAINS GRAINS Not Available	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Available	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications Design Specifications Not Available	Not Applicable Not Applicable 2.637E-03 2.637E-03 2.637E-03 Not Available			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	Not Applicable Not Applicable Not Applicable 0.02 0.02 0.02 Not Available Not Applicable	Not Applicable Not Applicable Not Applicable GRAINS GRAINS GRAINS Not Available Not Applicable	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications Design Specifications	Not Applicable Not Applicable 2.637E-03 2.637E-03 2.637E-03			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Not Applicable Not Applicable 0.02 0.02 0.02 Not Available	Not Applicable Not Applicable Not Applicable GRAINS GRAINS GRAINS Not Available	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Available	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications Design Specifications Not Available	Not Applicable Not Applicable 2.637E-03 2.637E-03 2.637E-03 Not Available			
Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	Not Applicable Not Applicable Not Applicable 0.02 0.02 0.02 Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable GRAINS GRAINS GRAINS Not Available Not Applicable	Not Applicable Not Applicable Not Applicable DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT DRY STANDARD CUBIC FOOT Not Available Not Applicable	Not Applicable Not Applicable Not Applicable Design Specifications Design Specifications Design Specifications Not Available Not Applicable	Not Applicable Not Applicable 2.637E-03 2.637E-03 2.637E-03 Not Available Not Applicable			

		Emiss	ion Unit 09					
Process	Secondary Process		i. i	1				
SCC Code	Not Applicable							
	Not Applicable							
	Not Applicable							
	Not Applicable				T			
	Not Applicable							
Material Processed	Not Applicable			FI 100 FI	7			
Period Start	1/1/2018		Period End	12/31/2018				
Throughput								
<b>Total</b>		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
<b>Operational Schedule</b>								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Fuel Characteristics								
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable	. 1 . 1.1				
Heating		, rotrippiicable	THO E APPRICADIC					
Heat Input		Heat Output		Heat Values Convention				
Not Applicable		Not Applicable		Not Applicable				
Emissions		INOT Applicable		INOT Applicable				
Pollutant	Emission Factor	Fr November	IFF N					
Carbon Monoxide(CO)		EF Numerator	EF Denominator	EF Source	Tons			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Filterable PM25-FIL)	19							
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Release Points								
D	Description			Туре	Apportion %			
09	Sodium Bicarbonate Ha	ndling System		Downward-facing Vent	100			
			se Point 09	- State of the sta				
•		Relea	Se rollit 03					
Specifications			Total Constitution of the					
	09	1 - 1/1	Type	Downward-facing Vent				
Description	Sodium Bicarbonate Hai	ndling System						
Stack Parameters								
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	)			
58	0.45	30	46	440				
Geographic Coordinate	9							
Latitude	63.854619	Longitude	-148.950214	Datum	NAD 1983			
Base Elevation	1,260	Accuracy	1 1 1 1 1 1 1	A MANAGEMENT OF THE STATE OF TH	1.170 1303			
ocation Description	Healy, AK	Retired Date	Not Applicable					
Data Source	Engineering Estimate			Attended to the second second	The state of the s			

		Emiss	ion Unit 10				
Specifications							
D	10		Design Conneity	240 ton/hr			
Description	Coal Handling System (D	ust Collector No. 2)	Design Capacity Emission Unit Status	Operating			
Manufacturer	Not Available	ust collector No. 2)	Manufactured Year	Not Available			
Model Number	Not Available		Serial Number				
Initial Startup Date	Installed 1996		Retired Date	Not Available			
	Illistalleu 1990		Retired Date	Not Applicable			
Regulations		VIOLENCE CONTROL VIOLENCE CONTROL CONT		WAY TO SHARE THE SHARE THE SHARE SHARE THE SHARE SHARE THE			
Regulation/Description							
40 CFR 60 Subpart Y			<u> </u>				
Control Equipment							
System Description	Air-Cure Environmental,	Inc 276RF8 Reverse Pulse	Baghouse				
Control Measures/	Fabric Filter/Baghouse	Tanah.					
Devices		10 24 34		1. 1. 1.1.	. 1 . 1.1		
Control Efficiency (%)	Not Available				* ***** * * * * * *		
Capture Efficiency (%)	Not Available						
	PM10 Primary (Filt + Cor	nd)	1	Reduction Efficiency (%)	Not Available		
Pollutants Controlled	PM25 Primary (Filt + Cor		is the second	Reduction Efficiency (%)	Not Available		
	PM2.5 Filterable (PM25-		an 1, n. 100 on	Reduction Efficiency (%)	Not Available		
rocesses				annoising (70)			
Process	Primary Process						
CC Code	30510103						
ice code	> Industrial Processes			X X X			
		<del>- 1. 1. 1</del>					
	> Mineral Products						
	> Bulk Materials Conve	yors					
	> Coal						
Material Processed	Coal		1	REAL CONTRACTOR OF THE PROPERTY OF THE PROPERT	1. 1.1.		
Period Start	1/1/2018	1 - 1-1	Period End	12/31/2018	1. 1.1		
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
259,744	tons	24	44	21	11:		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
	6	13	2,211	ia julianja			
2	0						
Fuel Characteristics							
CONTRACTOR OF STREET	Flem Sulfur Content	H2S Sulfur Content	Ash Content				
CONTRACTOR OF STREET	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
Heat Content	(weight %)	(ppmv)	(weight %)				
Heat Content Not Applicable							
Heat Content Not Applicable Heating	(weight %)	(ppmv) Not Applicable	(weight %)				
Heat Content Not Applicable Heating Heat Input	(weight %)	(ppmv) Not Applicable Heat Output	(weight %)	Heat Values Convention			
Heat Content  Not Applicable  Heating  Heat Input  Not Applicable	(weight %)	(ppmv) Not Applicable	(weight %)	Heat Values Convention Not Applicable			
Heat Content  Not Applicable  Heating  Heat Input  Not Applicable  Emissions	(weight %) Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable	(weight %) Not Applicable	Not Applicable			
Heat Content  Not Applicable  Heating  Heat Input  Not Applicable  Emissions  Pollutant	(weight %) Not Applicable  Emission Factor	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator	(weight %) Not Applicable  EF Denominator		Tons		
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	(weight %) Not Applicable  Emission Factor Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable	Tons Not Applicable		
Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator	(weight %) Not Applicable  EF Denominator	Not Applicable  EF Source			
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	(weight %) Not Applicable  Emission Factor Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source  Not Applicable  Not Applicable	Not Applicable Not Applicable Not Applicable		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	(weight %)  Not Applicable  EF Denominator  Not Applicable  Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable 3.43	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR  HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable 3.43	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable 3.43 3.43	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR  HOUR  HOUR	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR  HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable 3.43 3.43 Not Available	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00 3.792E+00 Not Available		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Rot Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00 3.792E+00		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PMCON) Sulfur Dioxide(SO2) Volatile Organic	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable 3.43 3.43 Not Available	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00 3.792E+00 Not Available		
Heat Content  Not Applicable Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	(weight %) Not Applicable  Emission Factor Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable	(ppmv) Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS POUNDS Not Available Not Applicable	(weight %) Not Applicable  EF Denominator Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable	Not Applicable Not Applicable Not Applicable 3.792E+00 3.792E+00 Not Available Not Applicable		

Process SCC Code  Material Processed Period Start	Secondary Process Not Applicable Not Applicable		ion Unit 10						
SCC Code Material Processed	Not Applicable				The state of the s				
Material Processed		THE RESERVE OF THE PARTY OF THE							
	Not Applicable		A CONTRACTOR						
	Not Applicable			Contract to					
	Not Applicable								
	Not Applicable	4.00							
Period Start	1/1/2018		Period End	12/31/2018					
Throughput	17 17 2010		I erioù Erio	12/31/2010					
		Is	I= 1100						
Total	Not Applicable	Summer %	Fall %	Winter %	Spring %				
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Operational Schedule									
Days/Week	Hours/Day	Weeks/Period	Hours/Period						
Not Applicable	Not Applicable	Not Applicable	Not Applicable		The State State State State				
Fuel Characteristics									
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content						
	(weight %)	(ppmv)	(weight %)						
Not Applicable	Not Applicable	Not Applicable	Not Applicable						
Heating			and the second second						
		luost C. taut		Turan variation					
leat Input		Heat Output		Heat Values Conventi	ion				
Not Applicable		Not Applicable		Not Applicable					
Emissions									
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons				
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
PM10 Primary (Filt +									
Cond)(PM10-PRI) PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
PM Condensable PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Doloseo Doloto									
Release Points	<del></del>								
D	Description			Туре	Apportion %				
LOA	Coal Handling System (D			Horizontal	0				
LOB	Temporary Dust Collecto	or		Horizontal	100				
		Releas	e Point 10A						
Specifications									
	lana.	Correspondence and the contract of the contrac							
D	10A		Туре	Horizontal					
Description	Coal Handling System (D	ust Collector No. 2)							
Stack Parameters									
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)				
127	3.32	30	39	20,000					
Geographic Coordinat				120,000					
	63.854989	Loughoda	140.050550						
atitude		Longitude	-148.950558	Datum	NAD 1983				
Base Elevation	1,260	Accuracy	1						
ocation Description	Healy, AK	Retired Date	Not Applicable						
Oata Source	Engineering Estimate		200						
		Releas	e Point 10B						
noolfiestiese		Neicus							
pecifications									
D	10B		Туре	Horizontal					
Description	Temporary Dust Collecto	or	rate is a second of the second		The state of the s				
MATERIAL PROPERTY AND ADDRESS OF THE PARTY AND									
Stack Parameters	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)				
Stack Height (ft)	1.07	130	1111	16.000					
Stack Height (ft) 57		30	111	6,000					
Stack Parameters Stack Height (ft) 57 Geographic Coordinat Latitude		Longitude	-148.95132	6,000   Datum	NAD 1983				

CY2018 Emission Inventory

		Emi	ssion Unit 10			
Base Elevation	1,260	Accuracy	1	1		
<b>Location Description</b>	Healy, AK	Retired Date	Not Applicable		14 1/2 14 No.	
Data Source	Engineering Estimate				1100	

		Emiss	ion Unit 11				
Specifications							
ID	11		Design Capacity	Not Applicable			
Description	Haul Road (located on GV	(EA property)	Emission Unit Status	Operating			
Manufacturer	Not Applicable	z.r.p.operty/	Manufactured Year	Not Applicable			
Model Number	Not Applicable		Serial Number	Not Applicable			
Initial Startup Date	1967 (estimate)		Retired Date	Not Applicable			
Regulations							
Regulation/Description							
Not Applicable							
Control Equipment							
System Description	Water application						
Control Measures/	Dust Suppression				E		
Devices	Dust suppression			41			
Control Efficiency (%)	50						
Capture Efficiency (%)	Not Applicable	the section of					
eapture Efficiency (70)	PM10 Primary (Filt + Cond	1)		Reduction Efficiency (%)	50		
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)			
	PM2.5 Filterable (PM25-F			Reduction Efficiency (%)			
Processes	10.00.00			reduction Efficiency (76)	30		
Process	Primary Process						
SCC Code	30501090		1. 1111111				
J.C. Coulc	> Industrial Processes		1 10 10 10				
	> Industrial Processes > Mineral Products						
	> Coal Mining, Cleaning,	and Material Handling					
Material Draggered	> Haul Roads						
Material Processed Period Start	Fugitive Dust 1/1/2018	- in the second			in the interest of the interes		
	1/1/2018		Period End	12/31/2018	1 . 11		
Throughput		- Large process and the process and the					
Total		Summer %	Fall %	Winter %	Spring %		
945	Vehicle Miles Travelled (VMT)	20	40	23	17		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
7	24	52	8,760	r finitig			
Fuel Characteristics							
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Heating							
Heat Input		Heat Output		Heat Values Convention			
Not Applicable		Not Applicable		Not Applicable			
Emissions							
Pollutant	<b>Emission Factor</b>	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt +				some was an analysis and	41		
Cond)(PM10-PRI)	1.32	POUNDS	VMT	AP-42 Section 13.2.2	6.214E-01		
PM2.5 Primary (Filt +	0.12	DOLLNOS		AND TO BE A SECOND SECO	- Language Control of the Control of		
Cond)(PM25-PRI)	0.13	POUNDS	VMT	AP-42 Section 13.2.2	6.214E-02		
PM2.5 Filterable	0.13	DOLINDS	1/0.47				
(PM25-FIL)	0.13	POUNDS	VMT	AP-42 Section 13.2.2	6.214E-02		
PM Condensable	Not Available	Net Aug Valida	N-+ A 11 1 1		4		
(PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic							
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	1	I a s . Ibbiiednic	LIVE APPRICABLE	LIANT WARRING THE	HADE WORMEGOIG		

		Emiss	sion Unit 11					
Process	Secondary Process	to their	1. 1					
SCC Code	Not Applicable	and a faile	1. 1. 1.1 1.1	2. 11. 1.				
	Not Applicable							
	Not Applicable							
	Not Applicable			Time III				
	Not Applicable							
Material Processed	Not Applicable	7 11.71		11 1.1.11	3 NS 37 TV NS			
Period Start	1/1/2018	in the second second	Period End	12/31/2018				
Throughput								
Total Total		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Operational Schedule		Inter Applicable	Trot Applicable	INOT Applicable	INOT Applicable			
Days/Week	Hours/Day	Weeks/Period	Tu					
Not Applicable	Not Applicable	Not Applicable	Hours/Period					
Fuel Characteristics	INOT Applicable	INOT Applicable	Not Applicable					
	Territoria de la companya della companya della companya de la companya della comp	Inches was a second and a second						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable		10 April 14 14			
Heating								
Heat Input		Heat Output		Heat Values Convent	ion			
Not Applicable		Not Applicable		Not Applicable				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +	-	· ·		000 0000 000 000 000 000 000 000 000 0				
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Primary (Filt +								
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Filterable					1			
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM Condensable								
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Volatile Organic	DOM 1 1004 100 O THE	land and the same	Trot Applicable	Not Applicable	Not Applicable			
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
	The state of the s				11/20 12 12			
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Release Points								
	[6-1-1-N-1-1	ISON SHARINAN SAN TRANS		NAT PROPERTY OF THE PROPERTY O				
ID .	Description			Туре	Apportion %			
11	Haul Road (located on GVI			Fugitive	100			
		Relea	se Point 11					
Specifications								
D	11		Туре	Fugitive				
Description	Haul Road (located on GVI	A property)		i ugitive				
Stack Parameters	I House flocated oil Ovi	property						
CONTRACTOR OF THE PARTY OF THE	Charle Diagram (C)	le 11 c = 1-1	- I					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Geographic Coordinat								
Latitude	63.855392	Longitude	-148.945955	Datum	NAD 1983			
Base Elevation	1,260	Accuracy	1					
Location Description	Location determined near	Retired Date	Not Applicable					
	split in haul road by							
	substation; Healy, AK							
Data Source	Engineering Estimate							

		Emiss	ion Unit 12					
Specifications								
ID	12		Design Conneits	272 000 - His fact				
Description	Coal Storage Pile		Design Capacity Emission Unit Status	372,000 cubic feet				
Manufacturer	Not Applicable		Manufactured Year	Operating Not Applicable				
Model Number	Not Applicable		Serial Number	Not Applicable				
Initial Startup Date	1967 (estimate)		Commission of the Commission o					
	1307 (estimate)	Section and the second section is	Retired Date	Not Applicable				
Regulations	Established State of the Control of		THE STATE OF THE S	7 and a morning of the state of				
Regulation/Description								
Not Applicable			To extend that the	Manager 19 to 19 t				
Control Equipment								
System Description	Water application							
Control Measures/	Dust Suppression	1 1221						
Devices	. 1.1	. 1. 1.1		And I at And the				
Control Efficiency (%)	50							
Capture Efficiency (%)	Not Applicable	F . * 1917	V					
	PM10 Primary (Filt + Co	nd)		Reduction Efficiency (%)	50			
Pollutants Controlled	PM25 Primary (Filt + Co	nd)		Reduction Efficiency (%)	50			
	PM2.5 Filterable (PM25			Reduction Efficiency (%)	50			
Processes								
Process	Primary Process							
SCC Code	30510303							
	> Industrial Processes	1.000		1				
	> Mineral Products	1.04.6 11 15	t. Joseph and the control of the con		<del>- 1. 11.</del>			
	> Milneral Products > Bulk Materials Open Stockpiles							
	> Coal	Stockpiles						
Material Processed	Coal							
Period Start	1/1/2018		Period End	12/21/2010				
	1/1/2010		Period End	12/31/2018				
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
259,744	tons	_  20	40	23	17			
Operational Schedule								
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
7	24	52	8,760					
Fuel Characteristics								
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Heating								
Heat Input		Heat Output		lu .v				
Not Applicable	CENTED SEPTEMBER AND SERVICE AND ADDRESS OF THE	Not Applicable		Heat Values Convention				
Emissions		INOCAPPIICABLE		Not Applicable				
			Sizza Perse and a management of the last	The second second				
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +	4.416E-01	TONS	YEAR	AP-42 Sections 13.2.2,	4.416E-01			
Cond)(PM10-PRI)				13.2.4, and 13.2.5	7.4105-01			
PM2.5 Primary (Filt +	4.424E-02	TONS	YEAR	AP-42 Sections 13.2.2,	4.424E-02			
Cond)(PM25-PRI)			TEAN	13.2.4, and 13.2.5	4.4246-02			
PM2.5 Filterable	4.424E-02	TONS	YEAR	AP-42 Sections 13.2.2,	4 4245 02			
(PM25-FIL)		10113	TLAN	13.2.4, and 13.2.5	4.424E-02			
PM Condensable	Not Available	Not Available	Not Available	Port 90 100 100	N			
	Not Available	Not Available	Not Available	Not Available	Not Available			
(PM-CON)	N	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
(PM-CON) Sulfur Dioxide(SO2)	Not Applicable				1 1 1 11 11 11			
(PM-CON) Sulfur Dioxide(SO2)		Not Applicable	Nine A series					
(PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
	Not Applicable	Not Applicable  Not Applicable	Not Applicable  Not Applicable	Not Applicable  Not Applicable	Not Applicable  Not Applicable			

		Emiss	ion Unit 12					
Process	Secondary Process		1. 1	1, 1,				
SCC Code	Not Applicable		e 4.530 m	1 1 1 1 1	1 10			
	Not Applicable							
	Not Applicable			1 3 1 1 3 1	1 1 1 1 1 1 1			
	Not Applicable							
	Not Applicable		2					
Material Processed	Not Applicable							
Period Start	1/1/2018	1/1/2018 Period End 12/31/2018						
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Operational Schedule				, we will be a second	THO E APPRICABIL			
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Fuel Characteristics	THOU PAPPINGUISE	I reor Applicable	пос Аррисавіе					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ach Control		SWANNERS CONTROL			
ieat Content			Ash Content					
Not Applicable	(weight %) Not Applicable	(ppmv) Not Applicable	(weight %)					
	Inot Applicable	Inot Applicable	Not Applicable					
Heating				The state of the s	AND SECURITION OF THE SECURITI			
Heat Input		Heat Output		Heat Values Convent	ion			
Not Applicable		Not Applicable		Not Applicable	5 7 9 9 9 9 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1			
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Release Points								
<b>D</b>	Description			Туре	Apportion %			
12	Coal Storage Pile			Fugitive	100			
		Relea	se Point 12					
Specifications								
ID .	12	. 1 . 1.1 .	Туре	Fugitive				
Description	Coal Storage Pile	* CREATION OF CR.		1 agicive	4 4444 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			
Stack Parameters								
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Full Con Valuation II					
	Not Applicable		Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	icim)			
		Not Applicable	Not Applicable	Not Applicable				
Geographic Coordinate			one of C					
Latitude	63.854556	Longitude	-148.946703	Datum	World 1984			
Base Elevation	1,260	Accuracy	1					
Location Description	Healy, AK	Retired Date	Not Applicable	1. 11	M TANK			
Data Source	Engineering Estimate	11	4					

		Emiss	ion Unit 13		
Specifications					
D	13	** ** ***	Design Capacity	264 HORSEPOWER	
Description	Firewater Pump Engine		Emission Unit Status	Operating	4.000
Manufacturer	Caterpillar		Manufactured Year	1997	
Model Number	3406B		Serial Number	6TB14931	
nitial Startup Date	Installed 1997		Retired Date	Not Applicable	
Regulations	mstuned 1957		Inetired Date	Not Applicable	
Regulation/Description					
10 CFR 63 Subpart ZZZZ				74 (47.11.11.11.11.11.11.11.11.11.11.11.11.11	
Control Equipment					
system Description	Not Applicable				
Control Measures/	Not Applicable				
Devices	Not Applicable	ta bia	. 1. 1.1		I., 1 I.I.
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
Pollutants Controlled	Not Applicable		e de la companya de l	Reduction Efficiency (%)	Not Applicable
	Not Applicable		is a 2 Sector	Reduction Efficiency (%)	Not Applicable
Pollutants Controlled	1				
Pollutant Description				Reduction Efficiency (%)	
Not Applicable				Not Applicable	
Processes				The second second	
Process	Primary Process	. 1 .		<del></del>	
CC Code	20200102			2 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	
ice code	> Internal Combustion E	nginos			
	> Industrial	iigiiies			
	> Distillate Oil (Diesel)				
	> Reciprocating				<u> </u>
Material Processed	Distillate Oil		EL DATE RELEATION	81-141-318 B1	
		<del></del>	Bonner	10/04/0040	
Period Start	1/1/2018		Period End	12/31/2018	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
	gallons	25	25	25	25
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.005	0.02	0.04	6	4 1	
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content	建金属 建高层电池 医皮肤	
MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)		
134	0.0015	Not Available	Not Available		
Heating					
Heat Input (MMBtu/hr)		Heat Output (horsepov	ver)	Heat Values Convention	
2		264		HHV	
Emissions		1204		JOHV · · · ·	
					A PERSONAL WANTED THE PROPERTY OF
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	6.68E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	5.291E-03
	Not Available	Not Available	Not Available	Not Available	Not Available
Nitrogen Oxides(NOX)	0.031	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	2.455E-02
PM10 Primary (Filt + Cond)(PM10-PRI)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03
PM2.5 Primary (Filt + Cond)(PM25-PRI)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03
M2.5 Filterable PM25-FIL)	2.2E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.742E-03
PM Condensible PM-CON)	Not Available	Not Available	Not Available	Not Available	Not Available
ulfur Dioxide(SO2)	2.13E-04	POUNDS	GALLON	Mass Balance	2.663E-06
/olatile Organic					0052 00
Compounds(VOC)	2.51E-03	POUNDS	HORSEPOWER-HOUR	AP-42 Table 3.3-1	1.988E-03
ead and lead compounds	Not Available	Not Available	Not Available	Not Available	Not Available

		Emissi	on Unit 13				
Process	Secondary Process	1					
SCC Code	Not Applicable	n halds		1. 1. 1	4		
	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable	10 10 100		11			
Material Processed	Not Applicable	10 Jan 111 N	7 11 11 11	11 11 1	11.11		
Period Start	1/1/2018	2.1.1	Period End	12/31/2018	The second second		
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule			Triot ripplicable	THO CAPPIICABLE	INOCAPPIICABLE		
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Fuel Characteristics	Mot Applicable	INOCAPPIICABLE	INOT Applicable				
	FI C. K. C	Tues out on the					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
Not Applicable	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable	No. of the Control of			
Heating	NAME OF THE OWNER	West and the second sec					
Heat Input		Heat Output		Heat Values Convent	tion		
Not Applicable		Not Applicable	1 2022 1 1 1	Not Applicable			
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Filterable PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensible PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Release Points					1 12		
D	Description			Type	Annortics of		
13	Firewater Pump Engine			Type Horizontal	Apportion %		
	and the same		- Daint 12	priorizontal	1100		
		Keleas	e Point 13				
Specifications							
D	13	In Irian	Туре	Horizontal			
Description	Firewater Pump Engine						
Stack Parameters							
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	(cfm)		
10	1	300	6	283	(CIIII)		
Geographic Coordinate				1203			
atitude	63.854956	Longitudo	140 051104	6.4			
Base Elevation		Longitude	-148.951181	Datum	NAD 1983		
	1,260	Accuracy	N-1A-U-U				
Location Description	Healy, AK	Retired Date	Not Applicable	in their	- 4 July		
Data Source	Engineering Estimate						

#### 2018 Actual Emissions Calculations - Fuel and Operating Hour Summary Golden Valley Electric Association - Healy Power Plant

EU ID	Description	Fuel Type			450	1.010		Fue	I Consumption	(gallons)	Contract Contract	O CONTRACTOR			
1 1000			Jan -	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Unit 1	ULSD	15	3	397	3,548	3,256	5,206	11,662	3,646	9,440	2,873		194	40,240
2	Unit 2	ULSD							63,320	258,358	45,182	67,557	20.620	100,601	555,638
3	Auxiliary Boiler 1	ULSD			85	5,268	43	367					-		5,763
4	Auxiliary Boiler 2	ULSD	20	- 2	232		1.	- 7	20		30		-		262
5	Diesel Electric Generator	ULSD	-			-	- 10	40							- 202
13	Firewater Pump	ULSD	7	7	7	7	7	7	7	7	7	7	7	7	83

EU ID	Description				SHIP VE		Coal	Consumption	(tons)	Str. Delining	11 (5.3) (5.	4-14-15		A 7 St. 12.
	Cerciption	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Unit 1	16,779	15,956	17,367	9,738	16,024	14,155	12,672	14,532	14,460	13,083	16,542	15,767	178,076
2	Unit 2		20	1940	- 12			84	10,772	26,843	6,487	26,810	10.672	81,66
	Total	16,779	15,956	17.367	9.738	16.024	14.155	12.756	25 304	41 302	19 570	42 252	27 439	250.74

EUID	Coal Properties		
	Fuel HHV (Btu/lb)		
1	7,146		
2	7,153		
	Ash (wt. %)		
1	8.52		
2	8.06		
118.0	Sulfur (wt. %)		
1	0.140		
2	0.125		

EU ID	Fuel Type	Fuel Usage by Season (%)					
2010	raerrype	Summer	Fall	Winter	Spring		
1	ULSD	51.0	30.6	0.5	17.9		
	Coal	23.2	24.8	27.8	24.2		
2	ULSD	57.9	24.0	18.1	*)		
*	Coal	13.3	73.6	13.1			
3	ULSD	6.4	- 68	- 74	93.6		
4	ULSD	-	11.4		88.6		
5	ULSD	25.0	25.0	25.0	25.0		

EU ID	Fuel Type	MMBtu
1	ULSD	5,394.9
	Coal	2,545,217.5
2	ULSD	74,493.3
	Coal	1,168,266.0

EU ID	Description					100	0	perating Hour	'5		4-1-1	4 - 10 - 10 -		Description In
		Jan	Feb	Mar	Apr	May	Jun	tul	Aug	Sep	Oct	Nov	Dec	Total
	Unit 1 Coal							Mary Mary						8,150
1	Unit 1 Oil													17
	Unit 1 Total	744	672	744	432	727	643	648	743	720	631	720	744	8,163
2000	Unit 2 Coal		- 5/12.515						71-7-7-7			7.00	/ / /	2,585
2	Unit 2 Oil													165
	Unit 2						- 1	148	543	720	282	713	344	2,750
3	Auxiliary Boiler 1			3	144	1	13							161
4	Auxiliary Boiler 2		- 1	2		343	%			1		9.7		2
5	Diesel Electric Generator						- 5-			1.0		- 1	-	
6	Crusher	111	101	108	59	82	86	74	370	395	168	400	257	2,211
7	Lime Storage Silo	- 0	- 20	-	194	122	S- 1		69	69			207	139
8	Flyash Storage Silo							148	543	720	282	713	344	2,750
9	Sodium Bicarbonate System	5	5		5	6	12	16	6	120	4	713	944	70
	Coal Handling System	111	101	108	59	82	86	74	370	395	168	400	257	2,211
	Firewater Pump	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	2,211

EUID		Hours by S-	eason (%)	
	Summer	Fall	Winter	Spring
6	24	44	21	11
7	50	50		
8	25	62	13	- 1
9	47	12	25	15
10	24	44	21	11
13	25	25	25	25

EUID		Coal Consumptio	n by Season (%)	
2010	Summer	Fall	Winter	Spring
11 and 12	20	40	23	17

Fuel Type	Avg. Density (lb/gal)
ULSD	7.10

EU ID	Material	Throughput (tons)	
7	Limestone	57	
9	Bicarbonate	383	

#### 2018 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Emissions Unit						2018 Actual PM		
ID .	Description	Factor Reference	Emission	Emission Factor	2018 Actual Operation	Emissions		
			PM	5.10 lb/VMT		2.41 tpy 1		
11 Coal Haul - Unpav	11	Coal Haul - Unpaved Portion	AP-42, Section 13.2.2	ion AP-42, Section 13.2.2	PM <sub>10</sub>	1.32 lb/VMT	945 VMT	0.62 tpy 1
		PM <sub>2.5</sub>	0.13 lb/VMT		0.06 tpy 1			
					Total PM Emissions	2.41 tpy		
					Total PM <sub>10</sub> Emissions	0.62 tpy		
					Total PM <sub>2.5</sub> Emissions	0.06 tpv		

Notes:

<sup>1</sup> Coal Haul Road

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

$$E_{ext} = E\left(\frac{365 - P}{365}\right)$$

E<sub>ext</sub> = annual size-specific emission factor extrapolated for water mitigation, lb/VMT

E = emission factor from Equation 1a

P = number of days in a year with at least 0.01 inches of precipitation

	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
E (controlled) =	5.10	1.32	0.13	Ib/VMT

Coal Throughput

Unit 1 actual coal throughput	178,076 t	ons
Unit 2 actual coal throughput	81,668 t	ons
Total actual coal throughput	259,744 t	ons

Vehicle Miles Traveled (VMT)

$$VMT = \frac{Throughput(tons) \times Roundtrip\ Distance\ \left(\frac{miles}{trip}\right)}{Haul\ Truck\ Capacity\ \left(\frac{tons}{trip}\right)}$$

Haul truck capacity 137.5 tons, estimate Unpaved distance from coal pile to paved road (round trip) 0.50 miles/trip Unpaved road VMT =

## 2018 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

	Emissions Unit		CONTRACTOR OF			
ID .	Description	Factor Reference Emissio	Emission	Emission Factor	2018 Actual Operation	2018 Actual PM Emissions
_			PM	1.26E-05 lb/ton		4.05.00
	Truck Drop Onto Stockpile	AP-42, Section 13.2.4	PM <sub>10</sub>	5.97E-06 lb/ton	259,744 tpy	1.6E-03 tpy 1 7.8E-04 tpy 1
	(2 2	22	PM <sub>2.5</sub>	9.04E-07 lb/ton		1.2E-04 tpy 1
		AP-42, Section 13.2.4	PM	1.26E-05 lb/ton		1.6E-03 tpv 1
	Front End Loader Drop Into Grizzly		PM <sub>10</sub>	5.97E-06 lb/ton	259,744 tpy	7.8E-04 tpy 1
12			PM <sub>2.5</sub>	9.04E-07 lb/ton		1.2E-04 tpy 1
		AP-42, Section 13.2.2	PM	3.27 lb/VMT	944 VMT	1.54 tpy <sup>2</sup>
	Front End Loader Movement - Coal Pile to Grizzly		PM <sub>10</sub>	0.93 lb/VMT		4.4E-01 tpy <sup>2</sup>
			PM <sub>2.5</sub>	0.09 lb/VMT		4.4E-02 tpy <sup>2</sup>
	Stockpile Wind Erosion		PM	0 g/m <sup>2</sup> -yr		0 tpv 3
		AP-42, Section 13.2.5	PM <sub>10</sub>	0 g/m²-yr	10,150 m <sup>2</sup>	0 tpy 3
			PM <sub>2.5</sub>	0 g/m²-yr		0 tpy 3
					Total PM Emissions	1.55 tpy
					Total PM <sub>10</sub> Emissions	0.44 tpy
					Total PM <sub>2.5</sub> Emissions	0.04 tpy

<sup>1</sup> Truck Drop onto Stockpile and Front End Loader Drop to Grizzly Drop Operation Emission Factor:

AP-42, Section 13.2.4

$$E\left(\frac{lb}{ton}\right) = \frac{k \times 0.0032 \times \left(\frac{U}{5}\right)^{1.5}}{\left(\frac{M}{2}\right)^{1}}$$

(2)	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
k _	0.74	0.35	0.053	_
U = mean wind speed	1.75	1.75	1.75	miles/hr
M = coal moisture content	31.73	31.73	31.73	percent
E=	1.26E-05	5.97E-06	9.04E-07	lb/ton

AP-42. Section 13.2.4 Per www.ncdc.noaa.gov for CY2018, McKinley Airport ASOS (PAIN)
From CY2018 coal proximate analyses

Annual Stockpile Throughput:

Unit 1 actual coal throughput 178,076 tons Unit 2 actual coal throughput 81,668 tons Total actual coal throughput 259,744 tons

<sup>2</sup> Front End Loader Movement

Coal moved per trip:

$$Coal\ (tons) = \frac{Coal\ Density\ \left(\frac{lb}{ft^3}\right) \times 27\left(\frac{ft^3}{yd^3}\right) \times Bucket\ Size(yd^3)}{2000\ \left(\frac{lb}{ton}\right)}$$

Size of load bucket 11 yd<sup>3</sup> 52.63 lb/ft<sup>3</sup> Density of coal Coal moved per trip

Emission Factor

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center AP-42, Section 13.2.2, Equation 2

$$E_{ext} = E\left(\frac{365 - P}{365}\right)$$

 $E_{\text{\tiny ext}}$  = annual size-specific emission factor extrapolated for water mitigation, Ib/VMT

E = emission factor from Equation 1a

P = number of days in a year with at least 0.01 inches of precipitation

E (controlled) =

Vehicle Miles Traveled (VMT)

$$VMT = \frac{Throughput (tons) \times Roundtrip Distance \left(\frac{miles}{trip}\right)}{Haul Truck Capacity \left(\frac{tons}{trip}\right)}$$

Total Potential Coal Throughput 259,744 tons Coal moved per trip 7.82 tons Approximate distance from coal pile to grizzly (round trip) 150 feet VMT = vehicles miles traveled per year

3 Stockpile Wind Erosion

Coal Pile Surface Area

Surface area of active face = 10,150 m<sup>2</sup> Engineering estimate of projected use

AP-42 Section 13.2.5, Equation (2)

Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF

$$EF\left(\frac{g}{m^2yr}\right) = k \sum_{i=1}^{N} P_i$$
where

k = particle size multiplier (AP-42 Section 13.2.5.3)

944

N = number of disturbances per year  $P_i$  = erosion potential corresponding to the fastest mile of wind for the ith period between disturbances,  $g/m^2$ 

2018 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

AP-42 Section 13.2.5, Equation (3)

Erosion potential function for a dry exposed surface, P

 $P = 58 \left( u^* - u_t^* \right)^2 + 25 \left( u^* - u_t^* \right)$ 

 $P=0\,for\,u^*\leq u^*_r$ 

u(z)

z N

u\* = friction velocity (m/s) ut = threshold friction velocity (m/s)

AP-42 Section 13.2.5, Equation (1)

Friction velocity,  $u^*$   $u^* = \frac{0.4 \times u(z)}{\sqrt{z}} \quad \text{when } z > z_o$  $\ln\left(\frac{z}{z_o}\right)$ 

u\* = friction velocity (cm/s)

u(z) = wind speed at height z above test surface (cm/s) z = height above test surface (cm)  $z_{\circ}$  = roughness height, cm

Data

10

Use maximum wind gust speed recorded at McKinley Airport ASOS for each month in CY2018 (see table below)

0.27

365 30 disturbances/year for active face, estimated average disturbances/month

Uncrusted Coal Pile (Table 13.2.5-2) Ground Coal<sup>o</sup> (Table 13.2.5-2) Roughness Height (z<sub>o</sub>) Threshold Threshold Friction Friction Velocity Calculated Roughness Height (z<sub>o</sub>) Maximum Wind Speed Erosion Calculated Emission Wind Direction Friction Velocity (u\*) rosion potentia potential function, Month-Year (u(10)) \* Friction Factor, EF Velocity (u<sub>1</sub>) Velocity (u\* (u<sub>t</sub>) mph m/s m/s m/s 0.55 0.55 0.55 0.55 0.55 cm m/s g/m²-yr Jan-18 Feb-18 12.9 5.8 199 207 187 170 0.3 1.12 0.28 0.30 0.23 0.25 0.26 0.21 0.01 0.20 1.12 1.12 1.12 6.0 Mar-18 Apr-18 May-18 10.3 11.3 11.8 4.6 5.1 0.16 0.18 0.18 1.12 9.3 4.2 0.01 0.55 0.14 Climate Data Not Available for July 2018 Aug-18 16 0.3 1.12 0.55 Sep-18 Oct-18 Nov-18 1.12 1.12 1.12 0.55 0.55 0.55 0.55

0

0.01

0.01 0.01 0.01

0.19 0.17 0.20

0

0

PM<sub>2.5</sub> Annual Total Per www.ncdc.noaa.gov for CY2018, McKinley Airport ASOS (PAIN).

12.4 10.8

12.9

Dec-18

PM Annual Total
PM<sub>10</sub> Annual Total

0.3

0.3

259

248

0.00

0.00

0.00

0.5

0.075

The erosion potential factor for the uncrusted coal pile is zero for all months. Therefore, wind erosion of the uncrusted coal pile is not a significant source of PM emissions.

The erosion potential factor for ground coal is zero for all months. Therefore, wind erosion of the ground coal is not a significant source of PM emissions.

# DEPARTMENT OF ENVIRONMENTAL CONSERVATION AIR QUALITY OPERATING PERMIT

Permit No. AQ0173TVP03 Issue Date: December 24, 2018

Expiration Date: December 24, 2023

The Alaska Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Golden Valley Electric Association** (**GVEA**), for the operation of the **Healy Power Plant**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

Citations listed herein are contained within the effective version of 18 AAC 50 at permit issuance. All federal regulation citations are from those sections adopted by reference in this version of regulation in 18 AAC 50.040 unless otherwise specified.

This permit incorporates all applicable terms and conditions of Air Quality Permit to Operate 9431-AA001 issued May 12, 1994, Construction Permit No. 9831-AC018 issued December 29, 1998, Minor Permit No. AQ0173MSS01 issued April 14, 2014, and Minor Permit No. AQ0173MSS02 issued May 21, 2018.

Upon effective date of this permit, Operating Permit No. AQ0173TVP02 Revision 1 expires.

This Operating Permit becomes effective January 23, 2019.

James R. Plosay, Manager Air Permits Program

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## **Abbreviations and Acronyms**

AAAQSAlaska Ambient Air Quality Standards	FOBFree On Board GAPCPGood Air Pollution Control
AACAlaska Administrative Code	Practices
acfmactual cubic feet per minute	GPHgallons per hour
ADECAlaska Department of Environmental Conservation	HAPshazardous air pollutants [HAPs as defined in AS 46.14.990]
AIDEAAlaska Industrial Development and	Hphorsepower
Export Authority ASAlaska Statutes	IDemissions unit identification number
ASTMAmerican Society for Testing and	kPakiloPascals
Materials	LAERlowest achievable emission rate
BACTbest available control technology	lbspounds
BARTBest Available Retrofit Technology	lb/hrpound per hour
bHpbrake horsepower	lb/MMBtupound per million British thermal
CAA, The ActClean Air Act	unit
CAMCompliance Assurance Monitoring	LEElow emitting EGU
CDConsent Decree Civil Action No. 4:12-cv-00025-RRB, filed November 19, 2012	MACTmaximum achievable control technology [MACT as defined in 40 C.F.R. 63]
CDXCentral Data Exchange	MMBtu/hrmillion British thermal units per
CEDRICompliance and Emissions Data	hour
Reporting Interface	MMSCFmillion standard cubic feet
CEMSContinuous Emission Monitoring System	MR&Rmonitoring, recordkeeping, and reporting
cfmcubic feet per minute	MOAMemorandum of Agreement,
C.F.RCode of Federal Regulations	November 9, 1993, by GVEA, AIDEA, US DOI, NPS, US DOE
COcarbon monoxide	MWmegawatt
COMSContinuous Opacity Monitoring	N/ANot applicable
System	NESHAPsNational Emission Standards for
CMSContinuous Monitoring System	Hazardous Air Pollutants
CO <sub>2</sub> eCarbon Dioxide Equivalent	[NESHAPs as contained in
CPMSContinuous Parameter Monitoring System	
-	40 C.F.R. 61 and 63]
Department Alaska Department of	40 C.F.R. 61 and 63] ng/Jnanograms per joule
DepartmentAlaska Department of Environmental Conservation	ng/Jnanograms per joule NH <sub>3</sub> Ammonia
Environmental Conservation	ng/Jnanograms per joule  NH <sub>3</sub> Ammonia  NO <sub>x</sub> nitrogen oxides
Environmental Conservation  dscfdry standard cubic foot  EGUselectric utility steam generating units	ng/Jnanograms per joule NH <sub>3</sub> Ammonia
Environmental Conservation  dscfdry standard cubic foot  EGUselectric utility steam generating units  EPAUS Environmental Protection	ng/Jnanograms per joule  NH <sub>3</sub> Ammonia  NO <sub>x</sub> nitrogen oxides  NSPSNew Source Performance  Standards [NSPS as contained in
Environmental Conservation  dscfdry standard cubic foot  EGUselectric utility steam generating units  EPAUS Environmental Protection  Agency	ng/Jnanograms per joule  NH <sub>3</sub> Ammonia  NO <sub>x</sub> nitrogen oxides  NSPSNew Source Performance  Standards [NSPS as contained in  40 C.F.R. 60]
Environmental Conservation  dscf	ng/J
Environmental Conservation  dscfdry standard cubic foot  EGUselectric utility steam generating units  EPAUS Environmental Protection  Agency	ng/J

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PAL	plantwide applicability limitation	S
Pb	Lead	SI
PM	particulate matter	Tl
PM <sub>10</sub>	particulate matter less than or equal	Tl
	to a nominal 10 microns in	Tl
	diameter	U
PM <sub>2.5</sub>	particulate matter less than or equal to a nominal 2.5 microns in diameter	U
ppm	parts per million	V
ppmv, ppmvd	parts per million by volume on a dry basis	V
psia	pounds per square inch (absolute)	V
PSD	prevention of significant deterioration	•
PTE	potential to emit	VC
SCR	Selective Catalytic Reduction	W
SIC	Standard Industrial Classification	W
SIP	State Implementation Plan	
SN	Serial number	
SNCR	Selective Non-Catalytic Reduction	

SO <sub>2</sub>	.sulfur dioxide
SPC	.Standard Permit Condition
TBtu	.Trillion British thermal unit
TPH	.tons per hour
TPY	.tons per year
US DOE	.United States Department of Energy
US DOI/ NPS	. United States Department of the Interior/ National Park Service
VE	.visible emissions
VOC	.volatile organic compound [VOC as defined in 40 C.F.R. 51.100(s)]
VOL	.volatile organic liquid [VOL as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol%	.volume percent
wt%	.weight percent
$wt\%S_{fuel}$	weight percent of sulfur in fuel

## Section 1. Stationary Source Information

## Identification

Permittee:		Golden Valley Electric Association (GVEA) P.O. Box 71249 Fairbanks, Alaska 99707-1249		
Stationary Source Name:		Healy Power Plant		
Location:		63° 50' North; 148° 58' West		
Physical Address:		Mile 2.5 Healy Spur Road Healy, Alaska 99743		
Owner:		Golden Valley Electric Association (GVEA) P.O. Box 71249 Fairbanks, Alaska 99707-1249		
Operator:		Golden Valley Electric Association P.O. Box 71249 Fairbanks, Alaska 99707-1249		
Permittee's Responsible Official:		Lynn Thompson, Vice President of Power Supply P.O. Box 71249 Fairbanks, Alaska 99707-1249		
Designated Agent:		Naomi Morton Knight, P.E., Environmental Officer P.O. Box 71249 Fairbanks, Alaska 99707-1249		
Stationary Source and Building Contact:		Richard Lusby, Plant Manager Mile 2.5 Healy Spur Road Healy, Alaska 99743 (907) 683-8318 ralusby@gvea.com		
Fee Contact:		Naomi Morton Knight, P.E., Environmental Officer P.O. Box 71249 Fairbanks, Alaska 99707-1249 (907) 458-4557 nmknight@gvea.com		
Permit Contact:		Naomi Morton Knight, P.E., Environmental Officer P.O. Box 71249 Fairbanks, Alaska 99707-1249 (907) 458-4557 nmknight@gvea.com		
Process	SIC Code	4911- Electrical Power Generation		
Description:	NAICS Code:	221112 - Fossil Fuel Electric Power Generation		

[18 AAC 50.040(j)(3) & 50.326(a)] [40 C.F.R. 71.5(c)(1) & (2)]

## Section 2. Emissions Unit Inventory and Description

Emissions units listed in Table A have specific monitoring, recordkeeping, or reporting conditions in this permit. Except as noted elsewhere in the permit, emissions unit descriptions and ratings are given for identification purposes only.

**Table A - Emissions Unit Inventory** 

EU ID	Emissions Unit Name	Emissions Unit Description	Rating/Size	Construction Date
1	Unit No. 1	Foster-Wheeler Boiler, pulverized coal fired steam generator with a 12 module ICA baghouse, SN 78-266	327 MMBtu/hr	November 1967
21	Unit No. 2	TRW Integrated Entrained Combustion System, pulverized coal-fired steam generator with Joy activated recycle spray dryer absorber and Joy pulse jet fabric filter, SN 1	658 MMBtu/hr	1996
3	Auxiliary Boiler No. 1	Cleaver Brooks CB 189-300, Standby process and building boiler, SN L-39759, Diesel-fired	12.554 MMBtu/hr	1967
4	Auxiliary Boiler No. 2	Cleaver Brooks CB 100-800-15, Standby process and building boiler, SN OLO94777, Diesel-fired	23.0 MMBtu/hr	1996
		Electro-Motive Diesel, EMD 20-645-E4, SN 67-B1-1152 (engine)		
5	Diesel Generator No. 1	Standby diesel generator, SN A-20-D (generator)	2.75 MW	1967
6	Crusher System	Crusher System <sup>2</sup> SN 885247 (Secondary Crusher No. 1) SN 844034 (Secondary Crusher No. 2)	12,000 cfm	1996
7 <sup>3</sup>	Limestone Storage Silo	Limestone Storage Silo with baghouse	800 cfm	1996
8	Flyash Storage Silo	Flyash Storage Silo with baghouse	5,000 cfm	1996
9	Sodium Bicarbonate Handling System	Sodium bicarbonate handling system <sup>4</sup>	440 cfm	1998
10	Coal Handling System (dust collector #2)	Coal Handling System <sup>5</sup>	20,000 cfm	1996
13	Firewater Pump Engine	Caterpillar Diesel Model 3406B, Diesel- fired firewater pump engine; SN 6TB14931	264 hp	1997
<b>Fugitive E</b>	Emission Sources			
11	Haul Road	Haul Road (located on GVEA property) from Usibelli Coal Mine property line to coal pile	0.25 miles	1967

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EU ID	Emissions Unit Name	Emissions Unit Description	Rating/Size	Construction Date
			Up to 15-day coal supply, with both	
	Coal Storage		EU IDs 1 and 2 in	
12	Pile	Open Coal Storage Piles	operation	1967

#### Notes:

- 1. EU ID 2 was previously named "Healy Clean Coal Project (HCCP)" but is now renamed Unit No. 2. EU ID 2 was first operated at Healy Power Plant in 1997-1998 but was suspended for approximately 15 years. EU ID 2 was restarted on May 28, 2015 firing ULSD and first fired coal on August 4, 2015.
- 2. The crusher system, EU ID 6, consists of 2 grizzlies, 1 primary Stamler crusher, 2 belt feeders, 2 secondary Flextooth Dresser crushers, 2 hoppers, and the No. 1 conveyor belt (tail-end), all commonly vented to Dust Collector No. 1 (baghouse/exhaust fan).
- 3. EU ID 7 will be replaced with two new lime silos (1,800 acfm each, installed in 2016) which are insignificant units when the SCR is commissioned on EU ID 2.
- 4. The sodium bicarbonate handling system, EU ID 9, consists of mills, sodium bicarbonate silo, and baghouse.
- 5. The coal handling system, EU ID 10, consists of #1 conveyor belt (head-end), #2a conveyor belt, #2b conveyor belt, one bucket elevator, #3 conveyor belt, #4 conveyor belt, two 600 ton EU ID 2 coal storage silos, two Unit #1 bunkers, all commonly vented to dust collector #2 (baghouse/exhaust fan). When EU ID 2 is not operational, dust is collected at the EU ID 1 transfer points via a temporary dust collector #3.

[18 AAC 50.326(a)] [40 C.F.R. 71.5(c)(3)]

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### Section 3. State Requirements

#### **Visible Emissions Standard**

1. Industrial Process and Fuel-Burning Equipment Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 3 through 10, and 13 listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.040(j), 50.055(a)(1), & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

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- 1.1. For EU IDs 6, 8, and 10, monitor, record and report in accordance with Conditions 2 through 4.
- 1.2. For EU ID 3, as long as the emissions unit does not exceed the limit in Condition 21, monitoring shall consist of an annual compliance certification under Condition 138 with the visible emissions standard based on reasonable inquiry. Otherwise, monitor, record, and report in accordance with Conditions 2 through 4 for the remainder of the permit term.
- 1.3. For each of EU IDs 4, 5, and 13, as long as each emissions unit does not exceed the thresholds in 18 AAC 50.326(e)<sup>1</sup>, monitoring shall consist of an annual compliance certification under Condition 138 with the visible emissions standard based on reasonable inquiry. Otherwise, monitor, record and report in accordance with Conditions 2 through 4 for the remainder of the permit term for that emissions unit.
- 1.4. For EU IDs 7 and 9, monitoring shall consist of an annual compliance certification under Condition 138 for the visible emissions standard based on reasonable inquiry.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)]

#### Visible Emissions Monitoring, Recordkeeping, and Reporting (MR&R)

Liquid Fuel-Fired Emissions Units (EU ID(s) 3 through 5 and 13) and Baghouses (EU IDs 6, 8, and 10)

**2. Visible Emissions Monitoring.** When required by any of Conditions 1.1 through 1.3 and Condition 27.5.a, or in the event of replacement of any of EU IDs 3 through 6, 8, 10, and 13 during the permit term, the Permittee shall observe the exhaust of the emissions unit for visible emissions using the Method 9 Plan under Condition 2.2.

The equivalent maximum number of operational hours at which the emission units would not exceed the thresholds in 18 AAC 50.326(e) are 1,170 hours for EU ID 4, 45 hours for EU ID 5, and 485 hours for EU ID 13 per 12 consecutive-month period.

<sup>&</sup>lt;sup>2</sup> EU IDs 6, 8, and 10 are also subject to more stringent PM BACT limits (see Table B). Visible emissions monitoring is used in this permit as a screening tool for determining if Method 5 PM source testing is warranted.

2.1. The Permittee may for each unit elect to continue the visible emissions monitoring schedule in effect from the previous permit at the time a renewed permit is issued, if applicable.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(i)]

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- 2.2. **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.
  - a. **First Method 9 Observation.** Except as provided in Condition 2.1, for each of EU IDs 3 through 6, 8, 10, and 13, observe exhaust for 18 minutes within six months after the issue date of this permit.
    - (i) For any unit replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.
    - (ii) For each existing emissions unit that exceeds the operational thresholds in Condition 1.2 or 1.3, observe the exhaust for 18 minutes of operations within 30 days after the calendar month during which that threshold has been exceeded, or within 30 days of the unit's next scheduled operations, whichever is later.
  - b. **Monthly Method 9 Observations**. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emissions unit operates.
  - c. **Semiannual Method 9 Observations**. After observing emissions for three consecutive operating months under Condition 2.2.b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations:
    - (i) within six months after the preceding observation, or
    - (ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following six months after the preceding observation.
  - d. **Annual Method 9 Observations**. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, perform 18-minute observations:
    - (i) within twelve months after the preceding observation; or
    - (ii) for an emissions unit with intermittent operations, during the next scheduled operation immediately following twelve months after the preceding observation
  - e. **Increased Method 9 Frequency**. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one

or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emissions unit to at least monthly intervals as described in Condition 2.2.b, until the criteria in Condition 2.2.c for semiannual monitoring are met.

**3. Visible Emissions Recordkeeping.** When visible emissions monitoring is conducted, the Permittee shall keep records as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(ii)]

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- 3.1. The observer shall record
  - a. the name of the stationary source, emissions unit and location, emissions unit type, observer's name and affiliation, and the date on the Visible Emission Observation Form in Section 14;
  - b. the time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating mode (load or fuel consumption rate or best estimate if unknown) on the sheet at the time opacity observations are initiated and completed;
  - c. the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
  - d. opacity observations to the nearest five percent at 15-second intervals on the Visible Emission Observation Form in Section 14, and
  - e. the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.
- 3.2. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet.
- 3.3. Calculate and record the highest six- and 18-consecutive-minute average opacities observed.
- **4. Visible Emissions Reporting.** When visible emissions monitoring is conducted, the Permittee shall report visible emissions as follows:

[18 AAC 50.040(j), 50.326(j) & 50.346(c)] [40 C.F.R. 71.6(a)(3)(iii)]

- 4.1. Include in each operating report required under Condition 137:
  - a. for each emissions unit under the Method 9 Plan.

- (i) copies of the observation results (i.e. opacity observations) for each emissions unit that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and
- (ii) a summary to include:
  - (A) number of days observations were made;
  - (B) highest six-minute average observed; and
  - (C) dates when one or more observed six-minute averages were greater than 20 percent;
- b. a summary of any monitoring or recordkeeping required under Conditions 2 and 3 that was not done;
- 4.2. Report under Condition 136:
  - a. the results of Method 9 observations that exceed an average of 20 percent opacity for any six-minute period; and
  - b. if any monitoring under Condition 2 was not performed when required, report within three days of the date the monitoring was required.

#### **Particulate Matter Emissions Standard**

5. Industrial Process and Fuel-Burning Equipment Particulate Matter. The Permittee shall not cause or allow particulate matter emitted from EU IDs 3 through 10, and 13 listed in Table A to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.040(j), 50.055(b)(1) & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

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- 5.1. For EU IDs 6, 8, and 10, monitor, record and report in accordance with Conditions 12 through 14.
- 5.2. For EU ID 3, as long as the emissions unit does not exceed the limit in Condition 21, monitoring shall consist of an annual compliance certification under Condition 138 with the particulate matter standard based on reasonable inquiry. Otherwise, monitor, record and report in accordance with Conditions 9 through 11 for the remainder of the permit term for that emissions unit.
- 5.3. For each of EU IDs 4, 5, and 13, as long as each emissions unit does not exceed the thresholds in 18 AAC 50.326(e),<sup>3</sup> monitoring shall consist of an annual compliance certification under Condition 138 with the particulate matter emissions standard based on reasonable inquiry. Otherwise, monitor, record and report in accordance

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The equivalent maximum number of operational hours at which the emission units would not exceed the thresholds in 18 AAC 50.326(e) are 1,170 hours for EU ID 4, 45 hours for EU ID 5, and 485 hours for EU ID 13 per 12 consecutive-month period.

with Conditions 6 through 11 for the remainder of the permit term for that emissions unit.

5.4. For EU IDs 7 and 9, monitoring shall consist of an annual compliance certification under Condition 138 for the particulate matter standard based on reasonable inquiry.

[18 AAC 50.040(j), 50.326(j) & 50.346(c)] [40 C.F.R. 71.6(a)(3) & (c)(6)]

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#### Particulate Matter MR&R

*Liquid Fuel-Fired Engines (EU IDs 5 and 13)* 

**6. Particulate Matter Monitoring.** When required by Conditions 5.3 and 27.3.a, the Permittee shall conduct source tests on diesel engines, EU IDs 5 and 13, to determine the concentration of particulate matter in the exhaust of each emissions unit as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(i)]

- 6.1. If any of EU IDs 5 and 13 exceeded the criteria of Conditions 6.2.a or 6.2.b, the Permittee shall within six months of exceedance, either:
  - a. except as exempted in Condition 6.4, conduct a particulate matter source test according to requirements set out in Section 9; or
  - b. make repairs and observe emissions as described in Condition 2.2 to show that emissions no longer exceed the criteria of Condition 6.2 under load conditions comparable to those when the criteria were exceeded.
- 6.2. Conduct the PM source test or make repairs according to Condition 6.1 if
  - a. Method 9 observations, as calculated under Condition 3.3, result in an 18-minute average opacity greater than 20 percent; or
  - b. for an emissions unit with an exhaust stack diameter that is less than 18 inches, Method 9 observations, as calculated under Condition 3.3, result in an 18-minute average opacity that is greater than 15 percent, unless the Department has waived this requirement in writing.
- 6.3. During each one-hour particulate matter source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the highest 18-minute average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 6.4. The particulate matter source test requirements in Conditions 6.1 and 6.2 are waived for an emissions unit if a particulate matter source test on that unit has shown compliance with the particulate matter standard during this permit term.
- 7. **Particulate Matter Recordkeeping.** The Permittee shall comply with the following:

7.1. Keep records of the results of any particulate matter testing and visible emissions observations conducted under Condition 6.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(ii)]

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**8. Particulate Matter Reporting.** The Permittee shall report as follows:

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(iii)]

- 8.1. Report under Condition 136
  - a. if the results of any particulate matter source test conducted under Condition
     6.1.a exceed the particulate matter emissions limit; or
  - b. within the next 24 hours of the date compliance with Condition 6.1 was required, if the Permittee did not comply with either Condition 6.1.a or 6.1.b when required;
- 8.2. Report observations in excess of the threshold of Condition 6.2.b within 30 days of the end of the month in which the observations occur;
- 8.3. In each operating report under Condition 137, include:
  - a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 6.2;
  - b. a summary of the results of any particulate matter testing under Condition 6; and
  - c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 6.2, if they were not already submitted.

*Liquid Fuel-Fired Boilers (EU IDs 3 and 4)* 

**9. Particulate Matter Monitoring.** When required by Conditions 5.2, 5.3, and 27.3.a, the Permittee shall conduct source tests on liquid fuel-fired boilers, EU IDs 3 and 4, to determine the concentration of particulate matter in the exhaust of each emissions unit as follows:

[18 AAC 50.040(j), 50.326(j) & 50.346(c)] [40 C.F.R. 71.6(a)(3)(i)]

- 9.1. Except as exempted under Condition 9.3, conduct a particulate matter source test according to the requirements set out in Section 9 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity thresholds (as described in Condition 2.2) for two or more 18-minute observations in a consecutive six-month period.
- 9.2. During each one-hour particulate matter source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

- 9.3. The particulate matter source test requirement in Condition 9.1 is waived for an emissions unit if:
  - a. a particulate matter source test on that unit has shown compliance with the particulate matter standard during the permit term; or
  - b. take corrective action and conduct two 18-minute visible emissions observations in a consecutive six-month period to show that the excess visible emissions described in Condition 9.1 no longer occur.
- **10. Particulate Matter Recordkeeping.** The Permittee shall keep records of the results of any particulate matter testing and visible emissions observations conducted under Condition 9.

[18 AAC 50.040(j), 50.326(j) & 50.346(c)] [40 C.F.R. 71.6(a)(3)(ii)]

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11. Particulate Matter Reporting. The Permittee shall report as follows:

[18 AAC 50.040(j), 50.326(j) & 50.346(c)] [40 C.F.R. 71.6(a)(3)(iii)]

- 11.1. In each operating report required by Condition 137, include for the period covered by the report:
  - a. the dates, EU ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 9.1.
  - b. a summary of the results of any particulate matter testing and visible emissions observations conducted under Condition 9.
- 11.2. Report as excess emissions, in accordance with Condition 136, any time the results of a source test for particulate matter exceed the particulate matter emission limit stated in Condition 5.

For Baghouses (EU IDs 6, 8, and 10)<sup>4</sup>

**12. Particulate Matter Monitoring.** When required by Conditions 5.1 and 27.5.a, the Permittee shall monitor particulate matter emissions from the exhaust of each of EU IDs 6, 8, and 10, as follows:

[18 AAC 50.040(j), and 18 AAC 50.326(j)(4),] [40 C.F.R. 71.6(a)(3)(i) & (c)(6),]

- 12.1. If any of EU IDs 6, 8, and 10 exceeds the criteria of Condition 12.2.a or 12.2.b,
  - a. perform an inspection of the bags and baghouse assembly to ascertain the integrity of the system;
    - (i) take steps to clean the bags of excess trapped dust;

<sup>&</sup>lt;sup>4</sup> EU IDs 6, 8, and 10 are also subject to more stringent PM BACT limits (see Table B). Visible emissions monitoring is used in this permit as a screening tool for determining if Method 5 particulate matter source testing is warranted.

- (ii) if any bags are found with holes or tears or deterioration which renders them ineffectual, the bags shall be replaced within 24 hours;
- (iii) if after cleaning the bags of excess dust or replacing torn or deteriorated bags, Method 9 observations, as calculated under Condition 3.3, result in an 18-minute average opacity greater than 20 percent conduct a particulate matter source test within six months according to the requirements set out in Section 9 to confirm whether or not the particulate matter emissions limits in Condition 5 and Table B are being maintained;
- b. maintain the results of baghouse inspections, records of bags replaced, and repairs conducted at the source for inspection at the request of the Department.
- 12.2. Monitor according to Condition 12.1 if
  - a. Method 9 observations, as calculated under Condition 3.3, result in an 18-minute average opacity greater than 20 percent for each of EU IDs 6, 8, and 10; or
  - b. for an emissions unit with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.
- **13. Particulate Matter Recordkeeping.** The Permittee shall keep records of the results of any PM testing conducted under Condition 12.1.a(iii).

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(ii) & (c)(6)]

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**14.** Particulate Matter Reporting. The Permittee shall report as follows:

[18 AAC 50.040(j) & 50.50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

- 14.1. In each operating report required by Condition 137, include a summary of the results of any PM testing conducted under Condition 12.1.a(iii).
- 14.2. Report as excess emissions, in accordance with Condition 136 any time the results of a source test for PM exceeds the PM emission limit in Condition 5.

#### **Sulfur Compound Emissions Standard**

**15. Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from EU IDs<sup>5</sup> 3 through 5 and 13 listed in Table A to exceed 500 ppm averaged over three hours.

[18 AAC 50.040(j), 50.055(c) & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

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<sup>&</sup>lt;sup>5</sup> EU IDs 6 through 10 are industrial processes; however, these units do not process materials, or contain equipment, that generate sulfur compound emissions.

## Sulfur Compound MR&R

Fuel Oil<sup>6</sup>(EU IDs 3 through 5 and 13)

- **16. Sulfur Compound Monitoring and Recordkeeping.** The Permittee shall comply with the following:
  - 16.1. The Permittee shall do one of the following for each shipment of fuel:
    - a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or
    - b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and
      - (i) test the fuel for sulfur content; or
      - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
  - 16.2. Fuel testing under Condition 16.1 must follow an appropriate method listed in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).
  - 16.3. If a load of fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO<sub>2</sub> emissions in ppm using either the material balance calculation in Section 15 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 17. Sulfur Compound Reporting. The Permittee shall report as follows:
  - 17.1. If SO<sub>2</sub> emissions calculated under Condition 16.3 exceed 500 ppm, the Permittee shall report under Condition 136. When reporting under this condition, include the calculation under Section 15 or Method 19.
  - 17.2. The Permittee shall include in the operating report required by Condition 137
    - a. a list of the fuel grades received at the stationary source during the reporting period;
    - b. for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and
    - c. for fuel with a sulfur content greater than 0.75 percent, the calculated SO<sub>2</sub> emissions in ppm.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)]

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*Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil, as defined in 40 C.F.R. 60.41b, effective 7/1/07.

## **Insignificant Emissions Units**

**18.** For emissions units at the stationary source that are insignificant as defined in 18 AAC 50.326(d)-(i) that are not listed in this permit, the following apply:

18.1. **Visible Emissions Standard**: The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.050(a) & 50.055(a)(1)]

18.2. **Particulate Matter Standard**: The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1)]

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18.3. **Sulfur Standard**: The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c)]

- 18.4. General MR&R for Insignificant Emissions Units:
  - a. The Permittee shall submit the compliance certifications of Condition 138 based on reasonable inquiry;
  - b. The Permittee shall comply with the requirements of Condition 118;
  - c. The Permittee shall report in the operating report required by Condition 137 if an emissions unit has historically been classified as insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and current actual emissions become greater than any of those thresholds; and
  - d. No other monitoring, recordkeeping or reporting is required.

[18 AAC 50.346(b)(4)]

# Section 4. Preconstruction Permit, BART, and Consent Decree Requirements

## Best Available Control Technology (BACT) and Owner Requested Limits (ORLs)<sup>8</sup>

19. The Permittee shall comply with the short-term and calendar-year emissions BACT limits and ORLs for EU IDs 1 through 8 and 10 through 12, as indicated in Table B.

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

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Table B - BACT Emissions Limits and ORLsa

Pollutant	EU ID	EU Description	Short-Term Emission Limits	Calendar Year Emission (TPY)
	1	Unit No. 1	0.05 gr/dscf (hourly average) and 36.7 lb/hr <sup>d</sup>	161
	2	Unit No. 2	0.020 lb/MMBtu (30-boiler operating day rolling average; compliance determined by PM CEMS) <sup>b, c</sup> or 0.020 lb/MMBtu (hourly average; compliance determined by source testing) <sup>c</sup> , and 13.2 lb/hr <sup>e</sup>	58°
	3	Auxiliary Boiler No. 1	0.05 gr/dscf (hourly average) or 0.8 lb/hr <sup>f</sup> , and 20% load factor (annual average)	1
РМ	4	Auxiliary Boiler No. 2	0.05 gr/dscf (hourly average) or 1.5 lb/hr <sup>f</sup> , and 45% load factor (annual average)	3
	5	Diesel Generator No. 1	0.05 gr/dscf (hourly average) or 2.1 lb/hr <sup>f</sup> , and 20% load factor (annual average)	2.88
	6	Crusher System	0.02 gr/dscf (hourly average) <sup>c</sup> and 2.05 lb/ hr (hourly average) <sup>f, g</sup>	3.00
	7	Limestone Storage Silo	0.02 gr/dscf, hourly average <sup>c</sup> and 0.14 lb/hr (hourly average) <sup>f, g</sup>	0.05
	8	Flyash Storage Silo	0.02 gr/dscf (hourly average) <sup>c</sup> and 0.86 lb/hr (hourly average) <sup>f, g</sup>	3.8
	10	Coal Handling System	0.02 gr/dscf (hourly average) <sup>c</sup> and 3.43 lb/hr, (hourly average) <sup>f, g</sup>	5.01

Preconstruction Permit refers to federal PSD permits, state-issued permits-to-operate issued on or before January 17, 1997 (these permits cover both construction and operations), construction permits issued on or after January 18, 1997, and minor permits issued on or after October 1, 2004.

Best Available Control Technology (BACT) and Owner Requested Limits (ORLs) limits were established to fulfill the Prevention of Significant Deterioration (PSD) program requirements and to protect the Ambient Air Quality Standards (AAQS).

Pollutant	EU ID	EU Description	Short-Term Emission Limits	Calendar Year Emission (TPY)
	Fugitive Sources (EU IDs 11 and 12)  Total PM for EU IDs 1 through 8, 10, 11, and 12			4
				241.74
NOx	1	Unit No. 1	None	429
	2	Unit No. 2	0.325 lb/MMBtu (30-boiler operating day rolling average) <sup>j</sup>	937°
	3	Auxiliary Boiler No. 1	20 lb NO <sub>x</sub> /1,000 gal distillate fuel (annual average) and 20% load factor (annual average)	2
	4	Auxiliary Boiler No. 2	20 lb NO <sub>x</sub> /1,000 gal distillate fuel (annual average) and 45% load factor (annual average)	7
	5	Diesel Generator No. 1	370 lb NO <sub>x</sub> /1,000 gal (annual average) and 20% load factor (annual average)	78
	Total NO	1,453		
$SO_2$	1	Unit No. 1	258 lb/hr (24-hour average, calendar day) <sup>d</sup> and 367 lb/hr (3-hour rolling average) <sup>d</sup>	472
	2	Unit No. 2	0.086 lb/MMBtu (annual average) <sup>c</sup> and 0.10 lb/MMBtu (30-boiler operating day rolling average) <sup>b, c</sup> and 65.8 lb/hr (3-hour rolling average) <sup>c, h</sup>	248°
	3	Auxiliary Boiler No. 1	0.3% S in oil (annual average) and 0.5% S in oil (3-hour average)	4
	4	Auxiliary Boiler No. 2	0.3% S in oil (annual average) and 0.5% S in oil (3-hour average)	15
	5	Diesel Generator No. 1	0.3% S in oil (annual average) and 0.5% S in oil (3-hour average)	10
	Total SO <sub>2</sub>	749		
со	2	Unit No. 2	0.20 lb/MMBtu, 30-boiler operating day rolling average <sup>b, c</sup> and 132 lb/hr (hourly average) <sup>i</sup>	577
	4	Auxiliary Boiler No. 2	5 lb/1000 gal or 0.8 lb/hr (hourly average) <sup>f</sup> , and 45% load factor (annual average)	2

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Pollutant	EU ID	EU Description	Short-Term Emission Limits	Calendar Year Emission (TPY)
	Total CO for EU IDs 2 and 4			579

#### Notes:

- Limits apply at all times except during periods of startup, shutdown, and malfunction, except for EU ID 2 NO<sub>x</sub> limit (see note j).
- b Operating days are days with at least 18 hours of valid CEMS data, except for EU ID 2 NO<sub>x</sub> limit (see note j).
- c BACT limits.
- Limit to protect AAAQS and PSD increments. For EU ID 1, the 36.7 lb/hr PM short-term mass emissions limit is calculated from the modelled emission rate of 0.08 gr/dscf, based on 9,780 dscf/MMBtu (Fd, dry oxygen F-factor for coal) and the unit's maximum (worst-case) heat input rating of 327 MMBtu/hr. Compliance with this limit is verified based on actual heat input during operations using CEMS data or source testing. The short-term SO<sub>2</sub> limits in lb/hr are from Construction Permit 9831-AC018 resulting from the air quality dispersion modeling (using the ISCPRIME model) to demonstrate compliance with AAAQS and PSD increments.
- <sup>e</sup> Limit to protect AAAQS and PSD increments. For EU ID 2, the 13.2 lb/hr PM short-term mass emissions limit is calculated from the 0.020 lb/MMBtu BACT limit, and on the unit's maximum (worst-case) heat input rating of 658 MMBtu/hr. Compliance with this limit is verified based on actual heat input during operations using CEMS data or source test data.
- For EU IDs 3 through 8 and 10, the lb/hr limits are worst-case emission rate limits and may be used to verify compliance with the calendar year tons-per-year limits using actual operational hours of each unit.
- Limit to protect AAAQS and PSD increments. For EU IDs 6 through 8 and 10, the PM short-term mass emissions lb/hr limits are calculated from the 0.02 gr/dscf BACT limit and each unit's maximum (worst-case) baghouse rating in cubic foot per minute (cfm).
- Limit to protect AAAQS and PSD increments. For EU ID 2, the SO<sub>2</sub> short-term mass emissions limit of 65.8 lb/hr is calculated from the modelled emission rate of 0.10 lb/MMBtu (3-hour rolling average) and on the unit's maximum (worst-case) heat input rate of 658 MMBtu/hr. Compliance with this limit is verified based on actual heat input during operations using CEMS data or source test data.
- For EU ID 2, the CO short-term mass emissions limit of 132 lb/hr is calculated from the 0.20 lb/MMBtu BACT limit and on the unit's maximum (worst-case) heat input rating of 658 MMBtu/hr. Compliance with this limit is verified based on actual heat input during operations using CEMS data or source test data.
- For EU ID 2, the NOx limit to protect AAAQS and PSD increments from Permit No. 9431-AA001 (0.350 lb/MMBtu) was replaced by the Consent Decree NOx limit (0.325 lb/MMBtu) in 2013; this limit applies at all times and until the effective date of the NOx limit in Condition 37. "Operating day" is defined in accordance with Footnote 11.

[Permit No. AQ0173MSS02, Condition 6 and Table 2, May 21, 2018] [Permit No. 9831-AC018, Condition 21.2, 12/29/1998]

## Monitoring, Recordkeeping and Reporting

- **20.** Continuous Monitoring System (CMS) Requirements for EU IDs 1 and 2. The Permittee shall comply with the following:
  - 20.1. Operate a certified continuous opacity monitoring system (COMS) on each of EU IDs 1 and 2, in accordance with the requirements of Condition 54.1, to measure and record the opacity emissions discharged to the atmosphere.

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- 20.2. Operate a certified continuous emission monitoring system (CEMS) on each of EU IDs 1 and 2 exhaust duct to measure and record the SO<sub>2</sub>, NOx, and O<sub>2</sub> or CO<sub>2</sub> emissions discharged to the atmosphere.
  - a. Each CEMS required under this permit must be maintained, operated, and calibrated as specified in the applicable Performance Specification set out in 40 C.F.R. Part 60, Appendix B or 40 C.F.R. Part 75 when the monitored emissions unit is operating.
  - b. Develop a CEMS Quality Assurance Plan (QAP) for each monitor required by this permit, conforming with 40 C.F.R. 60 Appendix F or applicable portions of 40 C.F.R. Part 75. An alternate emission monitoring plan may be proposed if it can be shown to ensure continuous compliance.
  - c. Submit to the Department the QAP developed for each CEMS, or an alternate emission monitoring plan, as described in Condition 20.2.b.
- 20.3. If a new CMS is to be installed, the selection, siting, and installation shall be approved by the Department.

[18 AAC 50.040(j) and 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)(3)]
[Permit No. AQ0173MSS02, Condition 7, May 21, 2018]
[Permit No. 9831-AC018, Condition 15, 12/29/1998]

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Load Requirements (EU IDs 3, 4, and 5)

**21.** The Permittee shall operate EU ID 3 at no more than 20% of annual load capacity and combust only distillate fuel.

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3) & (c)(6)] [Permit No. 9431-AA001, Condition 6, 5/12/1994]

- 21.1. For EU ID 3, monitor and record the monthly hours of operation, operational load, and type of fuel combusted.
- 21.2. Report in the operating report of Condition 137 the monthly hours of operation totals, the monthly operational load totals, the calendar year-to-date totals, and the type of fuel combusted.
- 21.3. Report in accordance with Condition 136 whenever the load (%) multiplied by the operating hours exceeds 20% of the annual load capacity (i.e., greater than 0.20 X 8,760 hrs X 12.554 MMBtu/hr) per calendar year or if other than distillate fuel is combusted.
- 21.4. Permittee may monitor, record, and report gallons of fuel combusted instead of operation load if only distillate fuel with a heating value of approximately 134,716 Btu/gallon is combusted in EU ID 3. Report in accordance with Condition 136 whenever the gallons combusted in EU ID 3 exceed 163,266 gallons per calendar year.

**22.** The Permittee shall operate EU ID 4 at no more than 45% of annual load capacity and combust only distillate fuel.

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3) & (c)(6)] [Permit No. 9431-AA001, Condition 7, 5/12/1994]

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- 22.1. For EU ID 4, monitor and record the monthly hours of operation, operational load, and type of fuel combusted.
- 22.2. Report in the operating report required by Condition 137 the monthly hours of operation totals, the monthly operational load totals, the calendar year-to-date totals, and the type of fuel combusted.
- 22.3. Report in accordance with Condition 136 whenever the load (%) multiplied by the operating hours exceeds 45% of the annual load capacity (i.e., greater than 0.45 X 8,760 hrs X 23.0 MMBtu/hr) per calendar year or if fuel other than distillate fuel is combusted.
- 22.4. Permittee may monitor, record, and report gallons of fuel combusted instead of operation load if only distillate fuel with a heating value of approximately 134,716 Btu/gallon is combusted in EU ID 4. Report in accordance with Condition 136 whenever the gallons combusted in EU ID 4 exceed 672,978 gallons per calendar year.
- **23.** The Permittee shall operate EU ID 5 at no more than 20% of annual load capacity.

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3) & (c)(6)] [Permit No. 9431-AA001, Condition 5, 5/12/1994]

- 23.1. For EU ID 5, monitor and record the monthly hours of operation and operational load.
- 23.2. Report in the operating report required by Condition 137 the monthly hours of operation totals, the monthly operational load totals, and the calendar year-to-date totals.
- 23.3. Report in accordance with Condition 136 whenever the load (%) multiplied by the operating hours exceeds 20% of the annual load capacity (i.e., greater than 0.20 X 8,760 hrs X 32.33 MMBtu/hr) per calendar year.
- 23.4. Permittee may monitor, record, and report gallons of fuel combusted instead of operation load if only distillate fuel with a heating value of approximately 134,716 Btu/gallon is combusted in EU ID 5. Report in accordance with Condition 136 whenever the gallons combusted in EU ID 5 exceed 420,480 gallons per calendar year.

#### NO<sub>x</sub> Emissions

**24.** The Permittee shall monitor, record, and report compliance with the short-term and calendar-year NO<sub>x</sub> emissions limits indicated in Table B for EU IDs 1 through 5, as follows:

[18 AAC 50.040(j) and 18 AAC 50.326(j)(4)] [40 C.F.R. 71.6(a)(3) & (c)(6)] [Permit No. 9431-AA001, Exhibits C & D, 5/12/1994]

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- 24.1. For each of EU IDs 1 and 2, monitor, record, and report compliance with the NO<sub>x</sub> emissions limits indicated in Table B using CEMS data in accordance with 40 C.F.R. 60 Appendix A, Method 19 and as follows:
  - a. For EU ID 2, comply with the short-term NO<sub>x</sub> emissions limit in lb/MMBtu 30-boiler operating day rolling average, as follows:
    - (i) Calculate and record 30-boiler operating day rolling average emissions in lb/MMBtu in accordance with Condition 37.3.
    - (ii) For each month of the reporting period, include in the operating report required under Condition 137 the highest 30-operating day rolling average NO<sub>x</sub> emissions in lb/MMBtu, as calculated in Condition 24.1.a(i).
  - b. For each of EU IDs 1 and 2, comply with the calendar-year NO<sub>x</sub> emissions limits in TPY, as follows:
    - (i) For each month, calculate and record the monthly and cumulative calendar-month emissions in tons for each unit and for combined emissions of EU IDs 1 and 2; and
    - (ii) For each month of the reporting period, include in the operating report required by Condition 137:
      - (A) the monthly and calendar year-to-date NO<sub>x</sub> emissions to the nearest ton for each unit and for the combined emissions of EU IDs 1 and 2 as determined in Condition 24.1.b(i); and
      - (B) a summary of calculations and data used to support the reported monthly  $NO_x$  emissions in tons for each of EU IDs 1 and 2, as required in Condition 24.1.b(ii)(A).
- 24.2. For each of EU IDs 3 through 5, monitor, record, and report compliance with the corresponding limits in Table B, as follows:
  - a. To ensure compliance with the calendar-year NO<sub>x</sub> emission limits in Table B, comply with the annual load operational limits and associated MR&R, as described in Conditions 21 through 23;
  - b. Calculate and record the monthly and calendar year-to-date NO<sub>x</sub> emissions in tons using EPA AP-42 emission factors, hours of operation, and/or fuel consumed by each emission unit; and

- c. For each month of the reporting period, include in the operating report required by Condition 137 the monthly and calendar year-to-date NO<sub>x</sub> emissions to the nearest ton, as determined in Condition 24.2.b, from each of EU IDs 3 through 5.
- 24.3. Report in accordance with Condition 136 should any of the short-term and/or calendar-year NO<sub>x</sub> emissions from any of EU IDs 1 through 5 exceed the corresponding individual or combined limits, as indicated in Table B.

### SO<sub>2</sub> Emissions

25. The Permittee shall monitor, record, and report compliance with the short-term and calendar-year SO<sub>2</sub> emissions limits indicated in Table B for EU IDs 1 through 5, as follows:

[18 AAC 50.040(j) and 18 AAC 50.326(j)]
[40 C.F.R. 71.6(a)(3) and (c)(6)]
[Permit No. 9431-AA001, Exhibits C & D, 5/12/1994]
[Permit No. 9831-AC018, Conditions 21.3 and 21.4, 12/29/1998]

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- 25.1. For each of EU IDs 1 and 2, monitor, record, and report compliance with the SO<sub>2</sub> emissions limits indicated in Table B using CEMS data in accordance with 40 C.F.R. 60 Appendix A, Method 19 and as follows:
  - a. For the short-term SO<sub>2</sub> emissions limit in lb/MMBtu 30-boiler operating day rolling average of EU ID 2:
    - (i) Calculate and record 30-boiler operating day rolling average emissions in lb/MMBtu in accordance with Condition 73.5.a.
    - (ii) For each month of the reporting period, include in the operating report required under Condition 137 the highest 30-day rolling average SO<sub>2</sub> emissions in lb/MMBtu, as calculated in Condition 25.1.a(i).
  - b. For the short-term SO<sub>2</sub> emissions limit in lb/MMBtu annual average emissions of EU ID 2:
    - (i) Calculate the annual average SO<sub>2</sub> emissions for the calendar-year by dividing the sum of each lb/MMBtu hourly emission rates (as calculated under Condition 73.5.a) by the number of hours the unit operated during the calendar year.
    - (ii) For each month of the reporting period, include in the operating report required under Condition 137 the calendar-year average SO<sub>2</sub> emissions in lb/MMBtu, as determined in Condition 25.1.b(i).
  - c. For the short-term SO<sub>2</sub> emissions limit in lb/hr of EU IDs 1 and 2:
    - (i) Calculate and record the rolling three-hour (for EU IDs 1 and 2) and 24-hour average (for EU ID 1) SO<sub>2</sub> emissions rates on a calendar day basis.

25.1.c(i).

- (ii) For each month of the reporting period, include in the operating report required under Condition 137 the highest three-hour average SO<sub>2</sub> emissions in lb/hr for each of EU IDs 1 and 2 and the highest 24-hour average SO<sub>2</sub> emission in lb/hr for EU ID 1, as determined in Condition
- d. For the calendar-year SO<sub>2</sub> emissions limits in TPY of EU IDs 1 and 2:
  - (i) For each month, calculate and record the monthly and cumulative calendar-month emissions in tons for each unit and for combined emissions of EU IDs 1 and 2; and
  - (ii) For each month of the reporting period, include in the operating report required by Condition 137:
    - (A) the monthly and calendar year-to-date SO<sub>2</sub> emissions to the nearest ton for each unit and for the combined emissions of EU IDs 1 and 2, as determined in Condition 25.1.d(i); and
    - (B) a summary of calculations and data used to support the reported monthly SO<sub>2</sub> emissions in tons for each of EU IDs 1 and 2, as required in Condition 25.1.d(ii)(A).
- 25.2. For EU IDs 3 through 5, monitor, record, and report compliance with the fuel sulfur content limits indicated in Table B, as follows:
  - a. For each shipment of fuel, keep receipts that specify fuel grade and amount.
    - (i) Keep a list of the fuel sulfur contents and amount of each shipment of fuel.
    - (ii) For EU IDs 3 and 4, if the fuel grade does not require a sulfur content less than 0.3 percent by weight, conduct fuel sulfur testing in accordance with Conditions 16.1.b(i) or 16.1.b(ii) and Condition 16.2.
    - (iii) For EU ID 5, comply with the ULSD fuel requirements in Condition 85.
  - b. Include the following with the operating report required in Condition 137 for the period covered by the report:
    - (i) the records prepared under Condition 25.2.a(i) and 25.2.a(ii); and
    - (ii) a statement that the fuel burned in EU ID 5 meets the ULSD fuel requirements in Condition 85.
- 25.3. For EU IDs 3 through 5, monitor, record, and report compliance with the calendaryear SO<sub>2</sub> emissions limits indicated in Table B, as follows:
  - a. Determine by mass balance calculations the monthly and calendar year-to-date SO<sub>2</sub> emissions in tons using sulfur content of the fuel as determined in Condition 25.2 and the amount of fuel consumed by each of EU IDs 3 through 5;

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and

- b. Keep records of the calculations and the monthly and calendar year-to-date SO<sub>2</sub> emissions from each of EU IDs 3 through 5, as determined in Condition 25.3.a;
- c. For each month of the reporting period, include in the operating report required by Condition 137 the monthly and calendar year-to-date SO<sub>2</sub> emissions to the nearest ton, from each of EU IDs 3 through 5, as determined in Condition 25.3.a.
- 25.4. Report in accordance with Condition 136 should any of the short-term fuel sulfur content limits and/or calendar-year limits for SO<sub>2</sub> emissions for any of EU IDs 1 through 5 exceed the corresponding individual or combined limits, as indicated in Table B.

#### CO Emissions

**26.** The Permittee shall monitor, record, and report compliance with the short-term and calendar-year CO emissions limits indicated in Table B for EU IDs 2 and 4, as follows:

[18 AAC 50.040(j) and 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3) and (c)(6)]

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- 26.1. For EU ID 2, monitor, record, and report compliance with the short-term CO emissions limits in lb/MMBtu (based on 30-boiler operating day rolling average) and in lb/hr (based on hourly average) using CEMS data in accordance with 40 C.F.R. 60 Appendix A, Method 19 and as follows:
  - a. Calculate and record 30-boiler operating day rolling average emissions consistent with the procedures described in Condition 73.5, as applied to CO.
  - b. Measure and record the hourly average emission rate of CO in lb/hr using CEMS data for each calendar month that the unit operates.
  - c. For each month of the reporting period, include in the operating report required by Condition 137:
    - (i) the highest 30-boiler operating day rolling average CO emissions in lb/MMBtu, as calculated in Condition 26.1.a; and
    - (ii) the highest hourly average CO emissions in lb/hr measured in Condition 26.1.b during the reporting period.
- 26.2. For EU ID 2, monitor, record, and report compliance with the calendar-year CO emissions limits in TPY using CEMS data and as follows:
  - a. For each month, calculate and record the monthly and calendar-year-to-date CO emissions in tons for EU ID 2.
  - b. For each month of the reporting period, include in the operating report required by Condition 137:

- (i) the monthly and calendar year-to-date CO emissions to the nearest ton, as determined in Condition 26.2.a; and
- (ii) a summary of calculations and data used to support the reported monthly CO emissions in tons, as required in Condition 25.1.d(ii)(A).
- 26.3. For EU ID 4, monitor, record, and report compliance with the corresponding CO limits in Table B, as follows:
  - a. To ensure compliance with the calendar-year CO emission limits in Table B, comply with the annual load operational limits and associated MR&R, as described in Condition 22:
  - b. For each month, calculate and record the monthly and calendar year-to-date CO emissions in tons, using EPA AP-42 emission factors, hours of operation, and/or fuel consumed by the emission unit; and
  - c. For each month during the reporting period, report in the operating report required by Condition 137 the monthly and calendar year-to-date CO emissions to the nearest ton, as determined in Condition 26.3.b.
- 26.4. Report in accordance with Condition 136 should any of the short-term and/or calendar-year CO emissions from any of EU IDs 2 and 4 exceed the corresponding limits, as indicated in Table B.

#### PM Emissions

27. The Permittee shall monitor, record, and report compliance with the short-term and calendar-year PM emissions limits indicated in Table B for EU IDs 1 through 8 and 10 through 12, as follows:

[18 AAC 50.040(j) and 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3) and (c)(6)]

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### 27.1. For EU IDs 1 and 2:

- a. Monitor, record, and report compliance with the short-term PM emissions limits in lb/hr and gr/dscf for EU ID 1, and in lb/hr and lb/MMBtu (hourly average) for EU ID 2, based on source test results or using the PM CEMS data in accordance with 40 C.F.R 60 Appendix A, Method 19.
  - (i) Conduct the tests and report the results in accordance with Section 9, following the same schedule established under Condition 58.2.b. Include in the operating report required under Condition 137 the test results in gr/dscf, lb/hr, and lb/MMBtu, as specified in Condition 27.1.a, of each PM source test conducted during the reporting period; OR
  - (ii) Use the PM CEMS to calculate and record the PM emissions for EU ID 1 in gr/dscf and lb/hr and for EU ID 2 in lb/hr and lb/MMBtu.
  - (iii) Include in the operating report required by Condition 138:

- (A) if source testing is used, the average PM emissions in lb/hr and gr/dscf for EU ID 1, and the average PM emissions in lb/hr and
- (B) if the PM CEMS is used, the highest average PM emissions in lb/hr and gr/dscf for EU ID 1, and the highest average PM emissions in lb/hr and lb/MMBtu for EU ID 2.
- b. Monitor, record, and report compliance with the calendar-year PM emissions limits in TPY, as follows:

lb/MMBtu for EU ID 2; or

- (i) For each of EU IDs 1 and 2, calculate and record monthly PM emissions by multiplying the average lb/hr PM emissions rate obtained from the latest source test results by the corresponding total number of hours of each unit operated during that month, or by using the PM CEMS data; convert the emissions to tons per month.
- (ii) For each month, calculate and record the cumulative calendar-month PM emissions in tons to obtain the calendar year-to-date emissions for each of EU IDs 1 and 2.
- (iii) For each month of the reporting period, include in the operating report required by Condition 137 the monthly and calendar year-to-date PM emissions to the nearest ton, as determined in Conditions 27.1.b(i) and 27.1.b(ii), for each of EU IDs 1 and 2.

#### 27.2. For EU ID 2:

- a. For the short-term limit in lb/MMBtu 30-boiler operating day rolling averages for EU ID 2, calculate the 30-day rolling averages using the average of 30 consecutive daily average emission rates, as determined in accordance with Condition 73.2, on a rolling basis.
- b. For each month of the reporting period, include in the operating report required under Condition 137 the highest 30-boiler operating day rolling average PM emissions in lb/MMBtu, as calculated in Condition 27.2.a.

## 27.3. For each of EU IDs 3 through 5:

- a. Monitor, record, and report compliance with the short-term limit in gr/dscf, in accordance with Conditions 1.2 and 5.2 (for EU ID 3) and Conditions 1.3 and 5.3 (for EU IDs 4 and 5).
- b. To ensure compliance with the calendar-year PM emission limits in Table B, comply with the annual load operational limits and associated MR&R, as described in Conditions 21 through 23.
- c. For each month, calculate and record the monthly and calendar year-to-date emissions in tons from each emissions unit, using the corresponding short-term limit in lb/hr as specified in Table B, or the most recent source test results, and actual hours of operation.

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- d. For each month of the reporting period, include in the operating report required by Condition 137 the monthly and calendar year-to-date PM emissions to the nearest ton for EU IDs 3 and 4 and nearest 0.01 ton for EU ID 5, as determined
- 27.4. Report under Condition 136 should any of the short-term and/or calendar-year PM emissions from EU IDs 1 through 5 exceed the corresponding limits indicated in Table B.
- 27.5. For EU IDs 6 through 8 and 10:

in Condition 27.3.c.

- a. Monitor, record, and report compliance with the short-term limit in gr/dscf, in accordance with Conditions 2 through 4 and 12 through 14.1.
- b. For each month, calculate and record the monthly and calendar year-to-date emissions in tons from each emissions unit, using the corresponding short-term limit in lb/hr as specified in Table B, or the most recent source test results, and actual hours of operation.
- 27.6. For EU IDs 11 and 12, control fugitive PM emissions, as follows:
  - a. Clean the paved roads as needed to prevent fugitive emissions from the Haul Road, EU ID 11. Monitor, record and report in accordance with the requirements for reasonable precautions to prevent fugitive dust in Condition 116.
  - b. For EU ID 12, maintain the existing wind fence around the coal storage pile, EU ID 12.
- 27.7. For each month, calculate the monthly and calendar year-to-date combined emissions in tons from EU IDs 11 and 12, using EPA AP-42 emission factors and actual operations data.
- 27.8. Include in the operating report required by Condition 137 the monthly and the calendar year-to-date PM emissions for each of EU IDs 6 through 8 and 10, and for the combined emissions of EU IDs 11 and 12, as determined in Conditions 27.5 and 27.7, respectively.
- 27.9. Report in accordance with Condition 136 should any of the short-term and/or calendar-year PM emissions from any of EU IDs 6 through 8 and 10 through 12 exceed the corresponding individual or combined limits, as indicated in Table B.

## Memorandum of Agreement (MOA) Provisions, EU IDs 1 and 2

**28.** The Permittee shall limit calendar-year emissions from EU IDs 1 and 2, as follows:

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<sup>&</sup>lt;sup>9</sup> GVEA and AIDEA have entered into a Memorandum of Agreement with the U.S. DOI/ NPS, and the U.S. DOE dated November 9, 1993. A condition of the Memorandum of Agreement is the inclusion of the Environmental Mitigation Measures set forth in Section III of the Agreement as enforceable permit conditions. Parts of these MOA provisions that were already completed or are no longer relevant are not included in this permit.

- a. no more than 429 TPY of NO<sub>x</sub> from EU ID 1;
- b. no more than 472 TPY of SO<sub>2</sub> from EU ID 1;
- c. no more than 1,439 TPY of NO<sub>x</sub>, from EU IDs 1 and 2, combined; and
- d. no more than 721 TPY of SO<sub>2</sub>, from EU IDs 1 and 2, combined.

[Permit No. 9431-AA001, Conditions 45 through 47, 5/12/1994]

- 28.1. Monitor, record, and report compliance with the limits in Condition 28 as set out in Conditions 24.1.b, 24.3, 25.1.d, and 25.4.
- 28.2. Report in accordance with Condition 136 should any of the NO<sub>x</sub> and SO<sub>2</sub> emissions from EU IDs 1 and 2 exceed the corresponding individual or combined limits, as indicated in Conditions 28.a through 28.d.

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(a) & (c)(6)]

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**29.** The Permittee shall not request from the Department amendments to this permit, which would result in calendar-year emission levels that would exceed 1,439 TPY for NO<sub>x</sub> or 721 TPY for SO<sub>2</sub> for the combined operation of EU IDs 1 and 2.

[Permit No. 9431-AA001, Condition 48, 5/12/1994]

**30.** If EU ID(s) 1 and/or 2 are operating and generating a NO<sub>x</sub> or other pollutant plume (exclusive of water vapor, steam, and ice crystal plumes) or a sulfate or other pollutant haze which impairs visibility and which is reasonably attributable to the operation of EU ID(s) 1 and/or 2, and is observed or otherwise detected within Denali National Park and Preserve (DNPP) boundaries by observers trained in pollutant plume and haze identification, the Permittee shall, upon notification by National Park Service (NPS) or an order by the Department, immediately implement the procedures as follows:

[Permit No. 9431-AA001, Condition 50, 5/12/1994]

- 30.1. All notifications of plume or haze observation or detection reasonably attributable to the operation of EU ID(s) 1 and/or 2 shall be relayed to the Permittee by the Park Superintendent or his or her designated representative.
- 30.2. The Park Superintendent or his or her designated representative shall notify the Permittee's Healy Plant Superintendent by telephone of plume or haze observation or detection, which is reasonably attributable to the operation of EU ID(s) 1 and/or 2, if the Park Superintendent determines that the report of such plume or haze observation or detection is credible.
- 30.3. Upon receipt of a notification of plume or haze observation or detection, the Permittee will investigate the situation and proceed within 90 minutes of notification as follows:
  - a. If the Permittee concurs with the NPS determination in Condition 30.2 above, Permittee will reduce the combined emissions from EU ID(s) 1 and/or 2 to the level of EU ID 1 emissions prior to construction of EU ID 2 (approximately 200 lb/hour NO<sub>x</sub> and 150 lb/hour SO<sub>2</sub>) for a minimum of 12 hours. This period of

time will be extended for additional 12 hour periods by mutual agreement of the parties, as defined in this condition, if the plume and/or haze persist, or conditions conducive to plume and/or haze formation persist. At any time during this period of reduced emissions, the Permittee may resume full operations upon a determination, by the mutual agreement of the parties, as defined in this condition, that the plume and/or haze is no longer detectable and conditions conducive to plume and/or haze formation no longer exist. The phrase "by mutual agreement of the parties," as used in this condition, means that the Permittee's Healy Plant Superintendent and the Park Superintendent, or their designated representatives, will discuss the issue requiring decision and undertake to reach agreement on the decision. If such decision cannot be agreed upon, the Permittee may proceed to resume operations, and both parties will keep a record of the disagreement.

- b. If Permittee does not concur with the Park Superintendent's determination in Condition 30.2 above within 90 minutes or if the Park Superintendent does not concur with Permittee's decision to resume operations in Condition 30.3.a above, the Park Superintendent or his or her designated representative may notify air quality control personnel in the Department. The Department may then order Permittee to reduce the combined emissions as set forth in Condition 30.3.a above if, after an opportunity for consultation with Permittee and the Park Superintendent, the Department concurs with the NPS determination based on an observation or detection made or confirmed by appropriately trained person or persons. Because this process depends on prompt decision-making and communication, telephone transactions are contemplated.
- c. For purposes of any order issued under Condition 30.3.b above, the Permittee hereby waives rights to advance notice and opportunity for hearing provided by AS 46.03.850 (Compliance Orders) and stipulates to the imposition of any emergency order under AS 46.03.820.
- 30.4. In emergency conditions (defined as the loss of a significant portion of the Permittee's generating resources and/or the Alaska Intertie), the Permittee will undertake the reductions in Condition 30.3.a when the emergency conditions end.
- **31.** The Permittee shall provide reasonable technical and administrative support for any related ongoing studies that the US Department of Energy (US DOE) and the US Department of the Interior (US DOI) agree to pursue.

[Permit No. 9431-AA001, Condition 53, 5/12/1994]

**32.** At the request of the NPS, the Permittee shall provide NPS with fly ash and slag ash, as available, FOB<sup>10</sup> Healy plant site, at no charge.

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FOB, Free On Board, is a transportation term that indicates that the price for goods includes delivery at the Seller's expense to a specified point and no further. The FOB term is used with an identified physical location to determine 1) the responsibility and basis for payment of freight charges, and 2) the point at which title for the shipment passes from Seller to Buyer. [Reference: http://www.dsi-tms.com/hs-fs/hub/1987/file-18496826-pdf/docs/fob\_definition.pdf]

[Permit No. 9431-AA001, Condition 54, 5/12/1994]

33. Consistent with prudent utility practices, the Permittee shall schedule one of its two routine EU ID 1 maintenance shutdowns (typically 2 to 8 weeks in duration) and its major maintenance shut-downs during the June, July, or August time period.

[Permit No. 9431-AA001, Condition 56, 5/12/1994]

**34.** The Permittee shall comply with its obligations as described by the provisions of Healy Clean Coal Project Memorandum of Agreement, Section III and Addendum No. 1.

[Permit No. 9431-AA001, Condition 57, 5/12/1994]

**35.** Compliance with Conditions 29 through 34 shall consist of an annual certification, in accordance with Condition 138, that the stationary source has met the requirements of Conditions 29 through 34.

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(a) & (c)(6)]

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## Requirements and Limits Mandated by Consent Decree, EU IDs 1 and 2

**36.** The Permittee shall comply with the requirements and limits mandated by Consent Decree (CD) Civil Action No. 4:12-cv-00025-RRB dated November 19, 2012, and as amended August 1, 2017, as provided in Conditions 37 through 47.

[18 AAC 50.040(j) and 18 AAC 50.326(j)] [40 C.F.R. 71.6(a) &(c)(6)]

### NO<sub>x</sub> Emissions

**37.** The Permittee shall install and operate a Selective Catalytic Reduction (SCR) system on EU ID 2 no later than 120 unit operating days <sup>11</sup> after restart <sup>12</sup> of EU ID 2. No later than 150 unit operating days after restart of EU ID 2, the NO<sub>x</sub> emission rate for EU ID 2 shall not exceed 0.080 lb/MMBtu, 30-day rolling average. <sup>13</sup>

- 37.1. Report each of the following events in the operating report, required by Condition 137, that addresses the reporting period in which the event occurs:
  - a. the restart date of EU ID 2 (as defined in footnote 12);
  - b. date that installation of the SCR was completed; and
  - c. the date of initial startup of the SCR on EU ID  $2^{14}$ .

<sup>&</sup>lt;sup>11</sup> Unit Operating Day means, for EU ID 1, any day on which EU ID 1 fires fossil fuel; and for EU ID 2, any day on which EU ID 2 fires fossil fuel. Fossil fuel means any hydrocarbon fuel, including coal, petroleum coke, petroleum oil, or natural gas.

<sup>&</sup>lt;sup>12</sup> Restart means the first time that EU ID 2 is fired with fossil fuel after August 1, 2017.

<sup>&</sup>lt;sup>13</sup> A 30-Day Rolling Average Emission Rate for a Unit shall be expressed in lb/MMBTU and includes emissions during the current Unit Operating Day and the previous 29 Unit Operating Days.

<sup>14</sup> Initial Startup of the SCR is defined as the first calendar day that the control equipment is fully operational following any commissioning and testing periods.

136.

- 37.2. If the Permittee does not comply with the deadline for the installation and operation of the SCR on EU ID 2 as described in Condition 36, report as required by Condition
- 37.3. Monitor and calculate the 30-day rolling average for NO<sub>x</sub> emissions in lb/MMBtu using the CEMS data, as follows:
  - a. Sum the total pounds of NO<sub>x</sub> emitted from the emissions unit during the current operating day and the previous 29 operating days. Include all emissions that occur during all periods within the operating day, including emissions from startup, shutdown, and malfunctions;
  - b. Sum the total heat input to the emissions unit in million British thermal units (MMBtu) during the current operating day and the previous 29 operating days;
  - c. Divide the total number of pounds of NO<sub>x</sub> during the 30 operating days by the total heat input during the 30 days to obtain the 30-day average; and
  - d. Calculate a new 30-day rolling average for each new operating day.
- 37.4. Record all 30-day rolling averages calculated in Condition 37.3.c. The recording may be in electronic format.
- 37.5. Report, as required by Condition 136, all 30-day rolling averages that exceed the limit in Condition 37.

[Permit No. AQ0173MSS02, Condition 8, May 21, 2018]

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- 38. The Permittee shall operate and maintain a Selective Non-Catalytic Reduction (SNCR) system on EU ID 1. Effective January 1, 2017, the NO<sub>x</sub> emission rate for EU ID 1 shall not exceed 0.20 lb/MMBtu, 30-day rolling average. This emission limit shall be in effect until the date of initial startup of an SCR system on EU ID 1.
  - 38.1. Measure and record the amount of coal and fuel oil burned in EU ID 1 each day the emissions unit operates.
  - 38.2. Monitor and calculate the 30-day rolling average for NO<sub>x</sub> emissions from EU ID 1 as described in Condition 37.3.
  - 38.3. Record all 30-day rolling averages calculated in Condition 38.2. The recording may be in electronic format.
  - 38.4. Report, as required by Condition 136 all 30-day rolling averages that exceed the limit in Condition 38.

[Permit No. AQ0173MSS01, Condition 2, 04/14/2014]

- **39.** No later than December 31, 2022, the Permittee shall elect to either retire <sup>15</sup> EU ID 1 or install and operate an SCR system or an alternative NO<sub>x</sub> control technology approved by the US Environmental Protection Agency (EPA) on EU ID 1.
  - 39.1. If the Permittee elects to retire EU ID 1, then the Permittee shall retire EU ID 1 no later than December 31, 2024.
    - a. Report, in the next operating report required by Condition 137, the date that EU ID 1 was retired.
    - b. If the Permittee elects to retire EU ID 1 under Condition 39.1 and does not retire EU ID 1 by the deadline in Condition 39.1, report as required by Condition 136.
  - 39.2. If the Permittee elects to continue operating EU ID 1, then the Permittee shall install and operate an SCR system or an alternative NO<sub>x</sub> control technology approved by EPA on EU ID 1 no later than December 31, 2024. Upon initial startup of the SCR system on EU ID 1, the NO<sub>x</sub> emission rate for EU ID 1 shall not exceed 0.070 lb/MMBtu, 30-day rolling average.
    - a. Report, in the next operating report described in Condition 137, the date that installation of the SCR was completed, and the date of initial startup of the SCR on EU ID 1.
    - b. If the Permittee does not comply with the deadline for the installation and operation of the SCR on EU ID 1 as described in Condition 39.2, report as required by Condition 136.
    - c. Monitor and calculate the 30-day rolling average for NO<sub>x</sub> emissions from EU ID 1 as described in Condition 37.3.
    - d. Record all 30-day rolling averages calculated in Condition 39.2.c. The recording may be in electronic format.
    - e. Report, as required by Condition 136, all 30-day rolling averages that exceed the limit in Condition 39.2.

[Permit No. AQ0173MSS01, Condition 3, 04/14/2014]

### PM Emissions

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**40.** The Permittee shall "Continuously Operate" the baghouses on EU IDs 1 and 2 to the extent practicable. "Continuously Operate" each compartment of the baghouses regardless

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Retire means that GVEA shall permanently shut down and cease to operate EU ID 1 such that it cannot legally burn any fuel nor produce any steam for electricity production and that GVEA shall comply with applicable state and federal requirements for permanently retiring a coal-fired electric generating unit, including amending all applicable permits so as to reflect the permanent shutdown status of EU ID 1.

Continuously Operate means that when a pollution control technology or combustion control is required to be used at an EU pursuant to the Consent Decree, it shall be operated at all times when such EU is in operation, except in the event of Force Majeure, so as to minimize emissions to the greatest extent practicable, consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for such equipment and the EU.

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of whether operating each compartment continuously is needed to comply with opacity limits.

- 40.1. Repair any failed baghouse compartment of the emissions unit at the next planned outage or unplanned outage of sufficient length of the respective emissions unit.
- 40.2. Maintain and replace bags on the baghouses to maximize collection efficiency, in a manner consistent with the definition of "Continuously Operate."
- 40.3. Report in Condition 137 all periods during which the baghouse on either EU ID 1 or EU ID 2 was not in operation while the respective emissions unit was operating.
- 40.4. The requirement in Condition 40 does not apply during correlation testing under 40 C.F.R. 60 Appendix B, Performance Specification 11 and Appendix F, Quality Assurance Requirements Procedure 2.

[Permit No. AQ0173MSS01, Condition 4, 04/14/2014]

- 41. Maintain and operate the particulate matter continuous emission monitoring system (PM CEMS) <sup>17</sup> on EU IDs 1 and 2 in accordance with the GVEA's PM CEMS Quality Assurance/Quality Control (QA/QC) Plan:
  - 41.1. The PM CEMS shall consist of a continuous particle mass monitor measuring filterable PM concentration, directly or indirectly, on an hourly average basis, and a diluent monitor used to convert the concentration to units expressed in lb/MMBtu.
  - 41.2. The PM CEMS installed on EU IDs 1 and 2 must be appropriate for the anticipated stack conditions of the respective emissions unit.
  - 41.3. Maintain, in an electronic database for at least five years, the hourly average emission values of all PM CEMS measurements in lb/MMBtu.
  - 41.4. Except for periods of monitor malfunction, maintenance, repair, calibration, or testing as identified in the PM CEMS plan and protocols, continuously operate the PM CEMS at all times when the respective emissions unit is operating.
  - Use the criteria in 40 C.F.R. Appendix B, Performance Specification 11, and 41.5. Appendix F, Procedure 2 when developing the plan for the installation and correlation of the PM CEMS and the QA/QC protocol. Operate the PM CEMS for EU ID 1 and EU ID 2 in accordance with the plan for installation and correlation and the QA/QC protocol.
  - Conduct performance specification tests on the PM CEMS as required and 41.6. demonstrate compliance with the PM CEMS installation and correlation plan submitted to EPA according to the PM CEMS QA/QC protocol.
  - 41.7. Report the data recorded by the PM CEMS during the respective emissions unit operation, expressed in lb/MMBtu on a rolling 30-day average basis in compact

PM CEMS means, for obligations involving the monitoring of PM emissions under the Consent Decree, the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic and/or paper record of PM emissions.

disc-electronic format or other EPA-approved format to EPA, as required by Condition 47.

a. Identify in the report any PM emission rates in excess of the applicable PM emission rate and any concentrations measured by the PM CEMS that are greater than 125 percent of the highest PM concentration level used in the most recent correlation testing performed pursuant to Performance Specification 11 in 40 C.F.R. 60, Appendix B.

[Permit No. AQ0173MSS01, Condition 5, 04/14/2014]

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- 42. Upon the date on which EU ID 2 first fires coal after November 19, 2012, the filterable PM emission rate from EU ID 2 shall not exceed 0.0200 lb/MMBtu, 30-day rolling average. On September 30, 2015 or 18 months after EU ID 2 first fires coal after November 19, 2012, whichever is later, <sup>18</sup> the filterable PM emission rate from EU ID 1 shall not exceed 0.0200 lb/MMBtu, 30-day rolling average.
  - 42.1. Monitor and calculate the 30-day rolling average filterable PM emissions, in terms of lb/MMBtu using the PM CEMS data, for each respective emissions unit as follows:
    - a. Sum the total pounds of filterable PM emitted from the respective emissions unit during the current operating day and the previous 29 operating days. Include all emissions that occur during all periods within the operating day, including emissions from startup, shutdown, and malfunctions;
    - b. Sum the total heat input to the respective emissions unit in MMBtu during the current operating day and the previous 29 operating days;
    - c. Divide the total number of pounds of filterable PM emitted from the respective emissions unit during the 30 operating days by the total heat input for the respective emissions unit during the 30 days to obtain the 30-day average for the respective emissions unit;
    - d. Calculate a new 30-day rolling average for each new operating day for each of EU IDs 1 and 2.
  - 42.2. Record all 30-day rolling averages calculated in Condition 42.1.c for the respective emissions unit. The recording may be in electronic format.
  - 42.3. Report, as required by Condition 136, all 30-day rolling average for EU ID 1 or EU ID 2 that exceed the limit in Condition 42.

[Minor Permit No. AQ0173MSS01, Condition 6]

Hg Emissions

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**43.** For EU IDs 1 and 2, the Permittee shall comply with the requirements for mercury (Hg) emissions from existing coal-fired electric generating units established by the National

EU ID 2 first fired coal on August 4, 2015; therefore, due date for the filterable PM emission rate limit of 0.0200 lb/MMBtu for EU ID 1 is February 4, 2017.

Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal and Oil-Fired Electric Utility Steam Generating Units in Table 2 to 40 C.F.R. 63, Subpart UUUUU (Mercury and Air Toxics Standards rule), as set out in the applicable requirements for Hg emissions in Conditions 94 through 100.

43.1. The Permittee shall make available to the National Parks Service the results of any mercury emissions monitoring required by law conducted on EU IDs 1 and 2 within 45 days of receiving a request for such data from the National Park Service.

[Permit No. AQ0173MSS01, Condition 7, 04/14/2014]

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#### SO<sub>2</sub> Emissions

- **44.** Effective February 4, 2017, the SO<sub>2</sub> emission rate from EU ID 2 shall not exceed 0.10 lb/MMBtu, 30-day rolling average.
  - 44.1. Operate the spray dry absorber (SDA), the existing SO<sub>2</sub> emissions controls on EU ID 2, when EU ID 2 is in operation.
    - a. If the Permittee does not operate the SDA as described in Condition 44.1, report as required by Condition 136.
  - 44.2. Monitor and calculate the 30-day rolling average for SO<sub>2</sub> emissions, in terms of lb/MMBtu using the SO<sub>2</sub> CEMS data, as follows:
    - a. Sum the total pounds of SO<sub>2</sub> emitted from the emissions unit during the current operating day and the previous 29 operating days. Include all emissions that occur during all periods within the operating day, including emissions from startup, shutdown, and malfunctions;
    - b. Sum the total heat input to the emissions unit in MMBtu during the current operating day and the previous 29 operating days;
    - c. Divide the total number of pounds of SO<sub>2</sub> during the 30 operating days by the total heat input during the 30 days to obtain the 30-day average;
    - d. Calculate a new 30-day rolling average for each new operating day.
  - 44.3. Record all 30-day rolling averages calculated in Condition 44.2.c. The recording may be in electronic format.
  - 44.4. Report, as required by Condition 136, all 30-day rolling averages that exceed the limit in Condition 44.

[Permit No. AQ0173MSS01, Condition 8, 04/14/2014]

- **45.** Effective February 4, 2017,the SO<sub>2</sub> emission rate from EU ID 1 shall not exceed 0.30 lb/MMBtu, 30-day rolling average.
  - 45.1. Operate the dry sorbent injection (DSI), the existing SO<sub>2</sub> emissions controls on EU ID 1, when EU ID 1 is in operation to achieve and maintain SO<sub>2</sub> emission rate not to exceed the limit in Condition 45.

- a. If the Permittee does not operate the DSI as described in Condition 45.1, report as required by Condition 136.
- 45.2. Monitor and calculate the 30-day rolling average for SO<sub>2</sub> emissions from EU ID 1 as described in Condition 44.2.
- 45.3. Record all 30-day rolling averages calculated in Condition 45.2. The recording may be in electronic format.
- 45.4. Report, as required by Condition 136, all 30-day rolling averages that exceed the limit in Condition 45.

[Permit No. AQ0173MSS01, Condition 9]

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#### Annual NO<sub>x</sub> and SO<sub>2</sub> Emissions Limits

- **46.** For each 12-month period beginning on January 1, the combined calendar-year emissions from EU IDs 1 and 2, including periods of startup, shutdown, and malfunctions, shall not exceed the limits in Conditions 46.1 and 46.2.
  - 46.1. Limit the combined NO<sub>x</sub> emissions from EU IDs 1 and 2, beginning on January 1 of the first full year following the:
    - a. Installation of SNCR on EU ID 1, to 1,239 TPY until effective date of Condition 46.1.b;
    - b. Installation of SCR on EU ID 2, through 2024, to 533 TPY;
    - c. Installation of SCR on EU ID 1, to 352 TPY, if EU ID 1 is not retired; and
    - d. Retirement EU ID 1, to 231 TPY, if EU ID 1 is retired.
  - 46.2. Limit the combined SO<sub>2</sub> emissions from EU IDs 1 and 2 to:
    - a. 701 TPY beginning January 1, 2016 and continuing each calendar year thereafter, and
    - b. if EU ID 1 is retired, 248 TPY beginning January 1 of the first calendar year after the retirement of EU ID 1 and continuing each calendar year thereafter.
  - 46.3. Monitor, record and report the monthly and calendar year-to-date NO<sub>x</sub> and SO<sub>2</sub> emissions from EU ID 1 and 2, in accordance with Conditions 24.1.b and 25.1.d.

[Permit No. AQ0173MSS01, Condition 10]

- **47.** The Permittee shall submit to the EPA a report by August 29 for the period January 1 to June 30 of the current year and by March 1 (or February 29 on a leap year) for the period July 1 to December 31 of the previous year. The report shall include:
  - 47.1. all information necessary to determine compliance during the reporting period with all applicable:
    - a. 30-day rolling average NO<sub>x</sub> and SO<sub>2</sub> emission rates in lb/MMBtu;

- b. 30-day rolling average filterable PM emission rates in lb/MMBtu;
- c. EU IDs 1 and 2 combined annual emissions for NO<sub>x</sub> and SO<sub>2</sub> in TPY;
- d. the obligation to monitor NO<sub>x</sub>, SO<sub>2</sub>, and PM emissions; and
- e. the obligation to optimize PM emission controls;
- 47.2. the scheduled date or date of installation and commencement of operation of new or upgraded pollution control devices required in Conditions 37, 38, and 39, including the nature and cause of any actual or anticipated delays, and any steps taken to mitigate such delays;
- 47.3. the date on which EU ID 2 first fires coal after November 19, 2012;
- 47.4. all affirmative defenses asserted pursuant to Paragraphs 110 through 118 of the CD during the period covered by the report; and
- 47.5. if any pollution control device required by Condition 37, 38, 39, 40, 44, or 45 did not "Continuously Operate":
  - a. an identification of all periods any control equipment did not operate;
  - b. the reason(s) for the equipment for not operating; and
  - c. the basis for compliance or non-compliance with the continuous operation requirements of Condition 37, 38, 39, 40, 44, or 45.

[Permit No. AQ0173MSS01, Condition 11, 04/14/2014]

## BART Requirements, <sup>19</sup> EU IDs 1 and 3.

**48.** The Permittee shall comply with the requirements of Best Available Retrofit Technology (BART) under the regional haze rule set out in Conditions 49 through 51, as expeditiously as practicable, but in no case later than March 18, 2018.

[18 AAC 50.040(j), 50.260(n) & (o), and 50.326(j)] [40 C.F.R. 71.6(a) &(c)(6)]

- **49. BART Controls.** The Permittee shall comply with the following as BART for EU IDs 1 and 3:
  - 49.1. For EU ID 1:

- a. maintain and operate the existing dry sorbent injection system to control SO<sub>2</sub> emissions;
- b. maintain and operate the existing Selective Non-Catalytic Reduction system (SNCR) to control NO<sub>x</sub> emissions; and

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<sup>19</sup> The Best Available Retrofit Technology (BART) requirements were established under the Federal Regional Haze Rule in 40 C.F.R. 51.300 through 309 and Appendix Y, adopted by reference under 18 AAC 50.260.

- c. maintain and operate the existing reverse gas baghouse system to control  $PM_{10}$  emissions:
- 49.2. For EU ID 3, the existing configuration (i.e., no air pollution control system required) is BART for SO<sub>2</sub>, NO<sub>x</sub>, and PM<sub>10</sub> emissions.

[18 AAC 50.040(j), 50.260(l) & (o), and 50.326(j)]

[40 C.F.R. 71.6(a) &(c)(6)]

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[Final BART Determination Report, Rev. 1, 06/01/2010]

[State of Alaska Air Quality Control Plan, Volume II: Section III.K.6, Regional Haze SIP, 2/11/2011; and Volume III: Appendix III.K.6, BART Documentation, 9/18/2014]

**50. BART Limits** The Permittee shall limit PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions from EU IDs 1 and 3 in accordance with the BART limits indicated in Table C.

Table C -BART Emission Limits<sup>a</sup>

EU ID	EU	Criteria Pollutants			
No. Description		$PM_{10}^{b}$	NO <sub>x</sub>	$SO_2$	
1	Unit No. 1	0.015 lb/MMBtu (based on compliance source testing)	0.20 lb/MMBtu (30-day rolling average)	0.30 lb/MMBtu (30-day rolling average)	
3	Auxiliary Boiler No. 1	0.05 gr/dscf, hourly average 0.8 lb/hr (at full load) 20% load factor, annual average	0.15 lb/MMBtu (30-day rolling average)	0.53 lb/MMBtu (30-day rolling average).	

#### Notes:

- <sup>a</sup> BART emissions limits are based on an eight-year remaining useful life for EU ID 1, from calendar years 2016 through 2024.
- b The BART emission limit for particulate matter (PM) reflects filterable PM<sub>10</sub>.

[18 AAC 50.040(j), 50.260(l), and 50.326(j)]

[40 C.F.R. 71.6(a) &(c)(6)]

[Final BART Determination Report, Rev. 1, 06/01/2010]

**51. Monitoring, Recordkeeping, and Reporting.** The Permittee shall demonstrate compliance with the BART NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> emissions limits in Table C for EU IDs 1 and 3, as follows:

#### For EU ID 1:

- 51.1. Use CEMS to determine emissions of NO<sub>x</sub> and SO<sub>2</sub> from EU ID 1. Maintain, operate, and calibrate the CEMS installed on EU ID 1 in accordance with Condition 20.2.
- 51.2. Monitor, record, and report, as follows:
  - a. Measure and record for each operating day
    - (i) the 60-minute average emission rates of  $NO_x$  and  $SO_2$  (in lb/MMBtu);

- the average daily NO<sub>x</sub> and SO<sub>2</sub> emission rates (in lb/MMBtu);
- (iii) the 60-minute average stack gas concentration of O<sub>2</sub> or CO<sub>2</sub> (in percent);
- (iv) the 60-minute average coal feed rate to EU ID 1.
- b. To determine the 30-boiler operating day rolling average emissions rates, calculate and record the arithmetic average of all hourly NO<sub>x</sub> and SO<sub>2</sub> emission rates in accordance with Condition 73.5.a, as applied to EU ID 1.<sup>20</sup>
- Record all instances of startup, shutdown and malfunction or emergency c. conditions occurring during each 30-day rolling averaging period.
- For each calendar month of the reporting period, include with the operating report required in Condition 137 the highest 30-day rolling average NO<sub>x</sub> and SO<sub>2</sub> emission rates in lb/MMBtu.
- Submit an excess emissions report in accordance with Condition 136 whenever e. the 30-day rolling average NO<sub>x</sub> or SO<sub>2</sub> emission rate (lb/MMBtu) exceeds the respective allowable rate in Table C.
- 51.3. Use source test results to determine emissions of PM<sub>10</sub> from EU ID 1.
  - Conduct source tests for PM<sub>10</sub> and report the results in accordance with Section 9 and as follows:
    - Conduct an initial test on EU ID 1 within six months before or after the (i) final BART emission limit compliance date in Condition 48;
  - b. Comply with the monitoring, recordkeeping and reporting requirements of the Compliance Assurance Monitoring (CAM) Plan in Condition 101.

#### *EU ID 3:*

- 51.4. Monitor, record, and report in accordance with Conditions 1.2 and 5.2 to demonstrate compliance with the PM limit in Table C for EU ID 3:
- 51.5. Comply with the sulfur compound emissions standard in Condition 15 and monitor, record, and report in accordance with Conditions 16 and 17 to demonstrate compliance with the SO<sub>2</sub> limit in Table C for EU ID 3; and
- 51.6. Comply with the NO<sub>x</sub> emissions BACT limits and MR&R requirements described in Condition 24, as applicable to EU ID 3, to demonstrate compliance with the BART NO<sub>x</sub> limit for EU ID 3 in Table C.

[18 AAC 50.040(j), 50.260(l) & (o), and 50.326(j)]

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The revised 2010 BART determination report specifically indicates that startup, shutdown and malfunctioin, or emergency conditions should be excluded. Emergency conditions exist only when the sulfur dioxide control system malfunctions and the boiler cannot be shut down and the events leading to the malfunction were not reasonably foreseeable or preventable. A process and emission control malfunction or breakdown is not an emergency condition, in and of itself. [Ref. US EPA Applicability Determination Index, Control Number PS27, 9/16/1992]

[40 C.F.R. 71.6(a)(3)(i) through (iii) &(c)(6)] [Final BART Determination Report, Rev. 1, 06/01/2010]

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- **52. Initial Notification of Compliance Status.** By December 31, 2018, submit to the Department an initial notification of compliance status with the BART requirements set out in Conditions 48 through 51. Include the following information with the report:
  - 52.1. Company name, stationary source, and address;
  - 52.2. Statement by the responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether EU ID 1 and EU ID 3 have complied with the corresponding BART limits in Table C and associated requirements in Conditions 48 through 51;
  - 52.3. The notification must include the following certification of compliance, and signed by a responsible official: "This stationary source complies with the BART requirements under 18 AAC 50.260(n) and (o) by complying with the established BART emission limits and the established maintenance and operations procedures for the BART control equipment for each of EU IDs 1 and 3;"
  - 52.4. Supporting documents to demonstrate initial compliance with the BART emissions limits applicable to EU ID 1, including but not limited to the following:
    - a. the 30-day rolling averages for each of NO<sub>x</sub> and SO<sub>2</sub> emission rates in lb/MMBtu, as determined under Condition 51.2.b, during the 30-boiler operating day period immediately preceding the compliance due date in Condition 48; and
    - b. results of the PM source test conducted under Condition 51.3.a(i).
  - 52.5. If EU ID 1 or EU ID 3 experienced any deviations from the applicable requirements since the compliance due date in Condition 48, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

[18 AAC 50.040(j), 50.260(l) & (o), and 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii) &(c)(6)] [Final BART Determination Report, Rev. 1, 06/01/2010]

## Section 5. State Requirements for Coal-Fired Boilers

### Visible Emissions Standards, EU IDs 1 and 2

**53.** Coal-Fired Boiler Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 and 2 listed in Table A to reduce visibility through the exhaust effluent, as follows:

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

53.1. For EU ID 1, by more than 20 percent for more than three minutes in any one hour, except for an additional three minutes in any one hour, if

[18 AAC 50.055(a)(9)]

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- a. the visible emissions are caused by startup, shutdown, soot blowing, grate cleaning, or other routine maintenance activities specified in Condition 54.1.b;
- b. the Permittee monitors visible emissions by continuous opacity monitoring instrumentation that conforms to the requirements set out in Conditions 54.1.a and 54.1.c;
- c. the Permittee provides the Department with a demonstration that the particulate matter emissions from EU ID 1 allowed by this opacity limit will not cause or contribute to a violation of the ambient air quality standards for PM<sub>10</sub> in 18 AAC 50.010, or to cause the maximum allowable increases for PM<sub>10</sub> in 18 AAC 50.020 to be exceeded; and
- d. the federal Administrator approves a stationary source-specific revision to the State Implementation Plan, required under 42 U.S.C. 7410, authorizing the application of this opacity limit instead of the opacity limit otherwise applicable under this section.

[18 AAC 50.055(a)(9)(A) through (D)]

53.2. For EU ID 2, by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1)]

### Visible Emissions MR&R, EU IDs 1 and 2

- **54.** Coal Fired Boiler Visible Emissions Monitoring. The Permittee shall monitor visible emissions from EU IDs 1 and 2 using COMS, as required in Conditions 20.1 and 20.2.
  - 54.1. Comply with the following procedures for operation of a COMS:
    - a. The COMS must meet the performance specifications in 40 C.F.R. 60, Appendix B, Performance Specification 1, adopted by reference in 18 AAC 50.040(a):
    - b. Operate and maintain the COMS in accordance with the manufacturer's written requirements and recommendations;

and

- c. Except during COMS breakdowns, repairs, calibration checks, and zero and upscale adjustments, complete one cycle of sampling and analyzing for each successive 15-second period of emissions unit operation; from this data, calculate and record the average opacity for each successive one-minute period;
- d. At least once daily, conduct a zero and upscale (span) check in accordance with a written procedure, as described in 40 C.F.R. 60.13(d), and; adjust whenever the zero or upscale drift exceeds four percent opacity in a 24-hour period.
- e. Conduct performance audits as follows:
  - (i) For a COMS that was new, relocated, replaced, or substantially refurbished on or after April 9, 2001, perform an audit that includes the following elements as described in the Department's *Performance Audits* for COMS, adopted by reference in 18 AAC 50.030, at least once in each 12 months:
    - (A) optical alignment;
    - (B) zero and upscale response assessment;
    - (C) zero compensation assessment;
    - (D) calibration error check; and
    - (E) zero alignment assessment;
  - (ii) For a COMS that was new, relocated, replaced, or substantially refurbished before April 9, 2001, perform the same audits required under Condition 54.1.e(i), except that Conditions 54.1.e(i)(A) through 54.1.e(i)(D) must be performed at least quarterly; this frequency may be reduced if
    - (A) the Permittee demonstrates, by applying measurable criteria to the results of quarterly audits, that quarterly audits are not necessary; and
    - (B) the Department gives written approval for the reduction in frequency.
- f. If any of the COMS on the coal-fired boilers, EU IDs 1 and 2, is out of service for more than 24 hours, or the COMS has failed the performance audit, the Permittee shall observe the visible emissions in accordance with Condition 2.2 once during each month that the emissions unit is in operation until the COMS is in good working condition or the COMS has passed the performance audit.

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(i) & (c)(6)] [Permit No. AQ0173MSS02, Condition 8, May 21, 2018]

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- **55. Coal Fired Boiler Visible Emissions Recordkeeping.** For EU IDs 1 and 2 listed in Table A, the Permittee shall keep records as follows:
  - 55.1. Maintain records of all calculated one-minute average opacity values for COMS and records of the COMS performance audits required under Condition 54.1.e, according to the requirements of Condition 132.
  - 55.2. Maintain records of information required under Condition 3.1 for all Method 9 visible emissions monitoring conducted pursuant to Condition 54.1.f.

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(ii) & (c)(6)]

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**56.** Coal Fired Boiler Visible Emissions Reporting. For EU IDs 1 and 2 listed in Table A, the Permittee shall report as follows:

[18 AAC 50.040(j) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

- 56.1. If any of the COMS is malfunctioning or non-operable for three or more consecutive days, the Permittee shall notify the Department by telephone or in writing on the fourth day, indicating the cause of failure and anticipated time required to repair or replaced the instrument.
- 56.2. Include in the operating report required under Condition 137 the information recorded under Condition 55.2 for all Method 9 visible emissions monitoring conducted pursuant to Condition 54.1.f during the period covered by the report.
- 56.3. For EU ID 1, report a violation of the emission standard in Condition 53.1 by filing an Excess Emission Notification Form under Condition 136 if:
  - a. the total number of one-minute values that exceed 20 percent opacity is greater than three during any given hour when the boiler **is not** operating under the conditions described in Conditions 53.1.a and 53.1.b; or
  - b. the total number of one-minute values that exceed 20 percent opacity is greater than six during any given hour when the boiler **is** operating under the conditions described in Conditions 53.1.a and 53.1.b.
- 56.4. For EU ID 2, report a violation of the emission standard in Condition 53.2 by filing an Excess Emission Notification Form under Condition 136 if visible emissions exceed a six-minute average of 20 percent opacity.

### Particulate Matter Emissions Standards, EU IDs 1 and 2

**57. Coal Fired Boiler Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from EU IDs 1 and 2 listed in Table A to exceed the following:

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(a)(1)]

57.1. For EU ID 1, 0.1 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours; and

[18 AAC 50.055(b)(2)(A)]

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57.2. For EU ID 2, 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours

[18 AAC 50.055(b)(1)]

## Particulate Matter Emissions MR&R, EU IDs 1 and 2

**58. Coal Fired Boiler Particulate Matter Monitoring and Recordkeeping.** The Permittee shall do the following:

[18 AAC 50.040(j), 50.326(j), & 50.346] [40 C.F.R. 71.6(a)(3)(i) & (ii) & (c)(6)]

- 58.1. At least once every 12 months, for each boiler that has operated 90 days or more during that period, inspect the exhaust duct work and the internal components of the dust collector for the presence of leaks; prior to restarting the boiler, repair all leaks in the exhaust ductwork and all leaks that would allow dirty gas to pass into the clean gas side of the dust collector;
- 58.2. If PM CEMS does not collect data as required by Condition 42.1, conduct source tests for particulate matter as follows:
  - a. Conduct the tests and report the results in accordance with Section 9; for tests required under Condition 58.2.b, submit the test plan required by Condition 128 at least 30 days before conducting the test;
  - b. Conduct the tests on each boiler according to the following schedule where each test means a three-hour average consistent with Condition 131.
    - (i) If the most recent source test exceeded 90 percent of the applicable emission limit in Condition 57, conduct a source test within 8,760 operating hours of the previous test;
    - (ii) If the most recent source test exceeded 75 percent of the applicable emission limit in Condition 57, conduct a source test within 17,520 operating hours of the previous test; and
    - (iii) Within five years of the previous source test, conduct a test of each boiler operated during that time.

## 58.3. Keep records of

- a. the PM emissions from EU ID 1 and 2 in gr/dscf averaged over three hours as calculated from PM CEMS data;
- b. the results of source tests conducted under Condition 58.2; and
- c. the inspection and any corrective actions taken under Condition 58.1.
- **59.** Coal Fired Boiler Particulate Matter Reporting. The Permittee shall

[18 AAC 50.040(j), 50.326(j), & 50.346(c)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

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- 59.1. Submit a report in accordance with Condition 136 whenever the results of a source test conducted under Condition 58.2 or PM CEMS data collected under Condition 42.1 exceed the applicable particulate matter emissions limit under Condition 57.
- 59.2. Include in the operating report required under Condition 137
  - a. the highest PM emissions from each of EU ID 1 and 2 in gr/dscf averaged over three hours, as calculated from PM CEMS data, for each month covered by the reporting period;
  - b. the results of each particulate matter source test conducted during the reporting period (if previously submitted, cite the source test submittal date in lieu of providing source test results); and
  - c. a summary of inspection findings and corrective actions taken under Condition 58.1.

## Sulfur Compound Emissions Standard, EU IDs 1 and 2

**60.** Coal Fired Boiler Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as sulfur dioxide, from EU IDs 1 and 2 to exceed 500 ppm averaged over a period of three hours.

[18 AAC 50.055(c)]

## Sulfur Compound Emissions MR&R, EU IDs 1 and 2

- **61.** For EU IDs 1 and 2, the Permittee shall:
  - 61.1. demonstrate compliance with the applicable state SO<sub>2</sub> standard in Condition 60 by complying with the units' corresponding SO<sub>2</sub> limits in Table B and associated MR&R requirements in Conditions 20.2 and 25.1;
  - 61.2. keep records of the sulfur dioxide concentration in ppm averaged over three-hours, as measured by the CEMS required under Condition 20.2; and
  - 61.3. submit a report in accordance with Condition 136 whenever a three-hour exhaust concentration recorded under Condition 61.2 is greater than 500 ppm.

[18 AAC 50.035(c), 50.040(a) & (j), & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(i) through (iii) & (c)(6)]

## Section 6. Performance Audits for COMS, EU IDs 1 and 2

**62. Performance Audits.** The following elements shall be included in performance audits for COMS, unless the Department gives written approval for unit-specific audit procedures.

[18 AAC 50.030(9), 50.040(j), & 50.326(j)] [40 C.F.R. 71.6(a)(3)(i)]

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- 62.1. **Optical Alignment Assessment.** The status of the optical alignment of the monitor components shall be checked and recorded according to the procedures specified by the monitor manufacturer. Realign as necessary.
- 62.2. **Zero and Upscale Response Assessment.** The zero and upscale response errors shall be determined and recorded according to the calibration drift procedures of paragraphs 8.1(4)(i) and (ii) in 40 C.F.R. 60, Appendix B, Performance Specification 1 (PS-1), adopted by reference in 18 AAC 50.040(a). The error is defined as the difference (in percent opacity) between the correct value and the observed value for the zero and high-level calibration checks.
- 62.3. **Zero Compensation Assessment.** The value of the zero compensation applied at the time of the audit shall be calculated as equivalent opacity, corrected to stack exit conditions as necessary, according to the procedures specified by the manufacturer. Record the compensation applied to the effluent recorded by the monitor system.
- Calibration Error Check. Conduct a three-point calibration error test using three 62.4. calibration attenuators that produce outlet path length corrected, single-pass opacity values shown in ASTM D 6216, Section 7.5, adopted by reference in 18 AAC 50.035(c). Confirm the external audit device produces the proper zero value on the COMS data recorder. Separately, insert each calibration attenuator (low, mid, and high-level) into the external audit device. While inserting each attenuator, (1) ensure that the entire light beam passes through the attenuator; (2) minimize interference from reflected light; and (3) leave the attenuator in place for at least two times the shortest recording interval on the COMS data recorder. Make a total of five nonconsecutive readings for each attenuator. At the end of the test, correlate each attenuator insertion to the corresponding value from the data recorder. Subtract the single-pass calibration attenuator values corrected to the stack exit conditions from the COMS responses. Calculate the arithmetic mean difference, standard deviation, and confidence coefficient of the five measurements value using equations 1-3, 1-4, and 1-5 of PS-1. Calculate the calibration error as the sum of the absolute value of the mean difference and the 95 percent confidence coefficient for each of the three test attenuators using equations 1-6 of PS-1. Report the calibration error test results for each of the three attenuators.
- 62.5. **Zero Alignment Assessment.** Compare the COMS simulated zero to the actual clear path zero of the installation. The assessment may be conducted in conjunction with, but prior to, other performance audit elements.
  - a. **Primary Zero Alignment Method**. The primary zero alignment shall be performed under clear path conditions. This may be accomplished if the process is not operating and the monitor path length is free of particulate matter or the

monitor may be removed from its installation and set up under clear path conditions. The absence of particulate matter shall be demonstrated prior to conducting the test at the installed site. No adjustment to the monitor is allowed other than the establishment of the proper monitor path length and correct optical alignment of the monitor components. Record the monitor response to a clear path condition and to the monitor's simulated zero condition as percent opacity corrected to stack exit conditions as necessary. For monitors with automatic zero compensation, disconnect or disable the zero compensation mechanism or record the amount of correction applied to the monitor's simulated zero condition. The response difference in percent opacity to the clear path and simulated zero conditions shall be recorded as the zero alignment error. Adjust the monitor's simulated zero device to provide the same response as the clear path condition. Restore the COMS to its operating mode.

- b. Alternate Zero Alignment Method. Monitors capable of allowing the installation of an external, removable zero-jig may use the equipment for an alternative zero alignment provided that the zero-jig setting is established for the monitor path length and recorded for the specific COMS by comparison of the COMS responses to the installed zero-jig and to the clear path condition. The zero-jig is shown to be capable of producing a consistent zero response when it is repeatedly (i.e., three consecutive installations and removals prior to conducting the final zero alignment check) installed on the COMS. The zero-jig setting shall be permanently set at the time of the initial COMS zeroing to the clear path zero value and protected when not in use to ensure that the setting equivalent to zero opacity does not change. The zero-jig setting shall be checked and recorded prior to initiating the zero alignment. Emissions unit owners and operators that employ a zero-jig shall perform a primary zero alignment audit once every three years.
- c. **Failure Criteria for Zero Alignment.** The zero alignment is acceptable if the error at the simulated zero check is less than or equal to 2 percent opacity prior to adjustment (i.e., if the zero alignment error is 0 percent the analyzer does not need servicing solely based on this test).

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## Section 7. Federal Requirements

### 40 C.F.R. Part 60 New Source Performance Standards (NSPS)

## **Subpart A – General Provisions**

63. NSPS Subpart A Notification. Unless exempted by a specific subpart, for any affected facility<sup>21</sup> or existing facility<sup>22</sup> regulated under NSPS requirements in 40 C.F.R. 60, the Permittee shall furnish the Administrator<sup>23</sup> written notification or, if acceptable to both the EPA and the Permittee, electronic notification, as follows:

[18 AAC 50.035 & 50.040(a)(1)] [40 C.F.R. 60.7(a) & 60.15(d), Subpart A]

63.1. A notification of the date construction (or reconstruction as defined under 40 C.F.R. 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

[40 C.F.R. 60.7(a)(1), Subpart A]

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- 63.2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 C.F.R. 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include:
  - a. information describing the precise nature of the change,
  - b. present and proposed emission control systems,
  - c. productive capacity of the facility before and after the change, and
  - d. the expected completion date of the change.

[40 C.F.R. 60.7(a)(4), Subpart A]

63.3. A notification of the date upon which demonstration of the CMS performance commences in accordance with 40 C.F.R. 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

[40 C.F.R. 60.7(a)(5), Subpart A]

63.4. A notification that COMS data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 C.F.R. 60.8 in lieu of Method 9 observation data as allowed by 40 C.F.R. 60.11(c)(5). This

<sup>21</sup> Affected facility means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 C.F.R. 60.2.

Existing facility means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 C.F.R. 60.2.

<sup>&</sup>lt;sup>23</sup> The Department defines "the Administrator" to mean "the EPA and the Department."

notification shall be postmarked not less than 30 days prior to the date of the performance test.

[40 C.F.R. 60.7(a)(7), Subpart A]

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63.5. A notification of any proposed replacement of an existing facility, for which the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, postmarked as soon as practicable, but no less than 60 days before commencement of replacement, and including the following information:

[40 C.F.R. 60.15(d), Subpart A]

- a. the name and address of owner or operator,
- b. the location of the existing facility,
- c. a brief description of the existing facility and the components that are to be replaced,
- d. a description of the existing and proposed air pollution control equipment,
- e. an estimate of the fixed capital cost of the replacements, and of constructing a comparable entirely new facility,
- f. the estimated life of the existing facility after the replacements, and
- g. a discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.
- **64. NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU IDs 2, 4, 6, 9, and 10, any malfunction of associated air-pollution control equipment, or any periods during which a CMS or monitoring device for EU ID 2 is inoperative.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.7(b), Subpart A]

- **65. NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report.** For EU ID 2, the Permittee shall submit to the Department and to EPA excess emissions and monitoring systems performance report (EEMSP)<sup>24</sup> and/or summary report form (see Condition 66).
  - 65.1. The Permittee shall submit the EEMSP report and/or summary report form to EPA quarterly, except that the Permittee may reduce the frequency to semiannually if the conditions of 40 C.F.R. 60.7(e)(1) and(e)(2) are met. The reporting frequency will automatically revert to quarterly if emissions exceed a limit as described above in this condition. The Permittee may again request the Administrator for reduced frequency after demonstrating compliance for another full year.

The federal EEMSP report is not the same as the state excess emission report required by Condition 136.

65.2. Written reports of excess emissions shall include the following information:

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.7(c), Subpart A]

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a. The magnitude of excess emissions computed in accordance with Condition 71.5, any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

[40 C.F.R. 60.7(c)(1), Subpart A]

b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of EU ID 2; the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted.

[40 C.F.R. 60.7(c)(2), Subpart A]

c. The date and time identifying each period during which a CMS was inoperative except for zero and span checks and the nature of any repairs or adjustments.

[40 C.F.R. 60.7(c)(3), Subpart A]

d. When no excess emissions have occurred or the CMSs have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

[40 C.F.R. 60.7(c)(4), Subpart A]

**66. NSPS Subpart A Summary Report Form.** The Permittee shall submit to the Department and to EPA one "summary report form" in the format shown in Figure 1 of 40 C.F.R. 60.7 (see Attachment A to the Statement of Basis) for each pollutant monitored for EU ID 2.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.7(c) & (d), Subpart A]

66.1. If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, submit a summary report form **unless** the EEMSP report described in Condition 65 is requested, or

[40 C.F.R. 60.7(d)(1), Subpart A]

66.2. If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is five percent or greater of the total time for the reporting period, then submit a summary report form **and the EEMSP** described in Condition 65.

[40 C.F.R. 60.7(d)(2), Subpart A]

**67. NSPS Subpart A Performance (Source) Tests.** The Permittee shall conduct source tests according to 40 C.F.R. 60.8 and Section 9 on any affected facility at such times as may be required by the Administrator, and shall provide the Department and EPA with a written report of the results of the source test.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.8(a), Subpart A]

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68. NSPS Subpart A Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU IDs 2, 4, 6, 9, and 10 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Administrator will determine whether acceptable operating and maintenance procedures are being used based on information available, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU IDs 2, 4, 6, 9, and 10.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.11(d), Subpart A]

69. NSPS Subpart A Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in Conditions 72, 75, 77, and 79 nothing in 40 C.F.R. Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU IDs 2, 4, 6, 9, and 10 would have been in compliance with applicable requirements of 40 C.F.R. Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.11(g), Subpart A]

**70. NSPS Subpart A Concealment of Emissions.** The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in Conditions 72, 75, 77, and 81. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.12, Subpart A]

**71. NSPS Subpart A, Monitoring.** For a CMS required under Conditions 73.1.a and 73.7, the Permittee shall comply as follows:

[18 AAC 50.040(a)(1)] [40 C.F.R. 60.13(a) Subpart A]

71.1. Ensure that all CMS and monitoring devices are installed and operational prior to a performance test conducted under Condition 67. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

[40 C.F.R. 60.13(b), Subpart A]

71.2. Conduct continuous opacity monitoring system (COMS) or CEMS performance evaluations in accordance with 40 C.F.R. 60.13(c) and at such other times as may be required by the Administrator under section 114 of the Act.

[40 C.F.R. 60.13(c), Subpart A]

71.3. Check the zero (or low level value between zero and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with 40 C.F.R. 60.13(d).

[40 C.F.R. 60.13(d)(1), Subpart A]

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71.4. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under Condition 71.3, keep all CMS's in operation continuously and as follows:

[40 C.F.R. 60.13(e), Subpart A]

a. for a COMS, complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive six-minute period; otherwise

[40 C.F.R. 60.13(e)(1), Subpart A]

b. complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 C.F.R. 60.13(e)(2), Subpart A]

71.5. Reduce data in accordance with the following:

[40 C.F.R. 60.13(h)(1) - (3), Subpart A]

- a. For CMS for measurement of opacity, reduce all data to six-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each six-minute period.
- b. For continuous monitoring systems other than opacity reduce all data to one-hour averages for time periods as defined in 40 C.F.R. 60.2. One-hour averages shall be computed in accordance with 40 C.F.R. 60.13(h)(2).
- c. Do not include data recorded during periods of CMS breakdowns, repairs, calibration checks, and zero and span adjustments in the data averages computed under this condition.
- d. The Permittee may use an arithmetic or integrated average of all data, and record data in reduced or non-reduced form (e.g., ppm pollutant percent O<sub>2</sub> or ng/J of pollutant).
- e. Convert all excess emission into units of the standard used in Conditions 72.1, 72.2, 72.3, and 72.4. After conversion, the Permittee may round data to the same number of significant digits as used in the Conditions 72.1, 72.2, 72.3, and 72.4.

#### NSPS Subpart Da – Electric Utility Steam Generating Units, EU ID 2

72. NSPS Subpart Da PM, SO<sub>2</sub>, and NO<sub>x</sub> Emissions Standards: The Permittee shall not cause to be discharged into the atmosphere any gases from EU ID 2, listed in Table A, which contain

[18 AAC 50.040(a)(2)(B) & (j) and 50.326(j)]

[40 C.F.R. 71.6(a)(1) [40 C.F.R. 60.40Da(a), 60.42Da through 60.44Da, Subpart Da]

72.1. PM in excess of 0.03 lb/MMBtu heat input, averaged daily based on hourly emission rates of each boiler operating day;<sup>25</sup>

[40 C.F.R. 60.42Da(a) and 60.48Da(f), Subpart Da]

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Opacity greater than 20 percent (6-minute average), except for one 6-minute period 72.2. per hour of not more than 27 percent opacity; this limit does not apply if the Permittee elects to install, calibrate, maintain, and operate a CEMS for measuring PM emissions according to the requirements of NSPS Subpart Da;<sup>26</sup>

[40 C.F.R. 60.42Da(b) and (b)(1), Subpart Da]

SO<sub>2</sub> in excess of 0.15 lb/MMBtu heat input, averaged emission rate based on 30 successive boiler operating days; and

[40 C.F.R. 60.43Da(a)(4) & (g), Subpart Da]

- 72.4.  $NO_x$  (expressed as  $NO_2$ ) in excess of
  - 0.50 lb/MMBtu heat input for sub-bituminous coal, based on a 30-boiler operating day rolling average; or
  - 0.60 lb/MMBtu heat input for fuel containing more than 25%, by weight lignite<sup>27</sup>, based on a 30-boiler operating day rolling average.

[40 C.F.R. 60.44Da(a)(1), Subpart Da]

73. NSPS Subpart Da Monitoring and Recordkeeping. For EU ID 2, the Permittee shall comply with the PM, opacity, SO<sub>2</sub>, and NO<sub>x</sub> emissions standards under Condition 72 at all times, except during periods of startup, shutdown, or malfunction. The Permittee shall monitor and record compliance, as follows:

[40 C.F.R. 60.48Da(a), Subpart Da]

Particulate Matter (PM) and Opacity

73.1. When using a COMS to determine compliance with the PM emissions limit in Condition 72.1, the Permittee shall comply with the opacity limit in Condition 72.2.<sup>28</sup> The Permittee shall comply with the following:

[40 C.F.R. 60.48Da(q) and 60.49Da(a), Subpart Da]

As defined in 40 C.F.R. 60.41Da, boiler operating day for units constructed, reconstructed, or modified before March 1, 2005, means a 24-hour period during which fossil fuel is combusted in a steam-generating unit for the entire 24 hours. Also,

<sup>&</sup>lt;sup>26</sup> Per 40 C.F.R. 60.42Da(b)(1), an owner or operator of an affected facility that elects to install, calibrate, maintain, and operate a CEMS for measuring PM emissions is exempt from the opacity standard specified in Condition 72.2. The Permittee currently uses a COMS to demonstrate compliance with the Subpart Da PM standard. The Permittee has installed a PM CEMS (as part of the CD requirements, see Condition 41) and may elect to demonstrate compliance with Subpart Da PM requirements in the future using a PM CEMS on EU ID 2.

<sup>&</sup>lt;sup>27</sup> Testing on coal burned in EU ID 2 indicates that the coal can be sub-bituminous or lignite. Any fuel containing less than 25%, by weight, lignite is not prorated but its percentage is added to the percentage of the predominant fuel.

See footnote 26.

- a. Install, calibrate, maintain, and operate a COMS, and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere.
- b. If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), monitor the opacity upstream of the interference (at the inlet to the FGD system).
- c. If opacity interference is experienced at all locations (both at the inlet and outlet of the SO<sub>2</sub> control system), monitor alternate parameters (subject to the approval of the Administrator) indicative of the PM control system's performance and/or good combustion.

[40 C.F.R. 60.49Da(a)(1), Subpart Da]

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d. In conducting monitoring system performance evaluations under 40 C.F.R. 60.13(c) (Condition 71.2) and calibration checks under 40 C.F.R. 60.13(d) (Condition 71.3), the span value for a COMS is between 60 and 80 percent.

[40 C.F.R. 60.49Da(i)(3), Subpart Da]

- 73.2. When using a PM CEMS to determine compliance with the PM emissions limit in Condition 72.1, the Permittee shall comply as follows:
  - a. To determine the daily average emission rate, calculate the arithmetic average of all hourly emission rates recorded in the PM CEMS each boiler operating day, except for data obtained during startup, shutdown, or malfunction periods. Calculate the 1-hour averages expressed in lb/MMBtu heat input using the data points required under 40 C.F.R. 60.13(h)(2).
  - b. Daily averages are only calculated for boiler operating days that have non-out-of-control<sup>29</sup> data for at least 18 hours of unit operation during which the standard applies.
  - c. To determine compliance for operating day(s) not meeting the minimum 18 hours non-out-of-control data, average all of the non-out-of-control hourly emission rates during those days with all of the non-out-of-control hourly emission rates of the next boiler operating day with 18 hours or more of non-out-of-control PM CEMS data.

[40 C.F.R. 60.48Da(f) and 60.49Da(g), Subpart Da]

73.3. In conducting the performance tests required in Condition 67 (40 C.F.R. 60.8), the Permittee shall use as reference methods and procedures the methods in Appendix A of 40 C.F.R. 60 or the methods and procedures as specified Condition 73.4, except as provided in 40 C.F.R. 60.8(b).

2

Out-of-control period means any period beginning with the quadrant corresponding to the completion of a daily calibration error, linearity check, or quality assurance audit that indicates that the instrument is not measuring and recording within the applicable performance specifications and ending with the quadrant corresponding to the completion of an additional calibration error, linearity check, or quality assurance audit following corrective action that demonstrates that the instrument is measuring and recording within the applicable performance specifications. [40 C.F.R. 60.41Da, Subpart Da]

[40 C.F.R. 60.50Da(a), Subpart Da]

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73.4. In conducting performance tests to determine compliance with the PM emissions limit in Condition 72.1, the Permittee shall measure filterable PM as specified in 40 C.F.R. 60.50Da(b)(1)(i) through (ii).

[40 C.F.R. 60.50Da(b)(1)(i) & (ii), Subpart Da]

#### $SO_2$ and $NO_x$

- 73.5. Determine compliance with the SO<sub>2</sub> and NO<sub>x</sub> emissions limits in Conditions 72.3 and 72.4, as follows:
  - a. To determine the 30-boiler operating day rolling average emissions rates, calculate the arithmetic average of all hourly emission rates recorded in the CEMS for each of SO<sub>2</sub> and NO<sub>x</sub> for the 30 successive boiler operating days, except for data obtained during startup, shutdown, or malfunction. Calculate the 1-hour averages expressed in lb/MMBtu heat input using the data points required under 40 C.F.R. 60.13(h)(2).

[40 C.F.R. 60.48Da(d) and 60.49Da(g), Subpart Da]

b. Use the data from CEMS required in Condition 73.7 and/or Condition 73.8 to determine the concentrations of SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> or O<sub>2</sub>.

[40 C.F.R. 60.50Da(c)(5) and 60.50Da(d)(2), Subpart Da]

73.6. In conducting the performance tests required in Condition 67 (40 C.F.R. 60.8), the Permittee shall use the appropriate procedures in Method 19 of 40 C.F.R. 60 Appendix A to determine the SO<sub>2</sub> and NO<sub>x</sub> emission rates, except as provided in 40 C.F.R. 60.8(b). For SO<sub>2</sub> and NO<sub>x</sub>, 40 C.F.R. 60.8(f) does not apply.

[40 C.F.R. 60.50Da(a) & (c)(4), Subpart Da]

# **CEMS Requirements**

- 73.7. For EU ID 2, the Permittee shall install, calibrate, maintain, and operate a CEMS, and record the output of the system, for measuring:
  - a. PM<sup>30</sup> emissions as discharged to the atmosphere;
  - b. SO<sub>2</sub> emissions as discharged to the atmosphere;
  - c. NO<sub>x</sub> emissions as discharged to the atmosphere; and
  - d. the  $O_2$  or carbon dioxide ( $CO_2$ ) content of the flue gases at each location where  $SO_2$  or  $NO_x$  emissions are monitored.

[40 C.F.R. 60.49Da(b)(2), (c)(1), & (d), Subpart Da]

73.8. If the Permittee has installed and certified a SO<sub>2</sub> CEMS according to the requirements of 40 C.F.R. 75.20(c) and Appendix A to 40 C.F.R. 75, and is continuing to meet the ongoing quality assurance requirements of 40 C.F.R. 75.21

<sup>&</sup>lt;sup>30</sup> See footnote 26.

and Appendix B to 40 C.F.R., that CEMS may be used to meet the emissions monitoring requirements under this subpart, provided that:

- a. a CO<sub>2</sub> or O<sub>2</sub> continuous monitoring system is installed, calibrated, maintained and operated at the same location, according to the same procedures specified in Condition 73.8;
- b. when relative accuracy testing is conducted, SO<sub>2</sub> concentration data and CO<sub>2</sub> (or O<sub>2</sub>) data are collected simultaneously;
- c. in addition to meeting the applicable SO<sub>2</sub> and CO<sub>2</sub> (or O<sub>2</sub>) relative accuracy specifications in Figure 2 of Appendix B to 40 C.F.R. 75, the relative accuracy (RA) standard in Section 13.2 of Performance Specification 2 in Appendix B to 40 C.F.R. 60 is met when the RA is calculated on a lb/MMBtu basis; and
- d. the reporting requirements of 40 C.F.R. 60.51Da (Condition 74) are met. The SO<sub>2</sub> and, if required, CO<sub>2</sub> (or O<sub>2</sub>) data reported to meet the requirements of 40 C.F.R. 60.51Da shall not include substitute data values derived from the missing data procedures in Subpart D of 40 C.F.R. 75, nor shall the SO<sub>2</sub> data have been bias adjusted according to the procedures of 40 C.F.R. 75.

[40 C.F.R. 60.49Da(b)(4) & (d), Subpart Da]

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- 73.9. For CEMS required under Condition 73.7, the Permittee shall
  - a. operate and record data of the CEMS during all periods of operation of EU ID 2 including periods of startup, shutdown, and malfunction, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments;

[40 C.F.R. 60.49Da(e), Subpart Da]

- b. obtain emission data for at least 18 hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement cannot be met,
  - (i) the Permittee shall supplement emission data with other monitoring systems approved by the Administrator or the reference methods and procedures as described in 40 C.F.R. 60.49Da(h); or
  - (ii) use the acceptable alternative methods and procedures provided in 40 C.F.R. 60.49Da(j);

[40 C.F.R. 60.49Da(f)(1), (h), & (j), Subpart Da]

73.10. The Permittee shall use methods and procedures in 40 C.F.R. 60.49Da(i) to conduct monitoring system performance evaluations under 40 C.F.R. 60.13(c) (Condition 71.2) and calibration checks under 40 C.F.R. 60.13(d) (Condition 71.3). As an alternative, the Permittee may use the acceptable methods and procedures provided in 40 C.F.R. 60.49Da(j).

[40 C.F.R. 60.49Da(i) & (j), Subpart Da]

73.11. The Permittee shall install, certify, operate, and maintain each CEMS in accordance with the applicable procedures in Performance Specification 2 or 3 in Appendix B to 40 C.F.R. 60 or according to the procedures in Appendices A and B to 40 C.F.R. 75.

- a. Perform daily calibration drift assessments and quarterly accuracy determinations in accordance with Procedure 1 in Appendix F to 40 C.F.R. 60;
- b. Prepare a data assessment report (DAR), according to Section 7 of Procedure 1 in Appendix F to 40 C.F.R. 60; and
- c. Submit with each compliance report required under Condition 74.2 the DAR required in Condition 73.11.b.

[40 C.F.R. 60.49Da(w)(1), Subpart Da]

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73.12. As an alternative to meeting the requirements of Condition 73.11, the Permittee may elect to implement any of the alternative data accuracy assessment procedures described in 40 C.F.R. 60.49Da(w)(2) through (4). Each data assessment report shall include a summary of the results of all of the relative accuracy test audits (RATAs), linearity checks, cylinder gas audits (CGAs), and calibration error or drift assessments required in the elected alternative procedure.

[40 C.F.R. 60.49Da(w)(2) through (5), Subpart Da]

- 73.13. The Permittee shall install, certify, operate, and maintain the CEMS used to measure PM emissions to meet the requirements of this subpart, as follows:
  - a. Conduct a performance evaluation of the CEMS according to the applicable requirements of 40 C.F.R. 60.13, Performance Specification 11 in Appendix B 40 C.F.R. 60, and Procedure 2 in Appendix F of 40 C.F.R. 60.
  - b. During each PM correlation testing run of the CEMS required by Performance Specification 11 in Appendix B of 40 C.F.R. 60, PM and O<sub>2</sub> (or CO<sub>2</sub>) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and performance tests conducted using the following test methods:
    - (i) For PM, Method 5 or 5B of appendix A-3 of 40 C.F.R. 60 or Method 17 of Appendix A-6 of 40 C.F.R. 60 shall be used; and
    - (ii) For O<sub>2</sub> (or CO<sub>2</sub>), Method 3A or 3B of appendix A-2 of 40 C.F.R. 60, as applicable shall be used.
  - c. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 2 in Appendix F of 40 C.F.R. 60. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.
  - d. Within 90 days after the date of completing each performance test, as defined in 40 C.F.R. 60.8, conducted to demonstrate compliance with this subpart, submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/ert tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFire database.

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[40 C.F.R. 60.49Da(v), Subpart Da]

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73.14. The Permittee shall prepare and submit to the EPA Administrator for approval a unit-specific monitoring plan for each monitoring system, at least 45 days before commencing certification testing of the monitoring systems. The Permittee shall comply with the requirements in the plan. The plan must address the following

requirements:

a. Installation of the CEMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of the exhaust emissions (e.g., on or downstream of the last control device);

- b. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems;
- c. Performance evaluation procedures and acceptance criteria (e.g., calibrations, RATA, etc.);
- d. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 C.F.R. 60.13(d) or 40 C.F.R. 75 (as applicable);
- e. Ongoing data quality assurance procedures in accordance with the general requirements of 40 C.F.R. 60.13 or 40 C.F.R. 75 (as applicable); and
- f. Ongoing recordkeeping and reporting procedures in accordance with the requirements of this subpart.

[40 C.F.R. 60.49Da(s), Subpart Da]

- 74. NSPS Subpart Da Reporting. For EU ID 2, the Permittee shall report as follows:
  - 74.1. For SO<sub>2</sub>, NO<sub>x</sub>, and PM emissions, the Permittee shall submit to the Administrator the performance test data from subsequent performance tests and from the performance evaluation of the continuous monitors (including the transmissometer).

[40 C.F.R. 60.51Da(a), Subpart Da]

74.2. The Permittee shall submit to the EPA Administrator semiannually for each sixmonth period, postmarked by the 30<sup>th</sup> day following the end of each sixmonth period, the associated Subpart A reporting requirements in Conditions 65 and 66 and the following written reports required in Conditions 74.2.a through 74.2.d:

[40 C.F.R. 60.51Da(j), Subpart Da]

- a. For SO<sub>2</sub> and NO<sub>x</sub>, for each 24-hour period emissions data, report to the EPA the following information:
  - (i) Calendar date.
  - (ii) The average SO<sub>2</sub> and NO<sub>x</sub> emission rates (ng/J or lb/MM Btu) for each 30 successive boiler operating days, ending with the last 30-day period in the

- quarter; reasons for non-compliance with the emission standards; and, description of corrective actions taken.
- (iii) Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 75% of the hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.
- (iv) Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, or malfunction.
- (v) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
- (vi) Identification of times when hourly averages have been obtained based on manual sampling methods.
- (vii) Identification of the times when the pollutant concentration exceeded full span of the CEMS.
- (viii) Description of any modifications to CEMS which could affect the ability of the CEMS to comply with Performance Specifications 2 or 3.

[40 C.F.R. 60.51Da(b)(1), (2), & (4-9), Subpart Da]

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- b. If the minimum quantity of emission data as required by Condition 73.9.b is not obtained for any 30 successive boiler operating days, report to the EPA Administrator the following information for that 30-day period:
  - (i) The number of hourly averages available for outlet emission rates  $(n_o)$  and inlet emission rates  $(n_i)$  as applicable.
  - (ii) The standard deviation of hourly averages for outlet emission rates (s<sub>o</sub>) and inlet emission rates (s<sub>i</sub>) as applicable.
  - (iii) The lower confidence limit for the mean outlet emission rate  $(E_0^*)$  and the upper confidence limit for the mean inlet emission rate  $(E_i^*)$  as applicable.
  - (iv) The applicable potential combustion concentration.
  - (v) The ratio of the upper confidence limit for the mean outlet emission rate  $(E_0^*)$  and the allowable emission rate  $(E_{std})$  as applicable.

[40 C.F.R. 60.51Da(c), Subpart Da]

c. For any periods for which SO<sub>2</sub> or NO<sub>x</sub> emissions data are not available, the Permittee shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Compare the operations of the control system and affected facility during periods of data unavailability with the operation of the control system and affected facility before and following the period of data unavailability.

[40 C.F.R. 60.51Da(f), Subpart Da]

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- d. The Permittee shall submit a signed statement indicating whether:
  - (i) The required CEMS calibration, span, and drift checks or other periodic audits have or have not been performed as specified.
  - (ii) The data used to show compliance was or was not obtained in accordance with approved methods and procedures of 40 C.F.R. 60 and is representative of plant performance.
  - (iii) The minimum data requirements have or have not been met; or, the minimum data requirements have not been met for errors that were unavoidable.
  - (iv) Compliance with the standards has or has not been achieved during the reporting period.

[40 C.F.R. 60.51Da(h), Subpart Da]

74.3. The Permittee may submit electronic quarterly reports for SO<sub>2</sub> and/or NO<sub>x</sub> in lieu of submitting the written reports required under Condition 74.2. The format of each quarterly electronic report shall be consistent with Conditions 133 and 134.1. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with the Department to obtain their agreement to submit reports in this alternative format.

[40 C.F.R. 60.51Da(k), Subpart Da]

74.4. Notify the Department in accordance with Condition 136 if any of the requirements in Conditions 72 through 74 were not met.

[18 AAC 50.040(j)(4) and 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

#### NSPS Subpart Dc – Steam Generating Units, EU ID 4

- **75. NSPS Subpart Dc SO<sub>2</sub> Standards.** For EU ID 4 listed in Table A, the Permittee shall at all times, including periods of startup, shutdown, and malfunction, **either**:
  - 75.1. emit no more than 0.5 lb SO<sub>2</sub>/MMBtu (215 ng/J) heat input from fuel oil combusted, or
  - 75.2. combust fuel oil that contains no more than 0.5 percent sulfur by weight.

[18 AAC 50.040(a)(2)(D) & (j) and 50.326(j)] [40 C.F.R. 71.6((a)(1) [40 C.F.R. 60.42c(d) & (i), Subpart Dc]

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**76.** NSPS Subpart Dc SO<sub>2</sub> MR&R Requirements. For EU ID 4, the Permittee shall monitor, record, and report, as follows:

[18 AAC 50.040(a)(2)(D) & (j) and 50.326(j)] [40 C.F.R. 71.6(a)(3)(i) through (iii)]

76.1. Demonstrate compliance with the SO<sub>2</sub> emission standards in Condition 75 based on a certification from the fuel supplier.

[40 C.F.R. 60.42c(h)(1) and 60.44c(h), Subpart Dc]

- 76.2. Maintain records consistent with Condition 132 and keep records of the following:
  - a. the information required under Condition 76.3; and
  - b. the amount of each fuel combusted during each operating day, or as an alternative, during each calendar month.

[40 C.F.R. 60.48c(e) and (g)(1) & (2), Subpart Dc]

76.3. Submit reports to the Administrator, as follows:

[40 C.F.R. 60.48c(d) and (e), Subpart Dc]

a. The reports shall cover each six-month period and shall be postmarked by the 30<sup>th</sup> day following the end of the reporting period.

[40 C.F.R. 60.48c(j), Subpart Dc]

b. Include the calendar dates covered in the reporting period and a certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

[40 C.F.R. 60.48c(e)(l) & (11), Subpart Dc]

- c. Fuel supplier certification shall include the following information for distillate oil:
  - (i) the name of the oil supplier;
  - (ii) a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 C.F.R. 60.41c<sup>31</sup>; and
  - (iii) the sulfur content or maximum sulfur content of the oil.

[40 C.F.R. 60.48c(f)(l), Subpart Dc]

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As defined in 40 C.F.R. 60.41c, *distillate oil* means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined in American Society for Testing and Materials (ASTM) D396, diesel fuel oil numbers 1 or 2, as defined in ASTM D975, kerosine, as defined in ASTM D3699, biodiesel as defined in ASTM D6751, or biodiesel blends as defined in ASTM D7467 (all incorporated by reference, see 40 C.F.R. 60.17).

### NSPS Subpart OOO – Non-Metallic Mineral Processing, EU ID 9

**77. NSPS Subpart OOO PM Emission Standards.** For EU ID 9 (consisting of mills, sodium bicarbonate silo, and baghouse), listed in Table A, the Permittee shall comply with the following emissions standards: <sup>32</sup>

[18 AAC 50.040(a)(2)(FF) & (j) and 50.326(j)] [40 C.F.R. 71.6((a)(1) [40 C.F.R. 60.672, Subpart OOO]

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77.1. For affected facilities with capture systems used to capture and transport particulate matter (PM) to a control device, limit stack emissions into the atmosphere to no more than 0.05 g/dscm (0.022 gr/dscf) PM and no more than 7 percent opacity.

[40 C.F.R. 60.672(a) and Table 2, Subpart OOO]

77.2. For any baghouse that controls emissions from only an individual, enclosed storage bin, do not cause stack emissions which exhibit greater than 7 percent opacity.

[40 C.F.R. 60.672(f) and Table 2, Subpart OOO]

- 77.3. For fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems, limit emissions into the atmosphere to no more than the following opacities, based on the average of the five 6-minute averages described in Condition 78.3.c:
  - a. 10 percent opacity for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility; and
  - b. 15 percent opacity for crushers at which a capture system is not used.

[40 C.F.R. 60.672(b) and Table 3, Subpart OOO]

- 77.4. For emissions from the building enclosing EU ID 9, the Permittee shall not allow:
  - a. fugitive emissions from the building openings to exceed 7 percent opacity, based on the average of the five 6-minute averages described in Condition 78.3.c; and
  - b. emissions from the building vents to exceed 0.05 g/dscm (0.022 gr/dscf) PM and 7 percent opacity.

[40 C.F.R. 60.672(e)(1) & (2) and Table 2, Subpart OOO]

**78. NSPS Subpart OOO Monitoring.** After the initial compliance test required under 40 C.F.R. 60.8, the Permittee shall conduct performance tests to demonstrate compliance with the emissions limits in Condition 77, at such other times as may be required by the EPA or the Department under Condition 67, using the applicable test methods and procedures described in 40 C.F.R. 60.675, as follows:

[18 AAC 50.040(a)(2)(FF), 50.040(j)(4), and 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(i) & (c)(6)]

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<sup>&</sup>lt;sup>32</sup> Per 40 C.F.R. 60.672(d), truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of 40 C.F.R. 60.672 (Standards for PM).

[40 C.F.R. 60.675(a), Subpart OOO; 40 C.F.R. 60.8(a), Subpart A]

78.1. Determine compliance with the PM standards for stack emissions in Condition 77.1

- a. using 40 C.F.R. 60 Method 5 of Appendix A-3 or Method 17 of Appendix A-6 for the PM concentration; and
- b. using 40 C.F.R. 60 Method 9 of Appendix A-4 and the procedures in 40 C.F.R. 60.11 for the opacity limit.

[40 C.F.R. 60.675(b)(1) & (2), Subpart OOO]

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- 78.2. Determine compliance with the PM standards for stack emissions in Condition 77.2 by using 40 C.F.R. 60 Method 9 of Appendix A-4.
  - a. The duration of the Method 9 observations shall be 1 hour (ten 6-minute averages); or
  - b. For baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time, the duration of the Method 9 observations may be reduced to the duration EU ID 9 operates but not less than 30 minutes.

[40 C.F.R. 60.675(c)( (2), Subpart OOO]

- 78.3. Determine compliance with the PM standards for fugitive emissions in Condition 77.3 or Condition 77.4.a by using 40 C.F.R. 60 Method 9 of Appendix A-4 and the procedures in 40 C.F.R. 60.11, and as follows:
  - a. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet);
  - b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.*, road dust). The required observer position relative to the sun (see 40 C.F.R. 60 Method 9 of Appendix A-4, Section 2.1) must be followed; and
  - c. The duration of the Method 9 observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Condition 77.3 must be based on the average of the five 6-minute averages.

[40 C.F.R. 60.675(c)(1) & (3), Subpart OOO]

78.4. The Permittee may use alternative test methods and procedures, as allowed under 40 C.F.R. 60.675(e).

[40 C.F.R. 60.675(a) & (e), Subpart OOO]

78.5. For performance tests involving only Method 9 testing, the Permittee may reduce the 30-day advance notification of performance test required in 40 C.F.R. 60.7(a)(6) and 60.8(d) to a 7-day advance notification.

[40 C.F.R. 60.675(a) & (g), Subpart OOO]

**79. NSPS Subpart OOO Recordkeeping.** For EU ID 9, record all information required for reporting under Condition 80.

[18 AAC 50.040(j)(4) and 18 AAC 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(ii) & (c)(6)]

**80. NSPS Subpart OOO Reporting.** For EU ID 9, the Permittee shall report, as follows:

[18 AAC 50.040(j) and 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii)]

80.1. Submit to EPA Region 10 written reports of the results of all Method 9 observations conducted under Condition 78.

[40 C.F.R. 60.676(f), Subpart OOO]

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80.2. Report in accordance with Condition 136, whenever any of the emission limits of Condition 77 is exceeded.

[18 AAC 50.040(j)(4) and 18 AAC 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

#### NSPS Subpart Y - Coal Preparation and Processing Plants, EU IDs 6 and 10

**81. NSPS Subpart Y Opacity Standard.** The Permittee shall not cause EU IDs 6 and 10, listed in Table A, to discharge gases into the atmosphere which exhibit 20 percent opacity or greater.

[18 AAC 50.040(a)(2)(T) & (j) and 50.326(j)] [40 C.F.R. 71.6(a)(1) & (3)(i) through (iii) & (c)(6)] [40 C.F.R. 60.250(a) & (b) and 60.254(a)]

- 81.1. Monitor, record and report, as follows:
  - a. Determine compliance with the opacity standard specified in Condition 81 using 40 C.F.R. 60 Method 9 Appendix A-4 and the procedures of 40 C.F.R. 60.11, and as specified 40 C.F.R. 60.257(a)(1) through (3).
    - (i) The duration of the Method 9 observation shall be 1 hour (ten 6-minute averages).
    - (ii) If, during the initial 30 minutes of the Method 9 observation, all of the 6-minute average opacity readings are less than or equal to 10 percent opacity, then the observation period may be reduced from 1 hour to 30 minutes.
    - (iii) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in 40 C.F.R. 60.257(a)(2)(i) through (iii) must be used.
    - (iv) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval as specified in 40 C.F.R. 60.257(a)(3)(i) through (iii).

- Conduct the Method 9 observations required under this condition to coincide with the monitoring schedule for EU IDs 6 and 10 in Condition 2.
- Keep records of the results of all Method 9 observations required under this c. condition and the information required under Condition 3.1.
- Include in each operating report required under Condition 137 copies of the d. records required in Condition 81.1.c for the Method 9 observations conducted during the reporting period.
- Report under Condition 136 the results of Method 9 observations that exceed e. the opacity standard in Condition 81.

[18 AAC 50.040(i)(4) and 18 AAC 50.326(i)(4)] [40 C.F.R. 71.6(a)(3)(i) & (c)(6)] [40 C.F.R. 60.255(a) and 60.257(a)(1) through (3)]

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#### 40 C.F.R. Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAP)

#### **NESHAP Subpart A – General Provisions**

82. NESHAP Subpart A. The Permittee shall comply with the applicable requirements of 40 C.F.R. 63 Subpart A in accordance with the provisions for applicability of Subpart A in Table 8 to Subpart ZZZZ for EU IDs 5 and 13, Table 8 to Subpart JJJJJJ for EU IDs 3 and 4, and Table 9 to Subpart UUUUU for EU IDs 1 and 2.

> [18 AAC 50.040(c)(1) & (j) and 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 63.1-63.15, Subpart A] [40 C.F.R. 63.6665 & Table 8, Subpart ZZZZ] [40 C.F.R 63.11235 & Table 8, Subpart JJJJJJ] [40 C.F.R 63.10040 & Table 9, Subpart UUUUU]

# NESHAP Subpart ZZZZ<sup>33</sup> – Compression Ignition Reciprocating Internal Combustion Engines, EU IDs 5 and 13

83. NESHAP Subpart ZZZZ Applicability. For EU IDs 5 and 13, listed in Table A, the Permittee shall comply with applicable requirements for existing <sup>34</sup> emergency (EU ID 5) and nonemergency (EU ID 13)<sup>35</sup> stationary compression ignition reciprocating internal combustion engines (CI RICE), located at an area source of hazardous air pollutant (HAP) emissions.

> [18 AAC 50.040(c)(23) & (j) and 50.326(j)] [40 C.F.R. 71.6((a)(1)

<sup>33</sup> The provisions of NESHAP Subpart ZZZZ listed in Conditions 83 through 88 are current as of February 27, 2014. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

<sup>&</sup>lt;sup>34</sup> In accordance with 40 C.F.R. 6590(a)(1)(iii), a stationary RICE located at an area source of HAP emissions is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

<sup>35</sup> Although EU ID 13 is a firewater pump engine, the Permittee opts to classify it as existing non-emergency CI engine for purposes of compliance with NESHAP Subpart ZZZZ requirements because the engine is less than 300 hp.

[40 C.F.R. 63.6585(c) & 63.6590(a)(1)(iii), Subpart ZZZZ]

**84. NESHAP Subpart ZZZZ Good Air Pollution Control Practices.** The Permittee shall comply with the applicable requirements for RICE located at an area source of HAPs as follows:

84.1. At all times, operate and maintain EU IDs 5 and 13, including any associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but not limited to monitoring results, review of operation, maintenance procedures and records, and inspection of EU IDs 5 and 13.

[40 C.F.R. 63.6605, Subpart ZZZZ]

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- a. The Permittee shall operate and maintain EU IDs 5 and 13 and after-treatment control device (if any) according to either
  - (i) the manufacturer's emission related written operation and maintenance instructions; or
  - (ii) a maintenance plan developed by the Permittee which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. 63.6625(c)(3), 63.6640(a) & Table 6 (item 9), Subpart ZZZZ]

- **85. NESHAP Subpart ZZZZ Fuel Requirements.** For EU ID 5, the Permittee shall use diesel fuel that meets the requirements in 40 C.F.R. 80.510(b) for nonroad diesel fuel, as follows: <sup>36</sup>
  - 85.1. Sulfur content of 15 ppm maximum per-gallon standards; and
  - 85.2. Cetane index or aromatic content, as follows:
    - a. A minimum cetane index of 40; or
    - b. A maximum aromatic content of 35 volume percent.

[18 AAC 50.040(c)(23) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 60.6604(b); 80.510(b), Subpart I]

**86. NESHAP Subpart ZZZZ Work and Management Practices and Monitoring.** The Permittee shall comply with the following work and management practices:

[18 AAC 50.040(c)(23) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(i)]

The fuel requirements under Condition 85 was in effect beginning January 1, 2015. Any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

- 86.1. Except during periods of startup, comply with the following:
  - a. Change oil and filter every 500 hours for EU ID 5 (emergency CI RICE) and 1,000 hours for EU ID 13 (non-emergency CI RICE) of operation, or annually, whichever comes first. The Permittee may use an oil analysis program as described in 40 C.F.R. 63.6625(i) to extend the specified oil change requirement;
  - b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
  - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- 86.2. During periods of startup, minimize the engine's time spent at idle during startup and minimize the engine's start up time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

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[40 C.F.R. 63.6603(a) & (b), 63.6625(h) & (i), & Table 2d (items 1 & 4), Subpart ZZZZ] [40 C.F. R. 63, Footnotes 1 & 2 to Table 2d, Subpart ZZZZ]
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86.3. If EU ID 5 is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required under Condition 86.1.a, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated.

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[40 C.F.R. 63.6603(b), 63.6625(h) & (i), & Table 2d (items 1 & 4), Subpart ZZZZ] [40 C.F. R. 63, Footnotes 1 & 2 to Table 2d, Subpart ZZZZ]
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- 86.4. For existing emergency stationary CI RICE, EU ID 5, the Permittee shall comply with the following:
  - a. Monitor the operating time using the non-resettable hour meter installed on the unit.

[40 C.F.R. 63.6625(f), Subpart ZZZZ]

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- b. Operate according to the requirements of Conditions 86.4.b(i) through 86.4.b(iii). In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in Conditions 86.4.b(i) through 86.4.b(iii), is prohibited. If you do not operate the engine according to the requirements in Conditions 86.4.b(i) through 86.4.b(iii), the engine will not be considered an emergency engine under Subpart ZZZZ and must meet all requirements for non-emergency engines.
  - (i) There is no time limit on the use of EU ID 5 in emergency situations.

- (ii) The Permittee may operate EU ID 5 for any combination of the purposes specified in 40 C.F.R. 63.6640(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Condition 86.4.b(iii) counts as part of the 100 hours per calendar year allowed by this condition.
- (iii) The Permittee may operate EU ID 5 up to 50 hours per calendar year in non-emergency situations and for emergency demand response provided in Condition 86.4.b(ii). Except as provided in 40 C.F.R. 63.6640(f)(4)(i) and (ii), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. 63.6640(f)(1), (2) & (4), Subpart ZZZZ]

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- **87. NESHAP Subpart ZZZZ Recordkeeping Requirements.** The Permittee shall keep records of EU IDs 5 and 13, as follows:
  - 87.1. Keep records of the maintenance conducted on each of EU IDs 5 and 13, to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to its own maintenance plan if electing to comply with Condition 84.1.a(ii), including, but not limited to, the parameters analyzed, the results of the oil analysis, and the oil changes for the engine as part of the oil analysis program described in Condition 86.1.a.

[40 C.F.R. 63.6655(e)(2) & (3) & 63.6625(i), Subpart ZZZZ]

87.2. Keep records of the hours of operation of EU ID 5 recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 C.F.R. 63.6640(f)(2)(ii) or (iii) or 40 C.F.R. 63.6640(f)(4)(ii), keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

[40 C.F.R. 63.6655(f)(2), Subpart ZZZZ]

87.3. Keep records in a form suitable and readily available for expeditious inspection and review, readily accessible in hard copy or electronic form, and for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 C.F.R. 63.6660, 63.6665, and Table 8, Subpart ZZZZ] [40 C.F.R. 63.10(b)(1), Subpart A]

- **88. NESHAP Subpart ZZZZ Reporting Requirements.** The Permittee shall report as follows:
  - 88.1. Include in the operating report required by Condition 137,

a. a report of Subpart ZZZZ deviations as defined in 40 C.F.R. 63.6675 and of each instance in which an applicable requirement in 40 C.F.R. 63, Subpart A (Table 8 of Subpart ZZZZ) was not met;

[40 C.F.R. 63.6640(e), 63.6650(f), Subpart ZZZZ]

b. records of the operational hours of EU ID 5 and the reason the engine was in operation as required in Condition 87.2 for the period covered by the report.

[18 AAC 50.040(j)(4) & 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

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88.2. Notify the Department in accordance with Condition 136 if any of the requirements in Conditions 83 through 88 were not met.

[18 AAC 50.040(j)(4) and 18 AAC 50.326(j)(4)] [40 C.F.R. 71.6(a)(3)(iii) & (c)(6)]

#### NESHAP Subpart JJJJJJ – Boilers, EU IDs 3 and 4<sup>37</sup>

**89. NESHAP Subpart JJJJJJ Applicability**<sup>38</sup>**.** For EU IDs 3 and 4, listed in Table A, the Permittee shall comply with applicable requirements for existing industrial boilers located at an area source of HAP emissions.

[18 AAC 50.040(c)(39) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 63.11193, 63.11194(a)(1) & (b), Subpart JJJJJJ]

90. NESHAP Subpart JJJJJJ Good Air Pollution Control Practices. At all times the Permittee shall operate and maintain EU IDs 3 and 4, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[18 AAC 50.040(j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 63.11205(a), Subpart JJJJJJ]

**91. NESHAP Subpart JJJJJJ Work or Management Practices.** For each of EU IDs 3 and 4, the Permittee shall comply with the following work or management practices and demonstrate continuous compliance, as follows:

37 The provisions of NESHAP Subpart JJJJJJ listed in Conditions 89 through 93 are current as of September 14, 2016. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

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An affected source is an existing source if construction or reconstruction of the affected source commenced on or before June 4, 2010. [40 C.F.R. 63.11194(b), Subpart JJJJJJ].

- 91.1. Conduct a performance tune-up of each boiler every 2 years in accordance with Condition 91.3. Each 2-year tune-up must be conducted no more than 25 months after the previous tune-up.
- 91.2. Conduct a one-time energy assessment as specified in Table 2 item 16 to Subpart JJJJJJ no later than March 21, 2014.

[40 C.F.R. 63.11196(a)(1) & (3), 63.11201(b); 63.11210(c), 63.11214(b), 63.11223(a) & (b), Table 2 item 16, Subpart JJJJJJ]

- 91.3. Perform tune-ups, as follows:
  - a. Conduct tune-ups while burning diesel fuel;
  - b. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled shut down, not to exceed 36 months from the previous inspection).
  - c. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  - d. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection).
  - e. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
  - f. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
  - g. Maintain on-site and submit, if requested by the Administrator, a report containing the information in Conditions 91.3.g(i) and 91.3.g(ii).
    - (i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
    - (ii) A description of any corrective actions taken as part of the tune-up of the boiler.
  - h. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

[18 AAC 50.040(j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(i)]

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[40 C.F.R. 63.11201(b), 63.11214(b), 63.11223(a) & (b), and Table 2 item 4, Subpart JJJJJJ]

- **92. NESHAP Subpart JJJJJJ Recordkeeping Requirements.** For each of EU IDs 3 and 4, the Permittee shall keep records as follows:
  - 92.1. As required in 40 C.F.R. 63.10(b)(2)(xiv), keep a copy of each notification and report submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status submitted.
  - 92.2. Keep records to document conformance with the work practice standards and management practices as required in Condition 91, as specified below.
    - a. Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
    - b. Keep a copy of the energy assessment report.
  - 92.3. Keep records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
  - 92.4. Keep records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in Condition 90, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

[18 AAC 50.040(j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(c)(3)(iii)] [40 C.F.R. 63.11223(a) & (b)(6) and 63.11225(c), Subpart JJJJJJ]

92.5. According to 40 C.F.R. 63.10(b)(1), the Permittee shall keep records in a form suitable and readily available for expeditious review for 5 years following the date of each recorded action, and onsite for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years.

[40 C.F.R. 63.11225(j) & Table 8, Subpart JJJJJJ] [40 C.F.R. 63.10(b)(1), Subpart A]

**93. NESHAP Subpart JJJJJJ Reporting Requirements.** For each of EU IDs 3 and 4, the Permittee shall report, as follows:

[18 AAC 50.040(j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(c)(3)(iii)]

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- 93.1. Prepare, by March 1, and submit to the EPA and the Department upon request, a biennial compliance report containing the information specified in Conditions 93.1.a and 93.1.b. If there was any instance described by Condition 93.1.c, submit the report by March 15 immediately following the date of the occurrence.
  - a. Company name and address.
  - b. Statement by the responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

The notification must include the following certifications of compliance, and signed by a responsible official: "This facility complies with the requirements in 40 C.F.R. 63.11223 to conduct a biennial tune-up for each of EU IDs 3 and 4."

c. If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

[40 C.F.R. 63.11225(b)(1) through (3), Subpart JJJJJJ]

d. If requested by the Administrator, submit a performance tune up report containing the information in Conditions 91.3.g(i) through 91.3.g(ii).

[40 C.F.R. 63.11223(b)(6), Subpart JJJJJJ]

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# NESHAP Subpart UUUUU – Electric Utility Steam Generating Units (EGUs), EU IDs 1 and 2

**94. NESHAP Subpart UUUUU Applicability.** For EU IDs 1 and 2, the Permittee shall comply with the applicable requirements of NESHAP Subpart UUUUU for existing coalfired Electric Utility Steam Generating Units (EGUs) designed for low rank virgin coal, as set out in Conditions 94.1 through 100.1.g.

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 63.9981, 63.9982(a)(1) & (d), and 63.9990(a)(2), Subpart UUUUU]

- 94.1. For EU IDs 1, comply with applicable requirements no later than April 16, 2015. [40 C.F.R. 63.9984(b), Subpart UUUUU]
- 94.2. For EU ID 2, comply with applicable requirements on June 13, 2015, the date the unit met the definition of an EGU.<sup>39</sup> Complete all initial compliance demonstrations applicable to EU ID 2 within 180 days after the applicable compliance date.

[40 C.F.R. 63.9984(d) and 63.10000(h)(1), Subpart UUUUU]

- a. All air pollution control equipment and monitoring systems necessary for compliance with any of the applicable emissions limits in Condition 96.1 must be installed and operational as of the date EU ID 2 becomes subject to this subpart.
- b. All calibration and drift checks must be performed as of the date EU ID 2 becomes subject to this subpart where CEMS are used for compliance demonstration. In addition, comply with provisions of 40C.F.R. 63.10010, 63.10020, and 63.10021. Relative accuracy tests must be performed as of the performance test deadline for PM CEMS. Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with CAA section 112 monitoring requirements or monitoring requirements under this subpart.

<sup>39</sup> The applicability date of NESHAP Subpart UUUUU for EU ID 2 is June 13, 2015, the first date of generation after recommencing operation.

[40 C.F.R. 63.10000((j) & (k), Subpart UUUUU]

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95. NESHAP Subpart UUUUU General Compliance Requirements

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)]

95.1. **Good Air Pollution Control Practices.** At all times the Permittee shall operate and maintain EU IDs 1 and 2, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 C.F.R. 63.10000(b), Subpart UUUUU]

**96. NESHAP Subpart UUUUU Emissions Limits.** For EU IDs 1 and 2, the Permittee shall, at all times, except during periods of startup and shutdown, comply with the following emissions limits:

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1)] [40 C.F.R. 63.10000(a), Subpart UUUUU]

- 96.1. Limit the exhaust emissions of each of EU IDs 1 and 2 to no more than:
  - a. 0.030 lb/MMBtu for filterable particulate matter (PM);
  - b. 0.0020 lb/MMBtu for Hydrogen Chloride (HCl); and
  - c. 4.0 lb/TBtu for Mercury (Hg).

[40 C.F.R. 63.9991(a)(1) and Table 2 item 2, Subpart UUUUU]

**97. NESHAP Subpart UUUUU Work Practice Standards.** For EU IDs 1 and 2, the Permittee shall meet the following work practice standards:

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(1) & (a)(3)]

97.1. On or before the date an EGU is subject to this subpart, install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM during startup periods and shutdown periods. Collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods.

[40 C.F.R. 63.10000(1), Subpart UUUUU]

97.2. During periods of startup, operate all Continuous Monitoring System (CMS) and comply as follows:

a. For startup (as defined in 40 C.F.R. 63.10042, 1<sup>st</sup> paragraph)<sup>40</sup> of the EGUs, use clean fuels as defined in 40 C.F.R. 63.10042<sup>41</sup> for ignition. The Permittee shall:

- (i) once firing of the EGUs is converted to coal fuel, engage all of the applicable control technologies except dry scrubber and SCR;
- (ii) start the dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation;

[40 C.F.R. 63.10000(a), 63.10042, and 63.9991(a)(1), Subpart UUUUU] [Table 3 item 3(a)(1), Subpart UUUUU]

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- 97.3. During periods of shutdown, <sup>42</sup> operate all CMS and comply with the following:
  - a. collect appropriate data, and calculate the pollutant emission rate for each hour of shutdown for those pollutants for which a CMS is used;
  - b. while firing coal fuel during shutdown, vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns;
  - c. in any case, operate the controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart UUUUU and that require operation of the control devices; and
  - d. if, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in 40 C.F.R. 63.10042 and must be used to the maximum extent possible, taking into account considerations such as not compromising boiler or control device integrity; and
  - e. any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.

[40 C.F.R. 63.9991(a)(1), 10000(a), and 10042, Subpart UUUUU] [Table 3 item 4, Subpart UUUUU]

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Startup for this option means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). ["Startup" definition in 40 C.F.R. 63.10042, 1st paragraph]

<sup>41</sup> Clean fuel means natural gas, synthetic natural gas that meets the specification necessary for that gas to be transported on a Federal Energy Regulatory Commission (FERC) regulated pipeline, propane, distillate oil, synthesis gas that has been processed through a gas clean-up train such that it could be used in a system's combustion turbine, or ultra-low-sulfur diesel (ULSD) oil, including those fuels meeting the requirements of 40 C.F.R. Part 80, Subpart I ("Subpart I - Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel").

Shutdown means the period in which cessation of operation of an EGU is initiated for any purpose. Shutdown begins when the EGU no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in the EGU, whichever is earlier. Shutdown ends when the EGU no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in the EGU. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.

- 97.4. During periods of startup and shutdown (as defined herein), the Permittee shall:
  - a. collect monitoring data and keep records, as specified in 40 C.F.R. 63.10020(a) and 40 C.F.R. 63.10000(d);
  - b. keep records of the occurrence, duration, the type(s) and amount(s) of fuel used, all data collected by CMS and emission rates calculated during each startup or shutdown, as specified in 40 C.F.R. 63.10032(f)(1) and (i), and 40 C.F.R. 63.10021(h)(2); and
  - c. provide reports concerning activities, startup and shutdown periods, as specified in 40 C.F.R. 63.10011(g), 63.10021(h) and (i), and 63.10031.

[40 C.F.R. 63.9991(a)(1), 10000(a), 10011(g), 10020(a), 10021(h) & (i), 10031 and 10032, Subpart UUUUU] [Table 3 items 3(d) and 4, Subpart UUUUU]

97.5. **Emergency Bypass.** Except for hours during which only clean fuel is combusted (see Condition 97.2.a), the Permittee shall bypass each of EU IDs 1 and 2 control device (baghouse) only during emergency periods, for no more than a total of 2 percent of the unit's annual operating hours. The Permittee shall use clean fuels to the maximum extent possible during an emergency period.

[40 C.F.R. 63.10000(c)(1)(i)(C)(2), Subpart UUUUU]

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97.6. **Tune-Ups.** As part of continuous compliance demonstration, perform periodic tuneups of EU IDs 1 and 2, as follows:

[40 C.F.R. 63.10000(e), 63.10021(a) & (e), and Table 7 (item 5), Subpart UUUUU]

- a. Perform an inspection of the burner and combustion controls and conduct periodic performance tune-ups of each of EU IDs 1 and 2, as specified in 40 C.F.R. 63.10021(e)(1) through (7):
  - (i) no more than 36 calendar months after the previous performance tune-up, if not employing neural network combustion optimization software during normal operation; or
  - (ii) no more than 48 calendar months, if employing neural network combustion optimization software during normal operation.
- b. If either EU ID 1 or EU ID 2 is offline when a deadline to perform the tune-up passes, perform the tune-up work practice requirements within 30 days after the re-start of the affected unit.

[40 C.F.R. 63.10000(e), 63.10006(i), 63.10021(a) & (e), Table 3 item 1, and Table 7 item 5, Subpart UUUUU]

**98. NESHAP Subpart UUUUU Monitoring Requirements.** The Permittee shall monitor EU IDs 1 and 2 for compliance with the emissions standards set out in Condition 96.1, as follows:

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(i)]

98.1. Demonstrate initial compliance with each emissions limit in Condition 96.1 through performance testing of each of the criteria pollutants (PM, HCl, and Hg).

Performance testing shall be conducted in accordance with the applicable procedures and requirements described in 40 C.F.R. 63.10005(b) and (d), using:

- a. stack testing, consisting of three runs at specified process operating conditions using approved methods; and/or
- b. continuous monitoring system (CMS)<sup>43</sup> that measures HAP concentrations directly (i.e., an Hg or HCl CEMS, or a sorbent trap monitoring system) or a PM CEMS; the initial performance test shall consist of 30-boiler operating days and as described in 40 C.F.R. 63.10005(a)(2).

[40 C.F.R. 63.10005(a), (b), & (d), Subpart UUUUU]

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98.2. The Permittee shall conduct initial performance testing, to determine whether EU IDs 1 and 2 qualify as Low Emitting EGUs (LEE), in accordance with 40 C.F.R. 63.10005(h), for one or more applicable emission limits, provided that the EGUs meet the criteria for LEE option under 40 C.F.R. 63.10000(c)(1)(i)(C).

[40 C.F.R. 63.10000(c)(1)(i) and 63.10005(a) & (h), Subpart UUUUU]

- 98.3. Demonstrate continuous compliance with each emissions limit in Condition 96.1 by conducting subsequent performance tests for each of the criteria pollutants as follows:
  - a. To demonstrate continued LEE status, conduct performance tests in accordance with the applicable performance testing procedures and requirements, under 40 C.F.R. 63.10007 and Table 5 of Subpart UUUUU, and as follows:
    - (i) 30-day performance test using Method 30B at least once every 12 calendar months for Hg; and
    - (ii) a performance test at least once every 36 calendar months for PM and HCl.

[40 C.F.R. 63.10000(c)(2)(ii) & (iii), 63.10007 and Table 5, Subpart UUUUU]

b. The Permittee must include the emissions during an emergency period, as described in Condition 97.5, along with the results of performance tests required in Condition 98.3.a, in assessing whether EU IDs 1 and 2 maintains LEE status.

[40 C.F.R. 63.10000(c)(1)(i)(C)(2), Subpart UUUUU]

- c. Should subsequent emissions testing results show the unit does not meet the LEE eligibility requirements in 40 C.F.R. 60.10005(h), LEE status is lost. If this should occur, conduct emissions testing quarterly, in accordance with 40 C.F.R. 63.10007 and Table 5 of Subpart UUUUU for any affected pollutant (Hg, PM, or HCl), except as otherwise provided in Conditions 98.3.c(i) and 98.3.c(iv).
  - (i) For Hg, install, certify, maintain, and operate a Hg CEMS or a sorbent trap monitoring system in accordance with Appendix A to Subpart UUUUU

<sup>43</sup> *CMS*, as used under this Subpart UUUUU, includes a continuous parameter monitoring system (CPMS) as well as a CEMS. [Ref. 40 C.F.R. 63.10000(d)(1)]

- and Condition 98.3.d, within 6 calendar months of losing LEE eligibility. Until the Hg CEMS or sorbent trap monitoring system is installed, certified, and operating, conduct Hg emissions testing quarterly.
- (ii) To reestablish LEE status for Hg, the Permittee must have 3 calendar years of testing and CEMS or sorbent trap monitoring system data that satisfy the LEE emissions criteria in 40 C.F.R. 63.10000(c)(1)(i)(C) and 63.10005(h).

[40 C.F.R. 63.10006(b), Subpart UUUUU]

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(iii) If a performance tests on PM or HCl LEE show emissions in excess of 50 percent of the corresponding emission limit and if choosing to reapply for LEE status, conduct quarterly performance tests until all performance tests over a consecutive 3-year period show compliance with the LEE criteria in 40 C.F.R. 63.10000(c)(1)(i)(C) and 63.10005(h).

[40 C.F.R. 63.10006(h), Subpart UUUUU]

(iv) The Permittee may skip performance testing in those quarters during which less than 168 boiler operating hours occur, except that a performance test must be conducted at least once every calendar year.

[40 C.F.R. 63.10021(d)(1), Subpart UUUUU]

- d. For EU ID 2 that does not qualify as a LEE for Hg, demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with Appendix A to this Subpart UUUUU.
  - (i) If using a sorbent trap, the Permittee may choose to:
    - (A) use separate sorbent trap monitoring systems to comply with this subpart: one system to demonstrate compliance with the numeric mercury emissions limit during periods other than startup or shutdown, and the other system to report average mercury concentration during startup periods or shutdown periods; or
    - (B) use one sorbent trap monitoring system to demonstrate compliance with the mercury emissions limit at all times (including startup periods and shutdown periods) and to report average mercury concentration; follow the startup or shutdown requirements in Conditions 97.2 and 97.3.

[40 C.F.R. 63.10000(c)(1)(vi) and Table 3 item 3(c), Subpart UUUUU]

(ii) If using a CMS, develop a site-specific monitoring plan and submit this site-specific monitoring plan,<sup>44</sup> if requested, at least 60 days before initial performance evaluation (where applicable) of the CMS. This requirement

This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and CPMS prepared under Appendix B to 40 C.F.R. 60 or 75, and that meet the requirements of 40 C.F.R. 63.10010 (e.g., if the CMS was previously certified under another program). [Ref. 40 C.F.R. 63.10000(d)(1) & (3)]

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also applies if requesting for alternative monitoring parameters under 40 C.F.R. 63.8(f). The monitoring plan must address the provisions in 40 C.F.R. 63.10000 (d)(2) through (5).

[40 C.F.R. 63.10000(c)(1)(vi) & (d)(1) through (5) and Table 3 item 3(c), Subpart UUUUU]

(iii) Comply with the compliance plan requirements in Condition 151.

[18 AAC 50.040(j)(4) and 50.326(j)(4)] [40 C.F.R. 71.6(c)(6)]

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- e. The Permittee shall complete performance tests for EU IDs 1 and 2, as follows:
  - (i) For quarterly testing, if required under Condition 98.3.c, at least 45 calendar days, measured from the test's end date, must separate performance tests conducted every quarter.
    - (A) If an EGU has skipped performance tests (as allowed under Condition 98.3.c(iv)) in the first 3 quarters of a calendar year, conduct a performance test in the 4th quarter of the calendar year.
  - (ii) For annual Hg testing required in Condition 98.3.a(i), at least 320 calendar days, measured from the test's end date, must separate performance tests or annual sorbent trap mercury testing for 30-boiler operating day LEE tests.
  - (iii) For triennial PM and HCl testing required in Condition 98.3.a(ii), at least 1,050 calendar days, measured from the test's end date, must separate performance tests conducted every 3 years.
  - (iv) If an EGU misses a performance test deadline due to being inoperative and if 168 or more boiler operating hours occur in the next test period, complete an additional performance test in that period as follows:
    - (A) At least 15 calendar days must separate two performance tests conducted in the same quarter.
    - (B) At least 107 calendar days must separate two performance tests conducted in the same calendar year.
    - (C) At least 350 calendar days must separate two performance tests conducted in the same 3 year period.

[40 C.F.R. 63.10006(f), Subpart UUUUU]

f. If the Permittee uses CEMS to continuously monitor Hg, HCl, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the Permittee may use the default diluent cap value of 5% for CO<sub>2</sub> or 14% for O<sub>2</sub> in 40 C.F.R. 63.10007(f)(1) for heat input-based emission rate limits, available for use in the emission rate calculations. For the purposes of this subpart, these default values are not considered to be substitute data.

[40 C.F.R. 63.10007(f)(1)(ii), Subpart UUUUU]

g. Demonstrate continuous compliance with the work practice standards in Condition 97 by operating in accordance with Conditions 97.2 through 97.4 during startups and shutdowns and conducting periodic tune-ups in accordance with Condition 97.6.

[40 C.F.R. 63.10021(a) and Table 7 items 5 through 7, Subpart UUUUU]

**99. NESHAP Subpart UUUUU Recordkeeping Requirements.** The Permittee shall keep records, as follows:

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(ii)]

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- 99.1. Keep the records required under 40 C.F.R. 63.10032(a) (d), (g) and (h) as applicable to EU IDs 1 and 2 and associated CEMS, air pollution control, and monitoring equipment;
- 99.2. Keep the records required in Conditions 97.4.a and 97.4.b during periods of startup and shutdown.
- 99.3. Maintain on-site an annual report containing the information required in 40 C.F.R. 63.10021(e)(1) through (e)(9), regarding the periodic performance tune ups required in Condition 97.6, including:
  - a. The concentrations of CO and NOx in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems;
  - b. A description of any corrective actions taken as a part of the combustion adjustment; and
  - c. The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period.
- 99.4. Keep records of the tune-up that occurred prior to April 16, 2015, showing that the tune-up met all rule requirements.
- 99.5. In accordance with 40 C.F.R. 63.10(b)(1), the Permittee shall keep each record
  - a. in a form suitable and readily available for expeditious review;
  - b. for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
  - c. on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record; the Permittee can keep the records off site for the remaining 3 years.

[40 C.F.R. 63.10005(a) & (f), 63.10021(e)(8), 63.10032 and 63.10033, Subpart UUUUU]

**100. NESHAP Subpart UUUUU Reporting Requirements.** The Permittee shall submit the reports required under 40 C.F.R. 63.10031 and the applicable reports required under Appendix A to Subpart UUUUU report, as follows:

[18 AAC 50.040(c)(38) & (j); 18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii)] [40 C.F.R. 63.10031(a), (b), (c) and Table 8, Subpart UUUUU)]

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- 100.1. Submit to the EPA a compliance report via the required electronic file submission format covering the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
  - a. The report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period, or no later than the due dates for the semi-annual operating report required in Condition 137.
  - b. The report must contain the following information required in 40 C.F.R. 63.10031(c)(1)-(4), (c)(6), (c)(8) and (c)(9):
    - (i) The information required by summary report located in 40 C.F.R. 63.10(e)(3)(vi);
    - (ii) The total fuel use by each of EU IDs 1 and 2, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure;
    - (iii) Indicate whether new types of fuel are burned during the reporting period; if so, include the date of the performance test of EU IDs 1 and 2 where that fuel was in use;
    - (iv) Include the date of the most recent tune-up for each EGU, as explained in detail in Condition 100.1.g. The date of the tune-up is the date the tune-up provisions specified in 40 C.F.R. 63.10021(e)(6) and (7) were completed;
    - (v) Report annually, as applicable, the following information on emergency bypass, as described in Condition 97.5, from EU IDs 1 and 2 with LEE status:
      - (A) the emergency event;
      - (B) its cause;
      - (C) corrective action taken; and
      - (D) estimates of emissions released during the emergency event.
    - (vi) A summary of the results of the annual performance tests required under Condition 98.3.a(i). If you are conducting stack tests once every 3 years to maintain LEE status, consistent with Condition 98.3.c(ii),
      - (A) the date of each stack test conducted during the previous 3 years,

- (B) a comparison of emission level you achieved in each stack test conducted during the previous 3 years to the 50 percent emission limit threshold required in 40 C.F.R. 63.10005(h)(1)(i), and
- (C) a statement as to whether there have been any operational changes since the last stack test that could increase emissions.
- (vii) A certification; and
- (viii) If there is a deviation from any emission limit in Condition 96 or work practice standard in Condition 97, include the following:
  - (A) a brief description of the deviation;
  - (B) the duration of the deviation;
  - (C) emissions point identification; and
  - (D) the cause of the deviation.

[40 C.F.R. 63.10000(c)(1)(i)(C)(2), 10021(g), 10031(c)(1)-(4), (c)(6), (c)(8) and (c)(9), Subpart UUUUU]

- c. If there are no deviations during the reporting period, include the following statements, as applicable:
  - (i) that there were no deviations from the emission limitations and work practice standards in Conditions 96 and 97 during the reporting period; and
  - (ii) that there were no periods during which the CMSs were out-of-control during the reporting period.

[Table 8 item 1.b Subpart UUUUU)]

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d. For each excess emissions occurring at each of EU IDs 1 and 2 where a CMS is used to comply with the emission limits, include the information required for excess emissions and monitoring system performance reports in 40 C.F.R. 63.10(e)(3)(v) in the compliance report in Condition 100.1.

[40 C.F.R. 63.10031(d), Subpart UUUUU)]

- e. Include the reports required in Condition 97.4.c during periods of startup and shutdown.
- f. If there were periods during which the CMSs, including CEMS and CPMS, were out-of-control, as specified in 40 C.F.R. 63.8(c)(7), the report must contain the information in 40 C.F.R. 63.10031(e).

[40 C.F.R. 63.10031(f), Table 8, and Appendix A, Subpart UUUUU)]

(i) The electronic reports required by Appendix A to Subpart UUUUU (required due to Hg CEMS or sorbent trap monitoring system for EU ID 2) must be sent to the EPA electronically in a format prescribed by the EPA, as provided in 40 C.F.R. 63.10031.

- (ii) CEMS data (except for PM CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool.
- (iii) Other data, including PM CEMS data and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under 40 C.F.R. 63.10031.

[40 C.F.R. 63.10021(f), 63.10031(a), Table 8, and Appendix A, Subpart UUUUU)]

- g. Report compliance with tune-up requirements in Condition 97.6, as follows:
  - (i) Report the dates of the initial and subsequent tune-ups in hard copy, as specified in 40 C.F.R. 63.10031(f)(5), through June 30, 2018. On or after July 1, 2018, report the date of all tune-ups electronically, in accordance with 40 C.F.R. 63.10031(f). The tune-up report date is the date when tune-up requirements in 40 C.F.R. 63.10021(e)(6) and (7) are completed.
  - (ii) If requested by the EPA or the Department, submit an annual report containing the information required in Condition 99.3.

[40 C.F.R. 63.10021(a) & (e)(8) & (9), Subpart UUUUU]

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#### 40 C.F.R. 64 Compliance Assurance Monitoring (CAM) for Control of PM, EU IDs 1 and 2

**101.** When CEMS is not used to monitor PM emissions from EU IDs 1 or 2, the Permittee shall comply with Conditions 101.3 through 101.7, consistent with the Permittee's approved Compliance Assurance Monitoring (CAM) Plan required under 40 C.F.R. 64, to assure continuous compliance with the following PM emissions limits:

#### 101.1. For EU ID 1:

- a. PM limits of 0.05 gr/dscf (hourly average), 36.7 lb/hr (full load), and 161 TPY in Table B (ORLs);
- b. PM limit of 0.10 gr/dscf (3-hour average) in Condition 57.1 (state standard); and
- c. Filterable PM<sub>10</sub> limit of 0.015 lb/MMBtu in Table C (BART limit, effective no later than March 18, 2018).

#### 101.2. For EU ID 2:

- a. PM limits of 0.020 lb/MMBtu (hourly average), 13.2 lb/hr (full load), and 58 TPY in Table B (ORLs and BACT limits); and
- b. PM limit of 0.05 gr/dscf (3-hour average) in Condition 57.2 (state standard).
- 101.3. The Permittee shall, on a daily basis, compare the previous calendars day's 24-hour average opacity level, as measured by the COMS, to the baseline opacity level of 5 percent.

- a. If the previous days average opacity level is above 5 percent, the Permittee shall within 24 hours, visually inspect the baghouse for any leaks, broken bags or other malfunction. All other relevant equipment including ductwork and blowers shall also be inspected. Appropriate corrective action shall be taken as
- b. If the daily average opacity level remains greater than the baseline opacity level after 7 boiler operating days, the Permittee shall conduct source testing for filterable particulate matter on the boiler and report the results in accordance with Section 9. The source test will be conducted within 60 boiler operating days of the first day measured daily average opacity was determined to exceed the baseline opacity level, withstanding a waiver granted by the state.
- 101.4. To submit a new or revised CAM plan, the Permittee shall concurrently submit an application for a permit modification. The application shall include all required elements under 40 C.F.R. 64.4 and proposed permit terms consistent with 40 C.F.R. 64.6(c) and (d).
- 101.5. Keep records of

soon as practicable.

- a. the results of source tests conducted under Condition 101.3.b;
- b. the daily average opacity levels, as measured by the COMS; and
- c. the inspection and any corrective actions taken under Condition 101.3.a.
- 101.6. Submit a report in accordance with Condition 136 whenever the results of a source test conducted under Condition 101.3.b exceed the applicable particulate matter emissions limit under Condition 101.1 and 101.2.
- 101.7. Include in the operating report required under Condition 137:
  - a. the results in gr/dscf, lb/hr, and lb/MMBtu, as specified in Conditions 101.1 and 101.2, of each particulate matter source test conducted during the reporting period; and
  - b. a summary of excursions, <sup>45</sup> inspection findings and corrective actions taken under Condition 101.3

[40 C.F.R. 71.6(a)(3)(i) through (iii)& (c)(6)] [40 C.F.R. 64.3, 64.4, & 64.6(b)] [40 C.F.R. 60.48Da(o)(1), Subpart Da] [CAM Plan for Healy Power Plant, GVEA, 11/30/2016]

# **General NSPS and NESHAP Requirements**

**102. NESHAP Applicability Determinations**. The Permittee shall determine rule applicability and designation of affected sources under National Emission Standards for Hazardous Air

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<sup>&</sup>lt;sup>45</sup> An *excursion* is defined as any previous calendar day average opacity value which exceeds the baseline opacity level of 5 percent.

Pollutants (NESHAPs) for Source Categories (40 C.F.R. 63) in accordance with the procedures described in 40 C.F.R. 63.1(b) and 63.10(b)(3). If a source becomes affected by an applicable subpart of 40 C.F.R. 63, the Permittee shall comply with such standard by the compliance date established by the Administrator in the applicable subpart, in accordance with 40 C.F.R. 63.6(c).

102.1. After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator and the Department of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in 40 C.F.R. 63.9(b).

[18 AAC 50.040(c)(1), 50.040(j), & 50.326(j)] [40 C.F.R. 71.6(a)(3)(ii)] [40 C.F.R. 63.1(b), 63.5(b)(4), 63.6(c)(1), & 63.10(b)(3)]

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#### **103. NSPS and NESHAP Reports.** The Permittee shall comply with the following:

- 103.1. **Reports:** Unless previously submitted, and except for federal reports and notices submitted through EPA's CDX/CEDRI online reporting system, attach to the operating report required by Condition 137 for the period covered by the report, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10. For reports previously submitted to the Department or submitted through CDX/CEDRI, state in the operating report the date and a brief description of each of the reports submitted during the reporting period; and
- 103.2. **Waivers**: Upon request by the Department, provide a written copy of any EPA-granted alternative monitoring requirement, custom monitoring schedule or waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements. The Permittee shall keep a copy of each U.S. EPA-issued monitoring waiver or custom monitoring schedule with the permit.

[18 AAC 50.326(j)(4) & 50.040(j)] [40 C.F.R. 60.13, 63.10(d) & (f) & 40 C.F.R. 71.6(c)(6)]

#### 40 C.F.R. Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP)

#### Subpart A – General Provisions & Subpart M – Asbestos

**104.** The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152 of Subpart M, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(1) & (2)(F), & 50.326(j)] [40 C.F.R. 61, Subparts A & M, and Appendix A]

# 40 C.F.R. Part 82 Protection of Stratospheric Ozone

# **Subpart F – Recycling and Emissions Reduction**

**105.** The Permittee shall comply with the applicable standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 50.326(j)] [40 C.F.R. 82, Subpart F]

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# Subpart G – Significant New Alternatives Policy

**106.** The Permittee shall comply with the applicable prohibitions set out in 40 C.F.R. 82.174 (Protection of Stratospheric Ozone Subpart G – Significant New Alternatives Policy Program).

[18 AAC 50.040(d) & 50.326(j)] [40 C.F.R. 82.174(b) through (d), Subpart G]

#### **Subpart H – Halon Emissions Reduction**

**107.** The Permittee shall not use halon at the Healy Power Plant. Compliance with this requirement shall consist of an annual certification according to Condition 138 that the Permittee is complying with this condition.

[18 AAC 50.040(d) & 50.326(j)] [40 C.F.R. 82.270(b) through (f), Subpart H]

#### Section 8. General Conditions

#### **Standard Terms and Conditions**

**108.** 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.

[18 AAC 50.326(j)(3), 50.345(a) & (c)]

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

[18 AAC 50.326(j)(3), 50.345(a) & (f)]

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

[18 AAC 50.326(j)(3), 50.345(a) & (g)]

**111. Administration Fees.** The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-403.]

[18 AAC 50.326(j)(1), 50.400, & 50.403] [AS 37.10.052(b) & AS 46.14.240]

- **112. Assessable Emissions.** 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 assessable emission fee rate is set out in 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 in quantities 10 tons per year or greater. The quantity for which fees will be assessed is the lesser of
  - 112.1. the stationary source's assessable potential to emit of 2,518 TPY; or
  - 112.2. the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon credible evidence of actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by the most representative of 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.

[18 AAC 50.040(j)(3), 50.035, 50.326(j)(1), 50.346(b)(1), 50.410, & 50.420] [40 C.F.R. 71.5(c)(3)(ii)]

#### 113. Assessable Emission Estimates. Emission fees will be assessed as follows:

113.1. no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Ste 303, PO Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

113.2. 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 112.1.

[18 AAC 50.040(j)(3), 50.326(j)(1), 50.346(b)(1), 50.410, & 50.420] [40 C.F.R. 71.5(c)(3)(ii)]

- **114. Good Air Pollution Control Practice.** The Permittee shall do the following for EU IDs 7, 8, and 11.
  - 114.1. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
  - 114.2. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and
  - 114.3. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.326(j)(3), & 50.346(b)(5)]

**115. Dilution.** The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a)]

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**116. Reasonable Precautions to Prevent Fugitive Dust.** A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.045(d), 50.040(c), 50. 326(j)(3), & 50.346(c)]

- 116.1. The Permittee shall keep records of
  - a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and
  - b. any additional precautions that are taken
    - (i) to address complaints described in Condition 116.1.a or to address the results of Department inspections that found potential problems; and
    - (ii) to prevent future dust problems.
- 116.2. The Permittee shall report according to Condition 118.

**117. Stack Injection.** The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a stationary source constructed or modified after November 1, 1982, except as authorized by a minor or construction permit, Title V permit, or air quality control permit issued before October 1, 2004, and as required under Condition 41.1 for PM CEMS correlations.

[18 AAC 50.055(g)]

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**118. Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 50.040(c), 50.326(j)(3) & 50.346(a)] [40 C.F.R. 71.6(a)(3)]

- 118.1. Monitoring, Recordkeeping, and Reporting for Condition 118:
  - a. If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 136.
  - b. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 118.
  - c. The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
    - (i) after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 118; or
    - (ii) the Department notifies the Permittee that it has found a violation of Condition 118.
  - d. The Permittee shall keep records of
    - (i) the date, time, and nature of all emissions complaints received;
    - (ii) the name of the person or persons that complained, if known;
    - (iii) a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 118; and
    - (iv) any corrective actions taken or planned for complaints attributable to emissions from the stationary source.
  - e. With each stationary source operating report under Condition 137, the Permittee shall include a brief summary report which must include
    - (i) the number of complaints received;

- (ii) the number of times the Permittee or the Department found corrective action necessary;
- (iii) the number of times action was taken on a complaint within 24 hours; and
- (iv) the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.
- f. The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.
- **119. Technology-Based Emission Standard.** If an unavoidable emergency, malfunction (as defined in 18 AAC 50.235(d)), or non-routine repair (as defined in 18 AAC 50.990(64)), causes emissions in excess of a technology-based emission standard<sup>46</sup> listed in Conditions 19, 72, 75, 77, 81, 96.1, and 105 (refrigerants), the Permittee shall
  - 119.1. take all reasonable steps to minimize levels of emissions that exceed the standard, and
  - 119.2. report in accordance with Condition 136; the report must include information on the steps taken to mitigate emissions and corrective measures taken or to be taken.

[18 AAC 50.235(a), 50.326(j)(4), & 50.040(j)(4)] [40 C.F.R. 71.6(c)(6)]

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**120. Ice Fog Standards.** The Permittee shall reduce water emissions if the Department, in its sole discretion, determines that ice fog conditions existing at the source warrant the reduction. In no event shall the emissions create a public nuisance.

[18 AAC 50.040(j), 50.080, and 50.326(j)] [40 C.F.R. 71.6(a)& (c)(6)] [Permit No. 9431-AA001, Condition 23, 5/12/1994]

120.1. Compliance shall consist of an annual certification, in accordance with Condition 138, that the stationary source did not cause ice fog conditions requiring reduction.

#### **Open Burning Requirements**

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**121. Open Burning.** If the Permittee conducts open burning at this stationary source, the Permittee shall comply with the requirements of 18 AAC 50.065. The Permittee shall:

121.1. keep written records to demonstrate that the Permittee complies with the limitations in this condition and the requirements of 18 AAC 50.065. Upon request by the Department, submit copies of the records; and

As defined in 18 AAC 50.990(106), the term "technology-based emission standard" means a best available control technology (BACT) standard; a lowest achievable emission rate (LAER) standard; a maximum achievable control technology (MACT) standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

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121.2. include this condition in the annual certification required under Condition 138.

[18 AAC 50.065, 50.040(j), & 50.326(j)]

[40 C.F.R. 71.6(a)(3)]

# Section 9. General Source Testing and Monitoring Requirements

**122. Requested Source Tests.** In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a) & 50.345(a) & (k)]

**123. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

[18 AAC 50.220(b)]

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- 123.1. at a point or points that characterize the actual discharge into the ambient air; and
- 123.2. at the maximum rated burning or operating capacity of the emissions unit or another rate determined by the Department to characterize the actual discharge into the ambient air.
- **124. Reference Test Methods.** The Permittee shall use the following test methods when conducting source testing for compliance with this permit:
  - 124.1. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(c)(1)(A) & 50.040(a)] [40 C.F.R. 60]

124.2. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c) & 50.220(c)(1)(C)] [40 C.F.R. 63]

124.3. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9. The Permittee may use the form in Section 14 to record data.

[18 AAC 50.030 & 50.220(c)(1)(D)]

124.4. Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(3) & 50.220(c)(1)(c)] [40 C.F.R. 60, Appendix A]

124.5. Source testing for emissions of PM<sub>2.5</sub> and PM<sub>10</sub> must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

[18 AAC 50.035(b)(2) & 50.220(c)(1)(F)] [40 C.F.R. 51, Appendix M] 124.6. Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

[18 AAC 50.040(c)(32) & 50.220(c)(2)] [40 C.F.R. 63, Appendix A, Method 301]

**125.** Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific emissions unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3) & 50.990(102)]

**126. Test Exemption.** The Permittee is not required to comply with Conditions 128, 129 and 130 when the exhaust is observed for visible emissions by Method 9 Plan (Condition 2.2).

[18 AAC 50.345(a)]

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**127. Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

[18 AAC 50.345(a) & (l)]

**128. Test Plans.** Except as provided in Condition 126, before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the emissions unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 122 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

[18 AAC 50.345(a) & (m)]

**129. Test Notification.** Except as provided in Condition 126, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.

[18 AAC 50.345(a) & (n)]

**130. Test Reports.** Except as provided in Condition 126, within 60 days after completing a source test, the Permittee shall submit one certified copy of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 133. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

[18 AAC 50.345(a) & (o)]

**131. Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in Conditions 5, 18.2, and 57, the three-hour average is determined using

the average of three one-hour test runs. The source test must account for those emissions caused by soot blowing, grate cleaning, or other routine maintenance activities by ensuring that at least one test run includes the emissions caused by the routine maintenance activity and is conducted under conditions that lead to representative emissions from that activity. The emissions must be quantified using the following equation:

$$E = E_{M} \left[ (A+B) \times \frac{S}{R \times A} \right] + E_{NM} \left[ \frac{(R-S)}{R} - \frac{BS}{R \times A} \right]$$

#### Where:

E = the total particulate matter emissions of the emissions unit in grains per dry standard cubic foot (gr/dscf)

 $E_M$  = the particulate matter emissions in gr/dscf measured during the test that included the routine maintenance activity

 $E_{NM}$  = the arithmetic average of particulate matter emissions in gr/dscf measured by the test runs that did not include the routine maintenance activity

A = the period of routine maintenance activity occurring during the test run that included routine maintenance activity, expressed to the nearest hundredth of an hour

B = the total period of the test run, less A

R = the maximum period of emissions unit operation per 24 hours, expressed to the nearest hundredth of an hour

S = the maximum period of routine maintenance activity per 24 hours, expressed to the nearest hundredth of an hour

[18 AAC 50.220(f)]

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# Section 10. General Recordkeeping and Reporting Requirements

### **Recordkeeping Requirements**

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

[18 AAC 50.040(a)(1) & 50.326(j)] [40 C.F.R 60.7(f), Subpart A, 40 C.F.R 71.6(a)(3)(ii)(B)]

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- 132.1. Copies of all reports and certifications submitted pursuant to this section of the permit; and
- 132.2. 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 analyses;
  - d. the analytical techniques or methods used;
  - e. the results of such analyses; and,
  - f. the operating conditions as existing at the time of sampling or measurement.

#### **Reporting Requirements**

- 133. 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 emission 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.
  - 133.1. The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
    - a. a certifying authority registered under AS 09.80.020 verifies that the electronic signature is authentic; and
    - b. the person providing the electronic signature has made an agreement, with the certifying authority described in Condition 133.1.a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

[18 AAC 50.345(a) & (j), 50.205, & 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii)(A)]

- **134. Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall submit reports, compliance certifications, and/or other submittals required by this permit, certified in accordance with Condition 133, to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The documents may be submitted either by hard copy or electronically.
  - 134.1. Electronic submittals may be provided, as follows:
    - a. by E-mail under a cover letter using dec.aq.airreports@alaska.gov; or
    - b. use of the Department's Air Online Services at http://dec.alaska.gov/applications/air/airtoolsweb/.

[18 AAC 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii)(A)]

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135. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the Federal Administrator.

[18 AAC 50.345(a) & (i), 50.200, & 50.326(a) & (j)] [40 C.F.R. 71.5(a)(2) & 71.6(a)(3)]

### 136. Excess Emissions and Permit Deviation Reports.

- 136.1. Except as provided in Condition 118, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:
  - a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
    - (i) emissions that present a potential threat to human health or safety; and
    - (ii) excess emissions that the Permittee believes to be unavoidable;
  - b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology-based emission standard;
  - c. report all other excess emissions and permit deviations
    - (i) within 30 days after the end of the month during which the excess emissions or deviation occurred, except as provided in Condition 136.1.c(iii); or
    - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 136.1.c(i); and

- (iii) for failure to monitor, as required in Conditions 4.2.b and 8.1.b. of this permit.
- 136.2. When reporting either excess emissions or permit deviations, the Permittee shall report using either the Department's online form, which can be found at <a href="http://dec.alaska.gov/applications/air/airtoolsweb">http://dec.alaska.gov/applications/air/airtoolsweb</a>, or if the Permittee prefers, the form contained in Section 16 of this permit. The Permittee must provide all information called for by the form that is used.
- 136.3. If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.235(a)(2), 50.240(c), 50.326(j)(3), & 50.346(b)(2) & (3)]

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- **137. Operating Reports.** During the life of this permit<sup>47</sup>, the Permittee shall submit to the Department an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.
  - 137.1. The operating report must include all information required to be in operating reports by other conditions of this permit, for the period covered by the report.
  - 137.2. When excess emissions or permit deviations that occurred during the reporting period are not included with the operating report under Condition 137.1, the Permittee shall identify
    - a. the date of the deviation;
    - b. the equipment involved;
    - c. the permit condition affected;
    - d. a description of the excess emissions or permit deviation; and
    - e. any corrective action or preventive measures taken and the date(s) of such actions; or
  - 137.3. when excess emissions or permit deviations have already been reported under Condition 136 the Permittee shall cite the date or dates of those reports.
  - 137.4. The operating report must include, for the period covered by the report, a listing of emissions monitored under Condition 2.2.e, which triggers additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report.
    - a. the date of the emissions;
    - b. the equipment involved;
    - c. the permit condition affected; and

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Life of this permit is defined as the permit effective dates, including any periods of reporting obligations that extend beyond the permit effective dates. For example if a permit expires prior to the end of a calendar-year, there is still a reporting obligation to provide operating reports for the periods when the permit was in effect.

- the monitoring result which triggered the additional monitoring.
- 137.5. **Transition from expired to renewed permit**. For the first period of this renewed operating permit, also provide the previous permit's operating report elements covering that partial period immediately preceding the effective date of this renewed permit.

[18 AAC 50.346(b)(6) & 50.326(j)] [40 C.F.R. 71.6(a)(3)(iii)(A)]

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- **138. Annual Compliance Certification.** Each year by March 31, the Permittee shall compile and submit to the Department an annual compliance certification report according to Condition 134.
  - 138.1. Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:
    - a. identify each term or condition set forth in Section 3 through Section 12, that is the basis of the certification;
    - b. briefly describe each method used to determine the compliance status;
    - c. state whether compliance is intermittent or continuous; and
    - d. identify each deviation and take it into account in the compliance certification;
  - 138.2. **Transition from expired to renewed permit**. For the first period of this renewed operating permit, also provide the previous permit's annual compliance certification report elements covering that partial period immediately preceding the effective date of this renewed permit.
  - 138.3. In addition, submit a copy of the report directly to the Clean Air Act Compliance Manager, US EPA Region 10, Mail Stop: OCE-101, 1200 Sixth Avenue, Suite 900, Seattle, WA 98101.

[18 AAC 50.205, 50.345(a) & (j), & 50.326(j)] [40 C.F.R. 71.6(c)(5)]

- **139. Emission Inventory Reporting.** The Permittee shall submit to the Department reports of actual emissions, by emissions unit, of CO, NH<sub>3</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, VOCs and lead (Pb) (and lead compounds), as follows:
  - 139.1. Each year by April 30, if the stationary source's potential to emit for the previous calendar year equals or exceeds:
    - a.  $250 \text{ TPY of NH}_3$ ,  $PM_{10}$ ,  $PM_{2.5}$ , or VOCs; or
    - 2500 TPY of CO, NO<sub>x</sub> or SO<sub>2</sub>.
  - 139.2. Every third year by April 30, if the stationary source's potential to emit (except actual emissions for Pb) for the previous calendar year equals or exceeds:
    - a. 0.5 tons per year of actual Pb, or

- b. 1,000 TPY of CO; or
- c. 100 TPY of SO<sub>2</sub>, NH<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, or VOCs.
- 139.3. For reporting under Condition 139.2, the Permittee shall report in 2018 for calendar year 2017, 2021 for calendar year 2020, etc., in accordance with the Environmental Protection Agency set schedule.
- 139.4. Include in the report required by this condition, the required data elements contained within the form in Section 17, the Department's Air Online Services (AOS) system at <a href="http://dec.alaska.gov/applications/air/airtoolsweb">http://dec.alaska.gov/applications/air/airtoolsweb</a>, a form compliant with the Emission Inventory Instructions available in Air Online Services (AOS), or those contained in Table 2A of Appendix A to Subpart A of 40 C.F.R. 51 for each stack associated with an emissions unit.

 $[18 \ AAC \ 50.346(b)(8) \ \& \ (9) \ and \ 50.200] \\ [40 \ C.F.R. \ 51.15, \ 51.30(a)(1) \ \& \ (b)(1) \ and \ 40 \ C.F.R. \ 51, \ Appendix \ A \ to \ Subpart \ A]$ 

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# Section 11. Permit Changes and Renewal

**140. Permit Applications and Submittals.** The Permittee shall comply with the following requirements for submitting application information to the US Environmental Protection Agency (EPA):

- 140.1. The Permittee shall provide a copy of each application for modification or renewal of this permit, including any compliance plan, or application addenda, at the time the application or addendum is submitted to the Department;
- 140.2. The information shall be submitted to the Part 70 Operating Permit Program, US EPA Region 10, Mail Stop: OAW-150, 1200 Sixth Avenue, Suite 900, Seattle, WA 98101.
- 140.3. To the extent practicable, the Permittee shall provide to EPA applications in portable document format (pdf); MS Word format (.doc); or other computer-readable format compatible with EPA's national database management system; and
- 140.4. The Permittee shall maintain records as necessary to demonstrate compliance with this condition.

[18 AAC 50.040(j)(7), 50.326(a) & 50.346(b)(7)] [40 C.F.R. 71.10(d)(1)]

**141. Emissions Trading.** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit.

[18 AAC 50.040(j)(4) & 50.326(j)] [40 C.F.R. 71.6(a)(8)]

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- **142. Off Permit Changes.** The Permittee may make changes that are not addressed or prohibited by this permit other than those subject to the requirements of 40 C.F.R. Part 72 through 78 or those that are modifications under any provision of Title I of the Act to be made without a permit revision, provided that the following requirements are met:
  - 142.1. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;
  - 142.2. Provide contemporaneous written notice to EPA and the Department of each such change, except for changes that qualify as insignificant under 18 AAC 50.326(d) through (i). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change;
  - 142.3. The change shall not qualify for the shield under 40 C.F.R. 71.6(f);
  - 142.4. The Permittee shall keep a record describing changes made at the stationary source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

[18 AAC 50.040(j)(4) & 50.326(j)]

[40 C.F.R. 71.6(a)(12)]

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**143. Operational Flexibility.** The Permittee may make CAA Section 502(b)(10)<sup>48</sup> changes within the permitted stationary source without requiring a permit revision if the changes are not modifications under any provision of Title I of the Act and the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions):

- 143.1. The Permittee shall provide EPA and the Department with a written notification no less than seven days in advance of the proposed change.
- 143.2. For each such change, the notification required by Condition 143.1 shall include a brief description of the change within the permitted stationary source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
- 143.3. The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to Condition 143.

[18 AAC 50.040(j)(4) & 50.326(j)] [40 C.F.R. 71.6(a)(13)]

**144. Permit Renewal.** To renew this permit, the Permittee shall submit to the Department<sup>49</sup> an application under 18 AAC 50.326 no sooner than **June 24**, **2022** and no later than **June 24**, **2023**. The renewal application shall be complete before the permit expiration date listed on the cover page of this permit. Permit expiration terminates the stationary source's right to operate unless a timely and complete renewal application has been submitted consistent with 40 C.F.R. 71.7(b) and 71.5(a)(1)(iii).

[18 AAC 50.040(j)(3), 50.326(c) & (j)(2)] [40 C.F.R. 71.5(a)(1)(iii) & 71.7(b) & (c)(1)(ii)]

<sup>48</sup> As defined in 40 C.F.R. 71.2, CAA Section 502(b)(10) changes are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

Submit permit applications to the Department's Anchorage office. The current address is: Air Permit Intake Clerk, ADEC, 555 Cordova Street, Anchorage, AK 99501.

# Section 12. Compliance Requirements

### **General Compliance Requirements**

- **145.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are
  - 145.1. included and specifically identified in the permit; or
  - 145.2. determined in writing in the permit to be inapplicable.

[18 AAC 50.326(j)(3) & 50.345(a) & (b)]

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- **146.** 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
  - 146.1. an enforcement action;
  - 146.2. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
  - 146.3. denial of an operating permit renewal application.

[18 AAC 50.040(j), 50.326(j) & 50.345(a) & (c)]

**147.** For applicable requirements with which the stationary source is in compliance, the Permittee shall continue to comply with such requirements.

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(A)]

**148.** 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.

[18 AAC 50.326(j)(3) & 50.345(a) & (d)]

- **149.** 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
  - 149.1. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;
  - 149.2. have access to and copy any records required by the permit;
  - 149.3. inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
  - 149.4. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.326(j)(3) & 50.345(a) & (h)]

### **Compliance Schedule**

**150.** For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.

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[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(B)]
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- **151.** The Permittee shall achieve compliance with the following requirements that the source is not in compliance at the time of permit issuance by adhering to the procedures and following the compliance schedule described below:
  - 151.1. The Permittee shall provide the Department a copy, within 10 days of issuance, of an approved consent decree that includes a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the requirements of Condition 151.1.a:
    - a. For EU ID 2, demonstrate compliance with the applicable mercury emission limit of 40 C.F.R. 63 Subpart UUUUU and associated work practice standards and MR&R requirements, as set out in Conditions 96 through 100, and in the consent decree.
  - 151.2. This compliance schedule shall be supplemental to, and shall not sanction non-compliance with the applicable requirements on which it is based.

```
[18 AAC 50.040(j) & 50.326(j)]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(C)]
```

- **152.** The Permittee shall include with the operating report required in Condition 137 progress reports, as follows:
  - 152.1. indicate the dates for achieving the activities, milestones, or compliance required in the compliance plan and schedule, and dates when those activities, milestones, or compliance were actually achieved; and
  - 152.2. as needed, an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measure adopted.

[18 AAC 50.040(j) & 50.326(j)] [40 C.F.R. 71.6(c)(4) & 71.5(c)(8)(iv)]

# Section 13. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the permit application, this section of the permit contains the requirements determined by the Department not to be applicable to the stationary source.

- **153.** Nothing in this permit shall alter or affect the following:
  - 153.1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or
  - 153.2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

[18 AAC 50.326(j)] [40 C.F.R. 71.6(f)(3)(i) & (ii)]

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**154.** Table D identifies the emissions units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table D becomes applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit and/or an operating permit revision.

[18 AAC 50.326(j)] [40 C.F.R. 71.6(f)(1)(ii)]

Table D - Permit Shields Granted

EU ID	Non-Applicable Requirements	Reason for Non-Applicability
1	PSD BACT Emission Limits	Construction was commenced in 1965 and commissioned to operate in September 1967, which is prior to PSD requirements including BACT. This shield does not apply to future changes to EU ID 1.
1, 3, 4	40 C.F.R. 60 Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators	Per 40 C.F.R. 60.40(c), units constructed prior to the applicability date of August 17, 1971 (EU IDs 1 & 3) are not subject to 40 C.F.R. 60 Subpart D. Per 40 C.F.R. 60.40(a), units combusting 50 MMBtu/hr or less (EU IDs 3 & 4) fossil fuels are not subject to 40 C.F.R. 60 Subpart D.
1, 3	40 C.F.R. 60 Subpart Da – Standard of Performance for Electric Utility Steam Generating Units	Per 40 C.F.R. 60.40Da(a)(2), units constructed prior to the applicability date of September 18, 1978 (EU IDs 1 & 3) are not subject to 40 C.F.R. 60 Subpart Da.  Per 40 C.F.R. 60.40Da(a)(1), units combusting 250 MMBtu/hr or less (EU IDs 3 & 4) fossil fuels are not subject to 40 C.F.R. 60 Subpart Da.
1, 3, 4	40 C.F.R. 60 Subpart Db – Standards of Performance for Industrial-Commercial- Institutional (ICI) Steam Generating Units	Per, 40 C.F.R. 60.40b(a), units constructed prior to the applicability date of June 19, 1984 (EU IDs 1 & 3) and units with a heat input capacity less than or equal to 100 MMBtu/hr (EU IDs 3 & 4) are not subject to 40 C.F.R. 60 Subpart Db.

ELLID	Non Applicable Descriptions	Dogger for Nov. Apr. Parket
EU ID	Non-Applicable Requirements  40 C.F.R. 60 Subpart Dc –	Reason for Non-Applicability Per, 40 C.F.R. 60.40c(a), units constructed prior to
1, 3	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	the applicability date of June 19, 1989 (EU IDs 1 & 3) and units with a maximum design heat rating greater than 100 MMBtu/hr (EU ID 1) are not subject to 40 C.F.R. 60 Subpart Dc.
2	40 C.F.R. 60 Subpart D, Db, and Dc – Standards of Performance for Fossil-Fuel-Fired Steam Generators and ICI Steam Generating Units	Per 40 C.F.R. 60.40(e), 60.40b(e), and 60.40c(a), units subject to 40 C.F.R. 60 Subpart Da are not subject to 40 C.F.R. 60 Subparts D, Db, and Dc.
4	40 C.F.R. 60.43c(c) & (d) Subpart Dc – Opacity Limit only	Per 40 C.F.R. 60.43c(c), an opacity limit is not applicable to emission units with an input rating less than 30 MMBtu/hr. EU ID 4 has an input rating of 23.0 MMBtu/hr
1, 2	40 C.F.R. 63 Subpart JJJJJJ – NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources	Per 40 C.F.R. 63.11195(k), units subject to 40 C.F.R. 63 Subpart UUUUU are not subject to 40 C.F.R. 63 Subpart JJJJJJ.
5, 13	40 C.F.R. 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)	Per 40 C.F.R. 60.4200(a), the emission units are not subject to 40 C.F.R. 60 Subpart IIII because they commenced construction prior to the applicability date of July 11, 2005 and the have not been modified or reconstructed.
5, 13	40 C.F.R. 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE)	Per 40 C.F.R. 60.4230(a), the emission units are not subject to 40 C.F.R. 60 Subpart JJJJ because the engines are CI ICE, not SI ICE.
6, 10	40 C.F.R. 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants (NMPP)	Coal is not defined as a nonmetallic mineral per 40 C.F.R. 60.671.
7	40 C.F.R. 60 Subpart OOO – Standards of Performance for NMPP	Per 40 C.F.R. 60.670(a)(2), the limestone storage silo is not subject to 40 C.F.R. Subpart OOO because limestone is not crushed or ground at the Healy Power Plant.
8	40 C.F.R. 60 Subpart OOO – Standards of Performance for NMPP	Flyash is not defined as a nonmetallic mineral per 40 C.F.R. 60.671. Fly ash is generated by coal combustion and is not a naturally occurring mineral. In addition, fly ash is not crushed or ground at the facility; therefore, the source cannot be considered a nonmetallic mineral processing plant.
9	40 C.F.R. 60 Subpart OOO: 40 C.F.R. 60.674(a), 60.675(f), 60.676(c) through(e) 40 C.F.R. 60.676(a) – submittal of information required for replacement unit to comply with 40 C.F.R. 60.670(d)	Emission unit does not use a wet scrubber to control emissions.  Permittee is not seeking to comply with 40 C.F.R. 60.670(d).

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EU ID	Non-Applicable Requirements	Reason for Non-Applicability
Stationary Source-wide	40 C.F.R. 68 – Chemical Accident Prevention Provisions	The stationary source does not have more than a threshold quantity of a regulated substance in a process, as listed in 40 C.F.R. 68.130 and is therefore not required to comply with 40 C.F.R. 68.
Stationary Source-wide	40 C.F.R. 63 Subpart DDDDD – NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	Exempt per 40 C.F.R. 63.7485; the Healy Power Plant is not a major source of HAPs. This shield does not apply to future changes in the stationary source that will result into the source's reclassification as HAPs major.
Stationary Source-wide	40 C.F.R. 82.158 Subpart F - Standards for Recovery and/or Recycling Equipment	The facility does not manufacture or import recycling and recovery equipment intended for use during the maintenance, service or repair of appliances.

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#### Section 14. Visible Emissions Forms

#### VISIBLE EMISSION OBSERVATION FORM

This form is designed to be used in conjunction with EPA Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources." Temporal changes in emission color, plume water droplet content, background color, sky conditions, observer position, etc. should be noted in the comments section adjacent to each minute of readings. Any information not dealt with elsewhere on the form should be noted under additional information. Following are brief descriptions of the type of information that needs to be entered on the form: for a more detailed discussion of each part of the form, refer to "Instructions for Use of Visible Emission Observation Form" (a copy is available in https://www3.epa.gov/ttnemc01/methods/webinar8.pdf).

- Source Name: full company name, parent company or division or subsidiary information, if necessary.
- Address: street (not mailing or home office) address of facility where visible emissions observation is being made.
- · Phone (Key Contact): number for appropriate contact.
- Stationary Source ID Number: number from NEDS, agency file, etc.
- Process Equipment, Operating Mode: brief description of process equipment (include type of facility) and operating rate, % capacity, and/or mode (e.g. charging, tapping, shutdown).
- Control Equipment, Operating Mode: specify type of control device(s) and % utilization, control efficiency.
- Describe Emission Point: for identification purposes, stack or emission point appearance, location, and geometry; and whether emissions are confined (have a specifically designed outlet) or unconfined (fugitive).
- Height Above Ground Level: stack or emission point height relative to ground level; can use engineering drawings, Abney level, or clinometer.
- Height Relative to Observer: indicate height of emission point relative to the observation point.
- Distance from Observer: distance to emission point; can use rangefinder or map.
- Direction from Observer: direction plume is traveling from observer.
- Describe Emissions and Color: include physical characteristics, plume behavior (e.g., looping, lacy, condensing, fumigating, secondary particle formation, distance plume visible, etc.), and color of emissions (gray, brown, white, red, black, etc.). Note color changes in comments section.
- Visible Water Vapor Present?: check "yes" if visible water vapor is present.
- If Present, note in the Comments column whether the Plume is "attached" if water droplet plume forms prior to exiting stack, and "detached" if water droplet plume forms after exiting stack.
- Point in Plume at Which Opacity was Determined: describe physical location in plume where readings were made (e.g., 1 ft above stack exit or 10 ft. after dissipation of water plume).
- Describe Plume Background: object plume is read against, include texture and atmospheric conditions (e.g., hazy).
- Background Color: sky blue, gray-white, new leaf green, etc.

 Sky Conditions: indicate color of clouds and cloud cover by percentage or by description (clear, scattered, broken, overcast).

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- Wind Speed: record wind speed; can use Beaufort wind scale or hand-held anemometer to estimate.
- Wind Direction From: direction from which wind is blowing; can use compass to estimate to eight points.
- Ambient Temperature: in degrees Fahrenheit or Celsius.

Wet Bulb Temperature: can be measured using a sling psychrometer

RH Percent: relative humidity measured using a sling psychrometer; use local US Weather Bureau measurements only if nearby.

 Source Layout Sketch: include wind direction, sun position, associated stacks, roads, and other landmarks to fully identify location of emission point and observer position.

Draw North Arrow: to determine, point line of sight in direction of emission point, place compass beside circle, and draw in arrow parallel to compass needle.

Sun's Location: point line of sight in direction of emission point, move pen upright along sun location line, mark location of sun when pen's shadow crosses the observer's position.

- Observation Date: date observations conducted.
- Start Time, End Time: beginning and end times of observation period (e.g., 1635 or 4:35 p.m.).
- Data Set: percent opacity to nearest 5%; enter from left to right starting in left column. Use a second (third, etc.) form, if readings continue beyond 30 minutes. Use dash (-) for readings not made; explain in adjacent comments section.

Comments: note changing observation conditions, plume characteristics, and/or reasons for missed readings.

Range of Opacity: note highest and lowest opacity number.

- Observer's Name: print in full.
  - Observer's Signature, Date: sign and date after performing VE observation.
- Organization: observer's employer.

Certified By, Date: name of "smoke school" certifying observer and date of most recent certification.

		A		DEPARTMENT S PROGRAM						
Stationary Source Nan	ne	Type of Em	ission Unit		Observa	tion Da	te	Start 7	Time	End Time
					Sec	0	15	30	45	Comments
Emission Unit Location	n	•			Min 1					
City	State		Zip		2					
Phone # (Key Cont	act)	Stationary	Source ID N	Number	3					
Process Equipment	Process Equipment Operating Mode				4					
Control Equipment		Operating N	Mode		5					
Describe Emission Po	int/Locatio	n								
Height above ground level	Height relati	ve to observer	Clinometer R	teading	6			-		
					7					
Distance From Observ Start End		Direction Fi Start	rom Observ End		8					
Describe Emissions & Start	Color	End			9					
Visible Water Vapor Preser	nt? If yes, d		ximate distand	ce from the	10					
No Yes					11					
Point in Plume at White					12					
Describe Plume Backo	ground	Background Start	d Color					-	-	
End Sky Conditions:		End			13					
Start		End			14					
Wind Speed		Wind Direct	tion From		15					
Start End Ambient Temperature		Start Wet Bulb T	End emp	RH percent	16					
SOURCE LAYOUT SKETCH	t 1 Stock or				17					
		ion 5 North		ther Stacks	18					
					19					
					-			-		
					20					
					21					
					22					
					23					
					24					
					25					
					26			-		
					27					
					28					
					29					
					30					
					Range o		ty			
					Minimur					Maximum
I have received a copy Print Name:	of these o	pacity observ	ations		Print Ob	server's	Name			
					Observe	r's Sign	ature			Date
Signature:								Observer's Affiliation:		
Title		Date			Certifyin Certified		nization			Date
					Data Red					
Duration of Observation		nutes):			Duration	Require				
Number of Observations		20%:			Highest	Six-Mir	ute Av	erage O	pacity (%	6):
Number of Observations exceeding 20%: In compliance with six-minute opacity limit? (Yes or No)			Highest 18-Consecutive – Minute Average Opacity (%)(engines and turbines only)			ge Opacity (%)(engines and turbines only)				
Set Number		Tin	me	Avere	age Opaci	ty Sumn			T = = =	
occ rummer		Start	End		Su			rage		Comments

# Section 15. Material Balance Calculation

If a fuel shipment contains more than 0.75 percent sulfur by weight, calculate the three-hour exhaust concentration of SO<sub>2</sub> using the following equations:

The  $wt\%S_{fuel}$ ,  $wt\%C_{fuel}$ , and  $wt\%H_{fuel}$  are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent of sulfur (wt% $S_{\text{fuel}}$ ) is obtained pursuant to Condition 16. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol**%<sub>dry</sub>**O**<sub>2</sub>, <sub>exhaust</sub>) is obtained from oxygen meters, manufacturer's data, or from the most recent analysis under 40 C.F.R. 60, Appendix A-2, Method 3, adopted by reference in 18 AAC 50.040(a), at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if  $\mathbf{wt\%S_{fuel}} = 1.0\%$ , then enter 1.0 into the equations not 0.01 and if  $\mathbf{vol\%_{dry}O_{2}}$ ,  $\mathbf{exhaust} = 3.00\%$ , then enter 3.00, not 0.03.

[18 AAC 50.346(c)]

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<sup>50</sup> Revised as of September 27, 2010.

# Section 16. ADEC Notification Form<sup>50</sup> AQ0173TVP03 Healy Power Plant **Stationary Source Name** Air Quality Permit Number. Golden Valley Electric Association (GVEA) **Company Name** When did you discover the Excess Emissions/Permit Deviation? Time: :/ / When did the event/deviation occur? \_\_\_\_/\_\_\_/\_\_\_\_\_ Time: \_\_\_\_\_ : \_\_\_\_ (please use 24-hr clock.) Begin: Date: Time: : (please use 24-hr clock) End: Date: What was the duration of the event/deviation? \_\_\_\_ : \_\_\_ (hrs:min) or \_\_\_\_ days (total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation) **Reason for Notification:** (please check only 1 box and go to the corresponding section) Excess Emissions – Complete Section 1 and Certify Deviation from Permit Condition – Complete Section 2 and Certify Deviations from COBC, CO, or Settlement Agreement – Complete Section 2 and Certify **Section 1. Excess Emissions** (a) Was the exceedance Intermittent Continuous or (b) Cause of Event (Check one that applies): Start Up/Shut Down Natural Cause (weather/earthquake/flood) Schedule Maintenance/Equipment Adjustment Control Equipment Failure Bad Fuel/Coal/Gas Upset Condition Other (c) **Description** Describe briefly, what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance. **Emissions Units Involved:** (d) Identify the emissions unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance. **EU ID EU** Name Permit Condition Exceeded/Limit/Potential Exceedance

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Certify Report (go to end of form)

Expires: December 24, 2023 Type of Incident (please check only one): Opacity % gas/scf Control Equipment Down ☐ Venting ☐ Fugitive Emissions Recordkeeping Failure Emission Limit Exceeded Marine Vessel Opacity Flaring Other (f) Unavoidable Emissions: Do you intend to assert that these excess emissions were Yes ☐ No unavoidable? Do you intend to assert the affirmative defense of 18 AAC 50.235? Yes ☐ No

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# **Section 2. Permit Deviations**

Bas stat con Pri	recurre	ence.  on:  nformation and belief formers  and information in and att	ed after r ached to	easonable inq	uiry, I certify that the	
Cer Bas stat con	recurre etificati sed on i sements	ence.  on:  nformation and belief formers  and information in and att	ed after r ached to	easonable inq	uiry, I certify that the t are true, accurate, and	
Cer	recurre	on:		-	-	
(d)				<b>.</b>	deviation and to prevent ruture	
(d)				r	deviation and to prevent rature	
	Correc	ctive Actions:	e deviatio	n or potential o	deviation and to prevent future	
		ibe briefly what happened a cions and the potential devia		use. Include t	the parameters/operating	
(c)	Descr	iption of Potential Deviation	ı:			
	- <del></del> '					
EI	name <u>a</u> J ID	as in the permit. List the corre			ions and the deviation.	
				_	same identification number and	
(b)	Emiss	ions Unit Involved:				
	Other Section:				(Title of section and section number of your permit).	
	Standar	rd Conditions Not Included in th	e Permit			
□ Ce	Record rtification	keeping/Reporting/Compliance on		Stationary 5	Source Wide	
	Genera	l Source Test/Monitoring Requi	rements	☐ Insignificar	nt Emissions Unit	
	Failure	to Monitor/Report		☐ Reporting/Monitoring for Diesel Engines		
	Lillissi	ons Unit-Specific		Generally A	Applicable Requirements	
	Emicci					

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**NOTE:** *This document must be certified in accordance with 18 AAC 50.345(j)* 

### **To Submit this Report:**

1. Fax to: 907-451-2187

Or

2. Email to: DEC.AQ.Airreports@alaska.gov

If faxed or emailed, the report must be certified within the Operating Report required for the same reporting period per Condition 137.

Or

**ADEC** 3. Mail

> to: Air Permits Program

610 University Avenue Fairbanks, AK 99709-3643

Or

4. Phone Notifications: 907-451-5173

Phone notifications require a written follow-up report.

Or

Submission of information contained in this report can be made electronically at the following website: <a href="http://dec.alaska.gov/applications/air/airtoolsweb/">http://dec.alaska.gov/applications/air/airtoolsweb/</a>

If submitted online, report must be submitted by an authorized E-Signer for the stationary source.

[18 AAC 50.346(b)(3)]

# Section 17. Emission Inventory Form

A detailed instruction on development and submission of emission inventory is available at the Department's Air Online Services (AOS) at

http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory by clicking on "Emission Inventory Instructions" button.

ADEC Reporting Form  Emission Inventory Reporting  State of Alaska Department of Environmental Conservation Division of Air Quality  Mandatory information is highlighted in bright yellow. Make  Stationary Source Detail			Emission Inventory Year-[]  additional copies as needed.
Inventory Start Date			
<b>Inventory End Date</b>			
ADEC ID or Permit Number			
EPA ID			
Census Area/Community			
Facility Name			
Facility Physical Location	Address Address		
	City, State, Zip Code		
	<u>Latitude</u>	<b>Longitude</b>	
	Legal Description:		
Owner Name			
Owner Address			
Owner contact number			
Mailing Contact	Address		
Information	City, State, Zip Code		
Line of Business (NAICS)			
Facility Status			

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Public Notice Draft Permit No. AQ0173TVP03 Healy Power Plant	March 30, 2022 Issued: December 24, 201 Expires: December 24, 202		
<b>Emission Unit Data</b>			
Specifications			
ID	Design Capacity		
<b>Description</b>			
Emission Unit Status			
Manufacturer	Manufactured Year		
Model Number	Serial Number		
Regulations			
Regulation/Description			

Control Equipment (List All if applicable)				
ID				
System Description				
Equipment Type(s)				
Manufacturer				
Model				
Control Efficiency (%):				
Capture Efficiency (%)				
Pollutants Controlled		Reduction Efficiency (%)		
		Reduction Efficiency (%)		

Processes				
<b>Process</b>				
SCC Code				
Material Processed				
Period Start				
Period End				
Throughput (units):				
Summer %				
Fall %				
Winter %				
Spring %				
Operational Schedule				
Days/Week				
Hours/Day				
Weeks/Year				
Hours/Year				
Fuel Characteristics				
Heat Content	Elem. Sulfur Content (%)	H2S Sulfur Content	Ash Cont	ent (if applicable)
Heating				
Heat Input		Heat Output		Heat Values Convention

Pollutant	Emission Factor	EF Numerator	EF Denominator	Emission Calculation Method	Tons
Carbon Monoxide (CO)					
Nitrogen Oxides (NO <sub>x</sub> )					
PM <sub>10</sub> Primary (PM <sub>10</sub> -PRI)					
PM <sub>2.5</sub> Filterable (PM <sub>25</sub> -FIL) <sup>51</sup>					
PM Condensable (PM- CON) <sup>52</sup>					
Sulfur Dioxide (SO₂)					
NH₃ (Ammonia)					
Lead and lead compounds					
Volatile Organic Compounds (VOC)					
Emissions' Release Point				_	
Release Point ID					
Apportion%					

-

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Report PM<sub>2.5</sub> filterable and PM condensable portions of the PM<sub>2.5</sub> Primary emissions, as applicable, in accordance with Federal Regulation 40 CFR 51.15(a)(1)(vi). Refer to EPA's May 2017 "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations" (see Section 4.2.1) for guidance on the reporting of PM<sub>2.5</sub> filterable and condensable emissions.

Please note on the inventory form if there is no available emission factor that can be used for an applicable condensable PM. For example, EPA AP-42 Table 3.3-1 does not contain a condensable PM emission factor for diesel engines smaller than 600 hp.

**Apportion%** 

Process	Secondary Prod	Secondary Process (if applicable)			
SCC Code	(ex. 20100201)		•		
Material Processed	,				
Period Sta	art				
Period E	nd				
Throughput (unit	s):				
Summer	%				
Fall	%				
Winter	%				
Spring	%				
Operational Schedule	e				
Days/We	ek				
Hours/D	ау				
Weeks/Ye	ar				
Hours/Ye	ar				
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Con	tent	Ash Content (if applicable)	
	Content				
Heating					
Heat Input		Heat Output		Heat Values Convention	
<b>Emissions Operating</b>	Туре:				
Pollutant	Emission Factor	EF Numerator	EF Denominator	Emission Calculation Method	Tons
Carbon Monoxide (CO)	1000				
Nitrogen Oxides (NO <sub>x</sub> )					
PM <sub>10</sub> Primary (PM <sub>10</sub> -PRI)					
PM <sub>2.5</sub> Primary (PM <sub>25</sub> -PRI)					
Sulfur Dioxide (SO <sub>2</sub> )					
Lead and Lead Compoun	ds				
NH₃ (Ammonia)					
Volatile Organic Compounds (VOC)					
Emissions' Release Poi					
Release Point	ID				

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Stack Detail (Release Point)			
> Specifications			
<mark>ID</mark>			
Type Type			
Description			
Stack Status			
> Stack Parameters			
Stack Height (ft)			
Stack Diameter (ft)			
Exit Gas Temp (F)			
Exit Gas Velocity (fps)			
Exit Gas Flow Rate (acfm)			
> Geographic Coordina	ite		
Latitude			
Longitude			
Datum			
Accuracy (meters)			
Base Elevation (meters)			

#### **Certification:**

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.

Printed Name:	Title	Date	
Signature:	Phone number		

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**NOTE:** *This document must be certified in accordance with 18 AAC 50.345(j)* 

## **To Submit this report**:

- 1. Direct data entry for emission inventory can be done through the Air Online System (AOS) <a href="http://dec.alaska.gov/Applications/Air/airtoolsweb/">http://dec.alaska.gov/Applications/Air/airtoolsweb/</a>. A myAlaska account is needed to gain access and a profile needs to be set up in Permittee Portal OR
- 2. E-mail to: DEC.AQ.airreports@alaska.gov

Or

3. Mail to: ADEC

Air Permits Program

**ATTN: Emissions Inventory** 

555 Cordova Street

Anchorage, Alaska 99501

Or

4. Fax this form to: 907-269-7508

[18 AAC 50.346(b)(9)]

Emission Unit 05							
Specifications							
ID	05 Design Capacity 2.			2.75 MEGAWATTS	2 75 MEGAWATTS		
Description	Diesel Generator Engine No. 1		Emission Unit Status	Operating Intermittently			
Manufacturer	Electro-Motive Diesel	<u></u>	Manufactured Year	1967			
Model Number	20-645-E4		Serial Number	67-B1-1152			
Initial Startup Date	Installed 1967		Retired Date	Not Applicable			
Regulations							
Regulation/Description							
40 CFR 63 Subpart ZZZZ							
Control Equipment							
System Description	Not Applicable						
Control Measures/	Not Applicable						
Devices	Not Applicable						
Control Efficiency (%)	Not Applicable						
Capture Efficiency (%)	Not Applicable						
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable		
	Not Applicable			Reduction Efficiency (%)	Not Applicable		
Processes							
Process	Primary Process						
SCC Code	20100102						
	> Internal Combustion Eng	gines					
	> Electric Generation						
	> Distillate Oil (Diesel)						
	> Reciprocating						
Material Processed	Diesel		I				
Period Start	1/1/2019		Period End	12/31/2019			
Throughput			1				
Total	Γ	Summer %	Fall %	Winter %	Spring %		
29	gallons	0	100	0	0		
Operational Schedule		_	_				
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
0.0	0.0	0.0	1				
Fuel Characteristics							
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)				
133	0.0015	Not Applicable	Not Applicable				
Heating							
Heat Input (MMBtu/hr)		Heat Output (Megawatts	s)	Heat Values Convention			
6		Not Applicable		HHV			
Emissions							
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	0.85	POUNDS	MILLION BTUS	AP-42 Table 3.4-1	3.970E-02		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	3.2	POUNDS	MILLION BTUS	AP-42 Table 3.4-1	1.495E-01		
PM10 Primary (Filt +	0.0573	POUNDS	MILLION BTUS	AP-42 Table 3.4-2	2.676E-03		
Cond)(PM10-PRI)		-					
PM2.5 Primary (Filt +	0.0556	POUNDS	MILLION BTUS	AP-42 Table 3.4-2	2.597E-03		
Cond)(PM25-PRI) PM2.5 Filterable		1					
(PM25-FIL)	0.0479	POUNDS	MILLION BTUS	AP-42 Table 3.4-2	2.237E-03		
PM Condensable							
(PM-CON)	0.0077	POUNDS	MILLION BTUS	AP-42 Table 3.4-2	3.596E-04		
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	3.089E-06		
Volatile Organic							
Compounds(VOC)	8.2E-02	POUNDS	MILLION BTUS	AP-42 Table 3.4-1	3.825E-03		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	ı	ı	1	ı			

	Foriarion Unit OF					
	Emission Unit 05					
Process		Secondary Process				
SCC Code	Not Applicable					
	Not Applicable					
	Not Applicable					
	Not Applicable					
	Not Applicable					
Material Processed	Not Applicable					
Period Start	1/1/2019		Period End	12/31/2019		
Throughput		•				
Total		Summer %	Fall %	Winter %	Spring %	
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Operational Schedule						
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Fuel Characteristics						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ppmy)	(weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating						
Heat Input		Heat Output		Heat Values Convention		
Not Applicable		Not Applicable		Not Applicable		
Emissions		INOT Applicable		INOT Applicable		
	F	Tee at	ren	FF. C		
Pollutant	Emission Factor Not Applicable	EF Numerator	EF Denominator	EF Source	Tons Not Applicable	
Carbon Monoxide(CO)	- '	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM Condensable						
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic					• •	
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Release Points						
ID	Description			Туре	Apportion %	
05	Diesel Generator Engine I	No. 1		Vertical	100	
Release Point 05						
Specifications						
ID	05 Type Vertical					
escription Diesel Generator Engine No. 1						
Stack Parameters						
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	)	
18.25	3.33	950	25	13,180		
Geographic Coordinate						
Latitude	63.855217	Longitude	-148.948886	Datum	NAD 1983	
Base Elevation	1,260	Accuracy	1			
Location Description	Healy, AK	Retired Date	Not Applicable			
Data Source Engineering Estimate						

	Emission Unit 07				
Specifications					
ID	07		Dosign Canasity	314 tons	
Description	Limestone Storage Silo		Design Capacity Emission Unit Status	Not Operating	
Manufacturer	Not Available		Manufactured Year	Not Available	
Model Number			Serial Number	Not Available Not Available	
Initial Startup Date	Not Available Installed 1996		Retired Date	12/31/2018	
· · · · · · · · · · · · · · · · · · ·	Installed 1990		Netired Date	12/31/2016	
Regulations					
Regulation/Description					
Not Applicable					
Control Equipment					
System Description	Baghouse				
	Dust Suppression				
Devices	Fabric Filter/Baghouse				
	Not Applicable				
	Not Applicable				
	PM10 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-FI	L)		Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process				
SCC Code	30510205				
	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Storage	Bins			
	> Limestone				
Material Processed	Limestone				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
0	tons	0	0	0	0
Operational Schedule				<u>.</u>	
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.0	0.0	0.0	0		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
neat content	(weight %)	(ppmy)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	Not Applicable	Not Applicable	Not Applicable		
				Haat Values Commention	
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions	<u> </u>	I		1	1_
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	0.14	POUNDS	HOUR	Permit AQ0173TVP03,	0.000E+00
Cond)(PM10-PRI)				Table B	
PM2.5 Primary (Filt +	0.14	POUNDS	HOUR	Permit AQ0173TVP03,	0.000E+00
Cond)(PM25-PRI)				Table B	
PM2.5 Filterable	0.14	POUNDS	HOUR	Permit AQ0173TVP03,	0.000E+00
(PM25-FIL)				Table B	
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

	Fusicaion Unit 07					
	Emission Unit 07					
Process	Secondary Process					
SCC Code	Not Applicable					
	Not Applicable					
	Not Applicable					
	Not Applicable					
	Not Applicable					
Material Processed	Not Applicable					
Period Start	1/1/2019   Period End   12/31/2019					
Throughput				-		
Total		Summer %	Fall %	Winter %	Spring %	
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Operational Schedule						
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Fuel Characteristics						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ppmy)	(weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating		2.1. pp				
Heat Input		Heat Output		Heat Values Convention		
Not Applicable		Not Applicable		Not Applicable		
Emissions		INOT Applicable		INOT Applicable		
	F	TERM	lee Daniel 1	FF C		
Pollutant Carbon Monoxide(CO)	Emission Factor	EF Numerator Not Applicable	EF Denominator	EF Source	Tons Not Applicable	
	Not Applicable		Not Applicable	Not Applicable	<u> </u>	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM Condensable						
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic		• •		1		
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Release Points						
ID	Description			Туре	Apportion %	
07	Limestone Storage Silo			Downward-facing Vent	100	
Release Point 07						
Specifications						
ID	07 Type Downward-facing Vent					
Description Limestone Storage Silo						
Stack Parameters						
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)		
139	0.91	30	21	800		
Geographic Coordinate						
Latitude	63.854947	Longitude	-148.950628	Datum	NAD 1983	
Base Elevation	1,260	Accuracy	1	Datum	14UD 1303	
Location Description	Healy, AK	Retired Date	Not Applicable			
Data Source	Engineering Estimate	netireu Date	INOL Applicable			
Pata Junice Engineering Estimate						



PO Box 71249, Fairbanks, AK 99707-1249 • (907) 452-1151 • www.gvea.com

Your Touchstone Energy® Cooperative

April 24, 2020

Email Submittal DEC.AQ.airreports@alaska.gov

Alaska Department of Environmental Conservation Air Permits Program ATTN: Air Emissions Inventory 555 Cordova Street Anchorage, AK 99501

Subject: Golden Valley Electric Association – Healy Power Plant

**2019 Point Source Emission Inventory** 

Golden Valley Electric Association (GVEA) is submitting a 2019 Point Source Emission Inventory for the Healy Power Plant in accordance with Condition 139 of Air Quality Permit No. AQ0173TVP03.

The form provided in Section 17 of Air Quality Permit No. AQ0173TVP03 requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI); and
- PM2.5 Primary (Filt + Cond)(PM25-PRI).

Condition 139.4 and the form provided in Section 17 of Air Quality Permit No. AQ0173TVP03 mention both an excel template and guidance document available on the ADEC website at

http://dec.alaska.gov/Applications/Air/airtoolsweb/PointSourceEmissionInventory. The guidance document posted on the ADEC website requires reporting of:

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

The excel template posted ADEC website requires reporting of:

PM10 Primary (Filt + Cond)(PM10-PRI).

Due to the discrepancies between the permit, excel template, and guidance document, GVEA has chosen to report the following PM-related pollutants in the 2019 Point Source Emission Inventory.

- PM10 Primary (Filt + Cond)(PM10-PRI);
- PM2.5 Primary (Filt + Cond)(PM25-PRI);
- PM2.5 Filterable (PM25-FIL); and
- PM Condensable (PM-CON).

If you have any questions or would like any additional information please contact me by phone at 907-458-4557 or by email at <a href="mailto:nmknight@gvea.com">nmknight@gvea.com</a>. The certification from Frank E. Perkins, President of Power Supply, follows.

Sincerely,

Naomi Morton Knight, P.E. Environmental Officer

**Enclosures** 

# Certification

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.

Sincerely,

Frank E. Perkins Vice President of Power Supply

Stationary Source Detail					
Inventory Start Date	1/1/2019				
Inventory End Date	12/31/2019				
ADEC ID	173				
AFS ID	0229000002				
Census Area	Denali Borough (068)				
Name	Healy Power Plant				
Physical Location	Mile 2.5 Healy Spur Rd				
	Healy, AK 99743				
	Lat 63.85 Long -148	3.96			
	Legal Description: Not available				
Owner Name, Address,	Naomi Morton Knight, P.E.				
and Contact Number	Golden Valley Electric Association				
	PO Box 71249				
	Fairbanks, AK 99707-1249				
	907-458-4557				
Line of Business (NAICS)	221112				
Line of Business (SIC)	4911	1911			
Facility Status	Operating				
Facility Status Year	1967				

		Emissio	n Unit 01			
Specifications						
ID	01		Design Capacity	327 MILLION BTU PER HO	IIR	
Description	Unit No. 1		Emission Unit Status	Operating	-OR	
Manufacturer	Foster-Wheeler		Manufactured Year	Prior to 1967		
Model Number	Not Applicable		Serial Number	78-266		
Initial Startup Date	Installed November 1967		Retired Date	Not Applicable		
Regulations	mstaneu November 1507		Netired Date	Not Applicable		
Regulation/Description						
40 CFR 63 Subpart UUUUU						
Control Equipment						
System Description			On-Catalytic Reduction (SI	NCR), Dry Sorbent Injection (I	OSI), and Baghouse	
Control Measures/	Low NOx burners with OF					
Devices	SNCR to reduce NOx emiss					
	DSI to neutralize acid gase					
1 - 60 1 (-4)		nd remove the dry materia	generated by the DSI			
Control Efficiency (%)	99.9					
Capture Efficiency (%)	99.9				00.0	
Collectoreto Control II d	Particulate Matter			Reduction Efficiency (%)	99.9	
Pollutants Controlled	Sulfur Dioxide			Reduction Efficiency (%)	Not Available	
	Nitrogen Oxides (NOx)			Reduction Efficiency (%)	Not Available	
Processes						
Process	Primary Process					
SCC Code	10100224					
	> External Combustion Boilers					
	> Electric Generation					
	> Bituminous/Subbitumi	nous Coal				
	> Spreader Stoker (Subb	ituminous Coal)				
Material Processed	Coal					
Period Start	1/1/2019		Period End	12/31/2019		
Throughput						
Total		Summer %	Fall %	Winter %	Spring %	
146,690	Tons	23	22	29	25	
Operational Schedule						
	Hours/Day	Weeks/Period	Hours/Period			
6	20	44	7,387			
Fuel Characteristics			7,507			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
( <u>MMBtu/ton)</u> 14.3	(weight %) 0.156	(ppmv) Not Available	(weight %) 9.440			
	0.130	INOL AVAIIABLE	J.440			
Heating						
Heat Input (MMBtu/hr)		Heat Output (MMBtu/hr)		Heat Values Convention		
285		Not Applicable		HHV		
Emissions						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	246.2	POUNDS	HOUR	CEMS	9.093E+02	
Ammonia (NH3)	0.011	POUNDS	MILLION BTUS	Engineering Test	1.157E+01	
Nitrogen Oxides(NOX)	54.9	POUNDS	HOUR	CEMS	2.028E+02	
PM10 Primary (Filt +	0.9	POUNDS	HOUR	CEMS	3.324E+00	
Cond)(PM10-PRI)				221110	J.JE 12 . 00	
PM2.5 Primary (Filt +	0.9	POUNDS	HOUR	CEMS	3.324E+00	
Cond)(PM25-PRI)		- 33		1		
PM2.5 Filterable	0.9	POUNDS	HOUR	CEMS	3.324E+00	
PM25-FIL)	0.5	. 551105		CLITIS	3.327L 100	
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available	
PM-CON)	NOT AVAIIANIE	NOT AVAIIANIE	ITOL AVAIIANIE	- TOL AVAIIANIE	TOT Available	
Sulfur Dioxide(SO2)	75.5	POUNDS	HOUR	CEMS	2.789E+02	
Lead and lead compounds	0.00042	POUNDS	TON	AP-42 Table 1.1-18	3.080E-02	
Volatile Organic Compounds(VOC)	0.06	POUNDS	TON	AP-42 Table 1.1-19	4.401E+00	

		Emissi	on Unit 01		
Process	Secondary Process				
SCC Code	10100501				
500 0000	> External Combustion B	oilers			
	> Electric Generation	Olicis			
	> Distillate Oil - Grades	1 and 2			
	> Boiler	1 4110 2			
Material Processed	Distillate Oil				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput	1/1/2019		renou Liiu	12/31/2019	
		C.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Fall 0/	Mintor 9/	Carina 9/
Total 116,247	gallons	Summer % 61	Fall %	Winter %	Spring %
-	Iganions	01	/	[20	12
Operational Schedule	I				
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.04	0.15	0.3	54		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(MMBtu/1,000 gal)	(weight %)	(ymqq)	(weight %)		
133	0.0015	Not Available	Not Available		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/h	r)	<b>Heat Values Convention</b>	
285		Not Applicable		HHV	
Emissions				·	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	246.2	POUNDS	HOUR	CEMS	6.703E+00
Ammonia (NH3)	0.011	POUNDS	MILLION BTUS	Engineering Test	8.532E-02
Nitrogen Oxides(NOX)	54.9	POUNDS	HOUR	CEMS	1.495E+00
PM10 Primary (Filt +				AP-42 Tables 1.3-2 and	
Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	1.3-7	1.337E-01
PM2.5 Primary (Filt +				AP-42 Tables 1.3-2 and	
Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	1.3-7	9.009E-02
PM2.5 Filterable					
(PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	1.453E-02
PM Condensable					
(PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	7.556E-02
Sulfur Dioxide(SO2)	75.5	POUNDS	HOUR	CEMS	2.055E+00
Lead and lead compounds					
zeau ana ieuu compounus	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	5.231E-07
Volatile Organic					
Compounds(VOC)	0.2	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	1.162E-02
Release Points					
ID	Description			Туре	Apportion %
01	Unit No. 1			Vertical	100
01	Omt No. 1		- D-1-1-04	vertical	1100
		Releas	se Point 01		
Specifications					
	01		Туре	Vertical	
Description	Unit No. 1				
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	
122	7	294	58	135,460	
Geographic Coordinate	1.	-JT	136	1133,400	
Latitude	63.854831	Longitude	-148.950006	Datum	NAD 1002
Base Elevation			1	Datum	NAD 1983
	1,260	Accuracy			
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Source Test				

		Fmissic	on Unit 02		
Cuasifications		Lillissic	on onit oz		
Specifications					
ID	02		Design Capacity	658 MILLION BTU PER HO	UR
Description	Unit No. 2		Emission Unit Status	Operating	
Manufacturer	TRW		Manufactured Year	1996	
Model Number	Not Applicable		Serial Number	1	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 60 Subpart Da, 40 C	FR 63 Subpart UUUUU				
Control Equipment					
System Description	Spray Dry Absorber (SDA),	Selective Catalytic Reduct	tion, and Baghouse		
Control Measures/	SDA to neutralize acid gas	es including SO <sub>2</sub> and HCl			
Devices	SCR to reduce NOx emission				
	Baghouse to control PM a	nd remove the dry materia	al generated by the SDA		
Control Efficiency (%)	100				
Capture Efficiency (%)	100				
	Particulate Matter			Reduction Efficiency (%)	99.95
Pollutants Controlled	Nitrogen Oxides (NOx)			Reduction Efficiency (%)	Not Available
	Sulfur Dioxide			Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process				
SCC Code	10100221				
	> External Combustion Bo	ilers			
	> Electric Generation				
	> Bituminous/Subbitumin	nous Coal			
	> Pulverized Coal: Wet B	ottom			
Material Processed	Coal				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
180,524	tons	31	24	31	15
Operational Schedule		•			
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
5	17	36	6,044		
Fuel Characteristics		100	10,0		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
		(ppmv)			
(MMBtu/ton) 14.4	(weight %) 0.147	Not Available	(weight %) 9.080		
Heating	V.1-7/	THE AVAILABLE	J.300		
		Hoot Outrot (BARADL /		Hoot Values Comments	
Heat Input (MMBtu/hr) 430		Heat Output (MMBtu/hr		Heat Values Convention HHV	
		Not Applicable		пПν	
Emissions	Fundanian Fundan	EE Nome - 1	FF Dame of the last	FF Course	T
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	2.1	POUNDS	HOUR	CEMS	6.346E+00
Ammonia (NH3)	4.12E-04	POUNDS	MILLION BTU	December 2019 Source	5.354E-01
· ·				Test	
Nitrogen Oxides(NOX)	23.0	POUNDS	HOUR	CEMS	6.950E+01
PM10 Primary (Filt +	3.160	POUNDS	HOUR	CEMS	9.549E+00
Cond)(PM10-PRI)					
PM2.5 Primary (Filt +	3.160	POUNDS	HOUR	CEMS	9.549E+00
Cond)(PM25-PRI) PM2.5 Filterable					
	3.160	POUNDS	HOUR	CEMS	9.549E+00
(PM25-FIL) PM Condensable		1			
	Not Available	Not Available	Not Available	Not Available	Not Available
(PM-CON) Sulfur Dioxide(SO2)	20.2	POUNDS	HOUR	CEMS	6.104E+01
	20.2	FOUNDS	HOUK	CEIVIO	0.1046701
	0.00042	POUNDS	TON	AP-42 Table 1.1-18	3.791E-02
Volatile Organic Compounds(VOC)	0.04	POUNDS	TON	AP-42 Table 1.1-19	3.610E+00

		Emissio	on Unit 02			
Dunance	Casandam, Director	LIIII3310	III OIII OZ			
Process	Secondary Process					
SCC Code	10100501					
	> External Combustion Bo	oliers				
	> Electric Generation	and 3				
	> Distillate Oil - Grades 1	and 2				
Material Dunescool	> Boiler					
Material Processed	Distillate Oil		Davie d Ford	12/21/2010		
Period Start	1/1/2019		Period End	12/31/2019		
Throughput		1	I=	lane and	1	
Total	T	Summer %	Fall %	Winter %	Spring %	
986,566	gallons	30	25	27	19	
Operational Schedule						
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
0.2	0.8	1.8	306			
Fuel Characteristics						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)			
133	0.0015	Not Available	Not Available			
Heating						
Heat Input (MMBtu/hr)		Heat Output (MMBtu/hr)		Heat Values Convention		
430		Not Applicable		HHV		
Emissions				1		
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	2.1	POUNDS	HOUR	CEMS	3.214E-01	
carbon Wonoxide(co)	2.1	1001103	TICON.	December 2019 Source	3.2142 01	
Ammonia (NH3)	4.12E-04	POUNDS	MILLION BTU	Test	2.712E-02	
Nitrogen Oxides(NOX)	23.0	POUNDS	HOUR	CEMS	3.520E+00	
PM10 Primary (Filt + Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	1.135E+00	
PM2.5 Primary (Filt + Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and 1.3-7	7.646E-01	
PM2.5 Filterable (PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	1.233E-01	
PM Condensable (PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	6.413E-01	
Sulfur Dioxide(SO2)	20.2	POUNDS	HOUR	CEMS	3.092E+00	
Lead and lead compounds			11001		3.032L100	
•	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	4.440E-06	
Volatile Organic Compounds(VOC)	0.2	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	9.866E-02	
Release Points						
ID	Description		<u> </u>	Туре	Apportion %	
02	Unit No. 2			Vertical	100	
		Release	Point 02			
Specifications						
ID	02		Туре	Vertical		
Description	Unit No. 2					
Stack Parameters						
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)		
315	8	208	84.2	253,943		
Geographic Coordinat	ļ-			-,		
Latitude	63.854183	Longitude	-148.951639	Datum	NAD 1983	
Base Elevation	1,260	Accuracy	1	Datuiii	INUD 1303	
Location Description	Healy, AK	Retired Date	Not Applicable			
·		netired Date	INOL Applicable			
Data Source	Source Test					

		Emissi	ion Unit 03		
Specifications					
ID	03		Design Canasity	12.554 MILLION BTU PER	HOLIB
Description	Auxiliary Heater No. 1		Design Capacity Emission Unit Status	Operating	HOUK
Manufacturer	Cleaver-Brooks		Manufactured Year	1967	
Model Number	CB 189-300		Serial Number	L-39759	
Initial Startup Date	Installed 1967		Retired Date	Not Applicable	
Regulations	mistanca 1507		netired bate	Not Applicable	
Regulation/Description					
40 CFR 63 Subpart JJJJJJ					
Control Equipment	Nat Ameliants				
System Description Control Measures/	Not Applicable				
	Not Applicable Not Applicable				
Devices Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable			Poduction Efficiency (%)	Not Applicable
Pollutants Controlled				Reduction Efficiency (%) Reduction Efficiency (%)	Not Applicable
Dunganan	Not Applicable			neduction efficiency (%)	INOT Applicable
Processes	D				
Process	Primary Process				
SCC Code	10200502				
	> External Combustion B	oilers			
	> Industrial				
	> Distillate Oil				
	> 10-100 Million Btu/hr				
Material Processed	Distillate Oil		I	1.2 (2.1 (2.1 )	
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total	1	Summer %	Fall %	Winter %	Spring %
12,857	gallons	2	48	2	48
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.3	1.2	2.6	437		
<b>Fuel Characteristics</b>					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)		
133	0.0015	Not Available	Not Available		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/h	nr)	Heat Values Convention	
4		Not Applicable	,	HHV	
Emissions				1	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	3.214E-02
Ammonia (NH3) Nitrogen Oxides(NOX)	Not Available 20	Not Available POUNDS	Not Available THOUSAND GALLONS	Not Available AP-42 Table 1.3-1	Not Available 1.286E-01
PM10 Primary (Filt +		FOONDS	IIIOOSAND GALLONS	AP-42 Tables 1.3-2 and	1.2001-01
Cond)(PM10-PRI)	2.3	POUNDS	THOUSAND GALLONS	1.3-7	1.479E-02
PM2.5 Primary (Filt +				AP-42 Tables 1.3-2 and	
Cond)(PM25-PRI)	1.55	POUNDS	THOUSAND GALLONS	1.3-7	9.964E-03
PM2.5 Filterable					
(PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	1.607E-03
PM Condensable					
(PM-CON)	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	8.357E-03
Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	1.369E-03
Lead and lead compounds					
	9	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	5.786E-11
Volatile Organic Compounds(VOC)	0.34	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	2.186E-03

		Emissi	on Unit 03		
Process	Secondary Process				
SCC Code	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
Material Processed	Not Applicable				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput	1-7-7-0-0			//	
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NOT Applicable
	Hours/Day	Wooks/Doriod	Hours/Period		
Days/Week	Hours/Day	Weeks/Period			
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	1	T			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/h	ır)	Heat Values Convention	on
Not Applicable	<u> </u>	Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	• • •	11		• •	
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt +	ALLE A COPCOST	No. 1 A collection	Alice A collection	ALL ALL PLAN	N
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable					
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds		1			
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	ALLE A COPCOST	No. 1 A collection	Alice A collection	ALL ALL PLAN	N
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Туре	Apportion %
03	Auxiliary Heater No. 1			Vertical	100
US	MUXIIIAI Y FIERLET NO. 1	5.1	n Daint 02	vertical	1100
		Keleas	se Point 03		
Specifications					
ID	03		Туре	Vertical	
Description	Auxiliary Heater No. 1				
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (ac	fm)
85	1.9	450	21	3,600	IIII)
		TJU	<b>C</b> 1	3,000	
Geographic Coordinat			440.00046		
Latitude	63.854883	Longitude	-148.950131	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate				

		Fmissi	on Unit 04		
Specifications		Lilia	J. Jille J.		
	04		Danies Comanites	22 MILLION BTU BER LIO	In .
ID Description	Auxiliary Heater No. 2		Design Capacity Emission Unit Status	23 MILLION BTU PER HOUR Operating	
Manufacturer	Cleaver-Brooks		Manufactured Year	1996	
Model Number	CBI 100-800-15		Serial Number	OLO94777	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations	Inistaneu 1550		Netired Date	Not Applicable	
Regulation/Description 40 CFR 60 Subpart Dc and	40 CED 63 Submont IIIII				
Control Equipment	40 CFK 65 Subpart IIIIII				
System Description	Not Applicable				
Control Measures/	Not Applicable				
Devices	Not Applicable				
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable
- Unitality Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable
Processes					
Process	Primary Process				
SCC Code	10200502				
	> External Combustion Bo	ilers			
	> Industrial				
	> Distillate Oil				
	> 10-100 Million Btu/hr				
Material Processed	Distillate Oil				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
40,339	gallons	0	51	44	5
Operational Schedule				•	
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.4	1.2	2.7	449		
Fuel Characteristics	•	*			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)		
133	0.0015	Not Available	Not Available		
Heating	1				
Heat Input (MMBtu/hr)		Heat Output (MMBtu/h	r)	Heat Values Convention	
12		Not Applicable	• /	HHV	
Emissions				1	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	5	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	1.008E-01
Ammonia (NH3)	Not Available	Not Available	Not Available	Not Available	Not Available
Nitrogen Oxides(NOX)	20	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-1	4.034E-01
PM10 Primary (Filt +	2.3	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and	4.639E-02
Cond)(PM10-PRI)		. 50,125	OGGALID GALLONG	1.3-7	
PM2.5 Primary (Filt +	1.55	POUNDS	THOUSAND GALLONS	AP-42 Tables 1.3-2 and	3.126E-02
Cond)(PM25-PRI) PM2.5 Filterable				1.3-7	
(PM25-FIL)	0.25	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-7	5.042E-03
PM Condensable	1.3	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-2	2.622E-02
(PM-CON) Sulfur Dioxide(SO2)	2.1E-04	POUNDS	GALLON	Mass Balance	4.296E-03
Lead and lead compounds	g	POUNDS	BILLION GALLONS	AP-42 Table 1.3-10	1.815E-10
Volatile Organic		. 501155	DILLION GALLONS	71 42 IGNIC 1:3-10	1.0101-10
Compounds(VOC)	0.34	POUNDS	THOUSAND GALLONS	AP-42 Table 1.3-3	6.858E-03

		Fmissi	ion Unit 04		
Dunana	Casandan, Drassa	LIIIISS	ion onit 04		
Process SCC Code	Secondary Process Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable  Not Applicable				
	Not Applicable				
	Not Applicable				
	1/1/2019		Period End	12/31/2019	
	1/1/2019		reliou Liiu	12/31/2019	
Throughput		C	F-11.0/	14/:	Consider 0/
Total	Nat Ameliants	Summer %	Fall %	Winter %	Spring % Not Applicable
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule		I			
, -	Hours/Day	Weeks/Period	Hours/Period		
	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics		•			
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input (MMBtu/hr)		Heat Output (MMBtu/h	nr)	Heat Values Convent	ion
Not Applicable		Not Applicable	•	Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
- 1	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI) PM2.5 Primary (Filt +					
• •	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI) PM2.5 Filterable					
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Leau and leau compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic					
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Typo	Annortion 9/
				Type	Apportion %
04	Auxiliary Heater No. 2			Vertical	100
		Releas	se Point 04		
Specifications					
•	04		Туре	Vertical	
	Auxiliary Heater No. 2		. 11		
Stack Parameters					
	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	cfm)
	1.9	450	25	4,269	Cillij
		טנדן	123	<del>-</del> 7,203	
Geographic Coordinate			440.00445		
	63.854956	Longitude	-148.951181	Datum	NAD 1983
	1,260	Accuracy	1		
Location Description	Healy, AK Engineering Estimate	Retired Date	Not Applicable		
Data Source					

		Fmissi	on Unit 05		
Specifications			J J		
	05		Danieu Causaitu	2.75 MEGAWATTS	
ID Description	Diesel Generator Engine N	lo 1	Design Capacity Emission Unit Status	Not Operating	
Manufacturer	Electro-Motive Diesel	10. 1	Manufactured Year	1967	
Model Number	20-645-E4		Serial Number	67-B1-1152	
Initial Startup Date	Installed 1967		Retired Date	Not Applicable	
Regulations	mstaneu 1507		Retired Date	Not Applicable	
Regulation/Description 40 CFR 63 Subpart ZZZZ					
Control Equipment	Niak Awaliashia				
	Not Applicable  Not Applicable				
	Not Applicable  Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable			Reduction Efficiency (%)	Not Applicable
POULITANTS CONTROLLED	Not Applicable			Reduction Efficiency (%)	Not Applicable
Processes	THE APPLICABIC			incurrent Efficiency (70)	
	Drimany Draces				
Process SCC Code	Primary Process 20100102				
SCC Code	> Internal Combustion Eng	inos			
	> Electric Generation	Silies			
	> Distillate Oil (Diesel)				
	> Reciprocating				
Material Processed	Diesel				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput	1,1,2013		i ciloù Lilu	12,31,2013	
Total		Summer %	Fall %	Winter %	Spring %
	gallons	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	Igalions	INOL Applicable	Not Applicable	Not Applicable	Not Applicable
•	Harris /Darr	Maralar/Daviad	Harris / Barria d		
	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable Fuel Characteristics	Not Applicable	Not Applicable	Not Applicable		
			Ta		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
(MMBtu/1,000 gal)	(weight %)	(ppmv)	(weight %)		
• •	Not Applicable	Not Applicable	Not Applicable		
Heating				1	
Heat Input (MMBtu/hr)		Heat Output (Megawatt	is)	Heat Values Convention	
Not Applicable		Not Applicable		HHV	
Emissions		I	T :	T	_
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI)					
PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI) PM2.5 Filterable		1			
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic		Not Applicable	Not Applicable		
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

		Emissi	ion Unit 05				
Durana	Canadam B	EIIIISSI	טווו טווונ ט				
Process	Secondary Process						
SCC Code	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
Material Processed	Not Applicable		I				
Period Start	1/1/2019		Period End	12/31/2019			
Throughput							
Total		Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Fuel Characteristics		<del> </del>					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Heating	INOC Applicable	I tot Applicable	Not Applicable				
		Used Outrook		Heat Values Commentie	_		
Heat Input		Heat Output		Heat Values Conventio	on		
Not Applicable		Not Applicable		Not Applicable			
Emissions	1	1					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensable							
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic			• • • • • • • • • • • • • • • • • • • •				
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Release Points							
ID	Description			Туре	Apportion %		
05	Diesel Generator Engine	No. 1		Vertical	100		
		Releas	se Point 05				
Specifications							
ID	05		Туре	Vertical			
Description	Diesel Generator Engine	No. 1					
Stack Parameters							
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acf	im)		
18.25	3.33	950	25	13,180			
Geographic Coordinat		[ =		, -,			
Latitude	63.855217	Longitude	-148.948886	Datum	NAD 1983		
Base Elevation	1,260	Accuracy	1	Dutum	1.470 1303		
Location Description	Healy, AK	Retired Date	Not Applicable				
•	•	netired Date	140t Applicable				
Data Source	Engineering Estimate						

		Emissi	on Unit 06		
Specifications					
ID	06		Design Capacity	400 ton/hr	
Description	Crusher System (Dust Coll	ector No. 1)	Emission Unit Status	Operating	
Manufacturer	Not Available Manufactured Year Not Available				
Model Number	Not Available Serial Number 885247 (Secondary Crus				er No. 1)
				844034 (Secondary Crush	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	E1 140. 2)
Regulations	Inistanca 1550		nemed bate	Пострыналь	
Regulation/Description					
40 CFR 60 Subpart Y					
Control Equipment					
System Description	Dust Collector No. 1				
Control Measures/	Fabric Filter/Baghouse				
Devices (at)	M. J. A 9. I. I.				
Control Efficiency (%)	Not Available				
Capture Efficiency (%)	Not Available	1		Deduction Fff day (cf)	Net Aveilehi-
Pollutants Controlled	PM10 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	
D	PM2.5 Filterable (PM25-FI	L)		Reduction Efficiency (%)	Not Available
Processes	T				
Process	Primary Process				
SCC Code	30510103				
	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Conveyo	ors			
	> Coal				
Material Processed	Coal				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
327,213	tons	24	27	31	17
Operational Schedule				·	
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
2.0	6.9	14.9	2,510		
Fuel Characteristics			1,7		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
rieat content	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	itot Applicable	INOT Applicable	Not Applicable		
		Unit Outside		Hant Values Commention	
Heat Input		Heat Output Not Applicable		Heat Values Convention Not Applicable	
Not Applicable		Not Applicable		Not Applicable	
Emissions		I		I	L
	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	2.05	POUNDS	HOUR	Permit AQ0173TVP03,	2.572E+00
Cond)(PM10-PRI)				Table B	
PM2.5 Primary (Filt +	2.05	POUNDS	HOUR	Permit AQ0173TVP03,	2.572E+00
Cond)(PM25-PRI)				Table B	-107-117-00
PM2.5 Filterable	2.05	POUNDS	HOUR	Permit AQ0173TVP03,	2.572E+00
(PM25-FIL)	2.03	1001103	HOOK	Table B	2.3722.00
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)	IAOL Whhiiranis	Not Applicable	Not Applicable	NOT Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

		Fusicaia	n Unit OC				
	S	Emissio	n Unit 06				
Process	Secondary Process						
SCC Code	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
	Not Applicable						
Material Processed	Not Applicable		1	10/04/0040			
Period Start	1/1/2019		Period End	12/31/2019			
Throughput		T	I	I	T		
Total	I	Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Fuel Characteristics							
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Heating	•	-					
Heat Input		Heat Output		Heat Values Convention			
Not Applicable		Not Applicable		Not Applicable			
Emissions		Not Applicable		Not Applicable			
	Emission Factor	EF Numerator	IFF Danaminatan	FF C	I		
Pollutant Carbon Monoxide(CO)	Not Applicable	Not Applicable	EF Denominator Not Applicable	EF Source Not Applicable	Tons Not Applicable		
	•	•		•	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic							
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM Condensable (< 1 Micron)(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Release Points							
ID	Description			Туре	Apportion %		
06	Crusher System (Dust Col	llector No. 1)		Downward-facing Vent	100		
			Point 06				
Specifications							
ID	06		Туре	Downward-facing Vent			
Description	Crusher System (Dust Col	lector No. 1)					
Stack Parameters							
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)			
13	3.08	30	27	12,000			
Geographic Coordinate			ı = -	,000			
		Lauaituda	140 040025	Detum	NAD 1002		
Latitude	63.855014	Longitude	-148.949925	Datum	NAD 1983		
Base Elevation	1,260	Accuracy	1				
Location Description	Healy, AK	Retired Date	Not Applicable				
Data Source	Engineering Estimate						

		Fmics	ion Unit 07		
Specifications		LIIII33			
•	0.7		Design Consolts	24.4 +	
Docement on	1 importante Standard Cile		Design Capacity	314 tons	
Description Manufacturer	Limestone Storage Silo		Emission Unit Status	Operating Not Available	
	Not Available		Manufactured Year		
Model Number	Not Available		Serial Number	Not Available	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
Not Applicable					
Control Equipment					
System Description	Baghouse				
Control Measures/	Dust Suppression				
Devices	Fabric Filter/Baghouse				
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable				
	PM10 Primary (Filt + Cond	(k		Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-F	•		Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process				
SCC Code	30510205				
JUL COUL	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Storage	Rine			
	> Limestone	Dillo			
Material Processed					
Period Start	Limestone 1/1/2019		Period End	12/31/2019	
	1/1/2019		Period Elid	12/31/2019	
Throughput		T=	I	land and	I
Total	I.	Summer %	Fall %	Winter %	Spring %
0	tons	31	24	29	16
Operational Schedule	T	_			
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
5.1	17.4	37.8	6357		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	<b>H2S Sulfur Content</b>	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
	Not Applicable	Not Applicable		Not Applicable	
Carbon Monoxide(CO)			Not Applicable		Not Applicable Not Applicable
Ammonia (NH3) Nitrogen Oxides(NOX)	Not Applicable Not Applicable	Not Applicable			
	иот Аррисаріе	NOT Applicable	NOT Applicable	Permit AQ0173TVP03,	Not Applicable
PM10 Primary (Filt +	0.14	POUNDS	HOUR		4.450E-01
Cond)(PM10-PRI)				Table B Permit AQ0173TVP03,	
PM2.5 Primary (Filt +	0.14	POUNDS	HOUR		4.450E-01
Cond)(PM25-PRI)				Table B	
PM2.5 Filterable	0.14	POUNDS	HOUR	Permit AQ0173TVP03,	4.450E-01
(PM25-FIL)		1		Table B	
PM Condensable	Not Available				
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable				
Volatile Organic	Not Applicable				
Compounds(VOC)		2.1.1pp			
Lead and lead compounds	Not Applicable				

		<u>_</u>						
		Emiss	ion Unit 07					
Process	Secondary Process							
SCC Code	Not Applicable							
	Not Applicable							
	Not Applicable							
	Not Applicable							
	Not Applicable							
Material Processed	Not Applicable							
Period Start	1/1/2019		Period End	12/31/2019				
Throughput								
Total		Summer %	Fall %	Winter %	Spring %			
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Operational Schedule	,	1						
Days/Week	Hours/Day	Weeks/Period	Hours/Period					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Fuel Characteristics	ivot Applicable	ivot Applicable	Not Applicable					
	Flam Cultur Cultur	uac cultura con trans	Ash Canta I					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content					
ALLE A Proc. L. P.	(weight %)	(ppmv)	(weight %)					
Not Applicable	Not Applicable	Not Applicable	Not Applicable					
Heating		_		1				
Heat Input		Heat Output		Heat Values Convention				
Not Applicable		Not Applicable		Not Applicable				
Emissions								
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons			
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM10 Primary (Filt +	Alan Alan Parkita	ALLE ALLES ALLES	No. 10 and the late	Alan Alan Parable	Alex A collected			
Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Primary (Filt +	Alan Alan Parkita	No. 1 A collected	No. 1 April 2 and 1	Alan Alan Parkita	Alexa Alexa Production			
Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM2.5 Filterable	Alan Alan Pardala	ALLE ALLES ALLES	No. 1 A collected	ALLE A LEPTER	Alan Alan Parkita			
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
PM Condensable	Alan Alan Partit	AL	No. A. albahla	Alan Alan Parkita	Alan Alan Parkita			
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Volatile Organic				••				
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
	Not Applicable	Not Applicable	Net Appliechie	Not Applicable	Not Applicable			
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Release Points								
ID	Description			Туре	Apportion %			
07	Limestone Storage Silo			Downward-facing Vent	100			
		Releas	se Point 07					
Specifications								
	07		Туре	Downward-facing Vent				
Description	Limestone Storage Silo		1.16.	- samuel a labelly velice				
Stack Parameters								
	Stack Diameter (ft)	Evit Cos Town (F)	Evit Gos Volositu (fr)	Evit Cas Flour Data (aufur)				
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)				
139	0.91	30	21	800				
Geographic Coordinate		1						
Latitude	63.854947	Longitude	-148.950628	Datum	NAD 1983			
Base Elevation	1,260	Accuracy	1					
Location Description	Healy, AK	Retired Date	Not Applicable					
Data Source	Engineering Estimate							

		Emiss	ion Unit 08		
Specifications		EIIIISS	IOII OIIIL OO		
•	laa		·	T	
ID Danamintian	O8		Design Capacity	570 tons	
Description	Flyash Storage Silo		Emission Unit Status	Operating	
Manufacturer	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	Not Available	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
Not Applicable					
Control Equipment					
System Description	Pulse Jet Baghouse				
Control Measures/	Dust Suppression				
Devices	Fabric Filter/Baghouse				
Control Efficiency (%)	Not Available				
Capture Efficiency (%)	Not Available				
,,,	PM10 Primary (Filt + Cond	d)		Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-F	·		Reduction Efficiency (%)	Not Available
Processes				, (,-1	
Process	Primary Process				
SCC Code	30181003				
SCC Code	> Industrial Processes				
	> Chemical Manufacturir				
	> General Processes	ı <u>g</u>			
Material Processed	> Storage/Transfer				
	Flyash		Period End	12/31/2019	
Period Start	1/1/2019		Period End	12/31/2019	
Throughput		T	1		T
Total	I	Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	32	23	29	16
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
5.1	17.4	37.8	6,350		
Fuel Characteristics			·		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ymqq)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions		INOT Applicable		1110t Applicable	
Pollutant	Emission Faster	EE Numerater	EF Denominator	EF Source	Tons
	Emission Factor	EF Numerator			Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable Permit AQ0173TVP03,	Not Applicable
PM10 Primary (Filt +	0.86	POUNDS	HOUR		2.730E+00
Cond)(PM10-PRI)		1		Table B	
PM2.5 Primary (Filt +	0.86	POUNDS	HOUR	Permit AQ0173TVP03,	2.730E+00
Cond)(PM25-PRI)		1		Table B	
PM2.5 Filterable	0.86	POUNDS	HOUR	Permit AQ0173TVP03,	2.730E+00
(PM25-FIL)		-		Table B	
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)			. tot rippiicubic		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

		Fmiss	ion Unit 08		
Drococc	Cocondary Drococc	LIIII33	ion onit oo		
Process SCC Code	Secondary Process Not Applicable				
SCC Code	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
Material Processed					
Period Start	Not Applicable 1/1/2019		Period End	12/31/2019	
	1/1/2019		Period End	12/31/2019	
Throughput		6	le Hot	145 . 1 0/	le
Total	la a	Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	1				
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating		·	· ·		
Heat Input		Heat Output		Heat Values Conventi	on
Not Applicable		Not Applicable		Not Applicable	
Emissions		1		1	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
• •	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI) PM2.5 Primary (Filt +					
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI) PM2.5 Filterable					
(PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable		Пос Аррисавіе	Not Applicable	
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points			_		
ID	Description			Туре	Apportion %
08	Flyash Storage Silo			Horizontal	100
UU .	i iyasii storage siio	D.1	an Daint OC	Intolizonial	1100
		Releas	se Point 08		
Specifications					
	08		Туре	Horizontal	
Description	Flyash Storage Silo				
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (ac	·fm)
100	0.91	30	128	5,000	
Geographic Coordinate		130	120	13,000	
Latitude	63.855036	Longitude	-148.951444	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1	Datuiii	INAD 1303
Location Description	Healy, AK	Retired Date	Not Applicable		
Data Source	Engineering Estimate	ותכנווכט שמנפ	INUL Applicable		
Data Source	Lingingering Estimate				

		Fmissio	on Unit 09		
Specifications		Lillissic	JII JIIIC 03		
•	00		D	I so	
Description	69 Biggs Biggs Barrets Hans	lling Custom	Design Capacity	50 tons	
Description Manufacturer	Sodium Bicarbonate Hand	lling System	Emission Unit Status	Operating	
	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	Not Available	
Initial Startup Date	Installed 1998		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 60 Subpart OOO					
Control Equipment					
System Description	Horizon System 58-SF-16	Style II Pulse Air Baghouse			
Control Measures/	Fabric Filter/Baghouse				
Devices					
Control Efficiency (%)	Not Available				
Capture Efficiency (%)	Not Available				
, , ,	PM10 Primary (Filt + Cond	1)		Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-F	•		Reduction Efficiency (%)	Not Available
Processes				1,1,-1	
Process	Primary Process				
SCC Code	30181003				
Sec coue	> Industrial Processes				
	> Chemical Manufacturin	~			
	> General Processes	<u> </u>			
Matarial Duanand	> Storage/Transfer				
Material Processed	Sodium Bicarbonate		Davie d Ford	12/21/2010	
Period Start	1/1/2019		Period End	12/31/2019	
Throughput		T	1		
Total	T	Summer %	Fall %	Winter %	Spring %
2111	tons	19	27	29	25
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
0.1	0.3	0.7	123		
Fuel Characteristics			·		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ymqq)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions		I tot Applicable		I vot Applicable	
	Funissian Fasta:	FF Normanata:	CC Denominator	FF Course	Toma
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons Not Applicable
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3) Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable Not Applicable	Not Applicable
_ , ,	Not Applicable	Not Applicable	Not Applicable DRY STANDARD CUBIC	NOT Applicable	Not Applicable
PM10 Primary (Filt +	0.02	GRAINS		<b>Design Specifications</b>	4.620E-03
Cond)(PM10-PRI)			FOOT	•	
PM2.5 Primary (Filt +	0.02	GRAINS	DRY STANDARD CUBIC	<b>Design Specifications</b>	4.620E-03
Cond)(PM25-PRI)			FOOT	-	
PM2.5 Filterable	0.02	GRAINS	DRY STANDARD CUBIC	Design Specifications	4.620E-03
(PM25-FIL)			FOOT		
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available
(PM-CON)					
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Compounds(VOC)	. pp :=====		Phusana	Ph	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

		Fmissi	on Unit 09				
Process	Cocondary Drococs	Lillissi					
SCC Code	Secondary Process Not Applicable						
SCC Code	Not Applicable						
	Not Applicable						
	Not Applicable						
Managial Dunganan	Not Applicable						
Material Processed	Not Applicable		D. 2. 45. 4	42/24/2040			
Period Start	1/1/2019		Period End	12/31/2019			
Throughput		I	I=	I.a	Ta		
Total	I	Summer %	Fall %	Winter %	Spring %		
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Operational Schedule							
Days/Week	Hours/Day	Weeks/Period	Hours/Period				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Fuel Characteristics							
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content				
	(weight %)	(ppmv)	(weight %)				
Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Heating	•	•	•				
Heat Input		Heat Output		Heat Values Convention			
Not Applicable		Not Applicable		Not Applicable			
Emissions		1.1007.166.100					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons		
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
PM10 Primary (Filt +	NOT Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Cond)(PM10-PRI) PM2.5 Primary (Filt +							
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Cond)(PM25-PRI) PM2.5 Filterable							
(PM25-FIL)							
PM Condensable							
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Volatile Organic	NOT Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Release Points							
ID	Description			Туре	Apportion %		
09	Sodium Bicarbonate Hand	lling System		Downward-facing Vent	100		
			e Point 09				
Specifications							
ID .	09		Туре	Downward-facing Vent			
Description	Sodium Bicarbonate Hand	lling System					
Stack Parameters		G - 1					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm)			
	0.45	30	46	440			
58 Geographic Coordinate	•	<b> 30</b>	40	1440			
Latitude	63.854619	Longitude	-148.950214	Datum	NAD 1983		
Base Elevation	1,260	Accuracy	1				
Location Description	Healy, AK	Retired Date	Not Applicable				
Data Source	Engineering Estimate						
	, , ,						

		Fmiss	ion Unit 10		
Specifications		LIIII33	IOIT OTHE TO		
			- · · ·	200	
	10	at Callagta (Na. 2)	Design Capacity	240 ton/hr	
Description Manufacturer	Coal Handling System (Du	st Collector No. 2)	Emission Unit Status	Operating	
	Not Available		Manufactured Year	Not Available	
Model Number	Not Available		Serial Number	Not Available	
Initial Startup Date	Installed 1996		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 60 Subpart Y					
Control Equipment					
System Description	Air-Cure Environmental, I	nc 276RF8 Reverse Pulse	Baghouse		
Control Measures/	Fabric Filter/Baghouse				
Devices					
Control Efficiency (%)	Not Available				
Capture Efficiency (%)	Not Available				
	PM10 Primary (Filt + Cond	i)		Reduction Efficiency (%)	Not Available
Pollutants Controlled	PM25 Primary (Filt + Cond	l)		Reduction Efficiency (%)	Not Available
	PM2.5 Filterable (PM25-F	IL)		Reduction Efficiency (%)	Not Available
Processes					
Process	Primary Process				
SCC Code	30510103				
	> Industrial Processes				
	> Mineral Products				
	> Bulk Materials Conveyo	nrs			
	> Coal				
Material Processed	Coal				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput	1/1/2013		renou Enu	12/31/2015	
<u> </u>		lc	E-110/	Lagrana of	0.10
Total	I	Summer %	Fall %	Winter %	Spring %
327,213	tons	24	27	31	17
Operational Schedule	T				
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
2	7	15	2,510		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
			(weight %)		
	(weight %)	(ppmv)	(WCIgitt /0)		
Not Applicable	(weight %) Not Applicable	(ppmv) Not Applicable	Not Applicable		
Not Applicable Heating					
				Heat Values Convention	
Heating Heat Input		Not Applicable		Heat Values Convention Not Applicable	
Heating Heat Input		Not Applicable  Heat Output			
Heating Heat Input Not Applicable Emissions	Not Applicable	Not Applicable  Heat Output	Not Applicable	Not Applicable	Tons
Heating Heat Input Not Applicable Emissions Pollutant	Not Applicable  Emission Factor	Not Applicable  Heat Output  Not Applicable  EF Numerator	Not Applicable  EF Denominator	Not Applicable  EF Source	Tons Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO)	Not Applicable  Emission Factor Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable	Not Applicable  EF Denominator Not Applicable	Not Applicable  EF Source Not Applicable	Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3)	Emission Factor Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Not Applicable  EF Denominator  Not Applicable  Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable	Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Emission Factor Not Applicable Not Applicable	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable	Not Applicable  EF Denominator  Not Applicable  Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03,	Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 4.304E+00
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Emission Factor Not Applicable Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 4.304E+00
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43	Heat Output Not Applicable  EF Numerator Not Applicable  Not Applicable Not Applicable Not Applicable POUNDS  POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable	Emission Factor Not Applicable Not Applicable Not Applicable 3.43	Not Applicable  Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS  POUNDS	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03,	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Available	Heat Output Not Applicable  EF Numerator Not Applicable  Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available	Ref Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Available Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  Not Available Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Available	Heat Output Not Applicable  EF Numerator Not Applicable  Not Applicable Not Applicable POUNDS  POUNDS  POUNDS  Not Available	Ref Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC)	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 Not Available Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  Not Available Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Available	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM2-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds Process	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds Process SCC Code	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable Not Applicable Secondary Process Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds Process SCC Code	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds Process SCC Code	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable Secondary Process Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable
Heating Heat Input Not Applicable Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensable (PM-CON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC) Lead and lead compounds Process SCC Code	Emission Factor Not Applicable Not Applicable Not Applicable 3.43 3.43 3.43 Not Available Not Applicable Not Applicable Secondary Process Not Applicable Not Applicable	Heat Output Not Applicable  EF Numerator Not Applicable Not Applicable Not Applicable POUNDS POUNDS  POUNDS  Not Available Not Applicable Not Applicable	EF Denominator Not Applicable Not Applicable Not Applicable Not Applicable HOUR HOUR HOUR Not Available Not Applicable	Not Applicable  EF Source Not Applicable Not Applicable Not Applicable Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Permit AQ0173TVP03, Table B Not Available Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable 4.304E+00 4.304E+00 4.304E+00 Not Available Not Applicable Not Applicable

Not Applicable     Not Applicable     Not Applicable     Not Applicable     Not Applicable       Operational Schedule       Days/Week     Hours/Day     Weeks/Period     Hours/Period       Not Applicable     Not Applicable     Not Applicable	ring %
Throughput  Total Summer % Fall % Winter % Spri  Not Applicable	ing %
Total Summer % Fall % Winter % Spri  Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable  Days/Week Hours/Day Weeks/Period Hours/Period  Not Applicable Not Applicable Not Applicable	ing %
Not Applicable	
Operational Schedule  Days/Week Hours/Day Weeks/Period Hours/Period  Not Applicable Not Applicable Not Applicable  Not Applicable	t Applicable
Days/Week Hours/Day Weeks/Period Hours/Period Not Applicable Not Applicable Not Applicable Not Applicable	Паррисавіс
Not Applicable Not Applicable Not Applicable Not Applicable	
Fuel Characteristics	
Heat Content   Elem. Sulfur Content   H2S Sulfur Content   Ash Content	
(weight %) (ppmy) (weight %)	
Not Applicable Not Applicable Not Applicable Not Applicable	
Heating	
Heat Input Heat Output Heat Values Convention	
Not Applicable Not Applicable Not Applicable	
Emissions	
Pollutant Emission Factor EF Numerator EF Denominator EF Source Ton	
	t Applicable
	t Applicable
The state of the s	t Applicable
PM10 Primary (Filt + Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	t Applicable
Cond)(PM10-PRI)  PM2.5 Primary (Filt +	
Cond)(PM25-PRI)  Not Applicable  Not Applicable  Not Applicable  Not Applicable  Not Applicable	t Applicable
PM2.5 Filterable	
Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	t Applicable
PM Condensable	t Ameliaskia
(PM-CON) Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	t Applicable
	t Applicable
Volatile Organic	t Applicable
Compounds(VOC)	
Lead and lead compounds         Not Applicable         Not Applicable         Not Applicable         Not Applicable	t Applicable
Release Points	
	portion %
10A Coal Handling System (Dust Collector No. 2) Horizontal 0	70.0.0
10B Temporary Dust Collector Horizontal 100	)
Release Point 10A	
Specifications	
ID 10A Type Horizontal	
Description Coal Handling System (Dust Collector No. 2)	
Stack Parameters	
Stack Height (ft) Stack Diameter (ft) Exit Gas Temp (F) Exit Gas Velocity (fps) Exit Gas Flow Rate (acfm)	
127 3.32 30 39 20,000	
Geographic Coordinate	
	D 1983
Base Elevation 1,260 Accuracy 1	
Location Description Healy, AK Retired Date Not Applicable	
Data Source Engineering Estimate	
Release Point 10B	
Specifications	
ID 10B Type Horizontal	
Description Temporary Dust Collector	
Stack Parameters	
Stack Height (ft) Stack Diameter (ft) Exit Gas Temp (F) Exit Gas Velocity (fps) Exit Gas Flow Rate (acfm)	
57 1.07 30 111 6,000	
Geographic Coordinate	
	D 1983
Latitude     103.03320   LUIRITUDE   1-140.33132   IDATUM   INAL	

Emission Unit 11						
Specifications						
•	11		Danieu Causaitu	Net Applicable		
D		50	Design Capacity	Not Applicable		
Description	Haul Road (located on GV	EA property)	Emission Unit Status	Operating		
Manufacturer Model Number	Not Applicable Not Applicable		Manufactured Year Serial Number	Not Applicable Not Applicable		
Initial Startup Date	1967 (estimate)		Retired Date	Not Applicable		
Regulations						
Regulation/Description						
Not Applicable						
Control Equipment						
System Description	Water application					
Control Measures/	Dust Suppression					
Devices						
Control Efficiency (%)	50					
Capture Efficiency (%)	Not Applicable					
	PM10 Primary (Filt + Cond	1)		Reduction Efficiency (%)	50	
Pollutants Controlled	PM25 Primary (Filt + Cond			Reduction Efficiency (%)	50	
	PM2.5 Filterable (PM25-FI			Reduction Efficiency (%)	50	
Processes						
Process	Primary Process					
SCC Code	30501090					
	> Industrial Processes					
	> Mineral Products					
	> Coal Mining, Cleaning,	and Material Handling				
	> Haul Roads	una material nananng				
Material Processed	Fugitive Dust					
Period Start	1/1/2019		Period End	12/31/2019		
	1/1/2019		renou Liiu	12/31/2019		
Throughput		T <sub>2</sub>	I=	T	T/	
Total		Summer %	Fall %	Winter %	Spring %	
1,190	Vehicle Miles Travelled	27	23	30	20	
	(VMT)					
Operational Schedule						
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
7	24	52	8,760			
Fuel Characteristics						
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ppmv)	(weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating						
Heat Input		Heat Output		Heat Values Convention		
Not Applicable		Not Applicable		Not Applicable		
Emissions						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt +	11		11			
Cond)(PM10-PRI)	1.32	POUNDS	VMT	AP-42 Section 13.2.2	7.828E-01	
PM2.5 Primary (Filt +						
Cond)(PM25-PRI)	0.13	POUNDS	VMT	AP-42 Section 13.2.2	7.828E-02	
PM2.5 Filterable						
(PM25-FIL)	0.13	POUNDS	VMT	AP-42 Section 13.2.2	7.828E-02	
PM Condensable						
	Not Available	Not Available	Not Available	Not Available	Not Available	
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Sulfur Dioxide(SO2) Volatile Organic	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	1	l	at a a collection	ALLE ALLER STREET	Not Applicable	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	

		Emissio	on Unit 11		
Process	Secondary Process				
SCC Code	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
Material Processed	Not Applicable				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput		T		1	
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule					
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating					
Heat Input		Heat Output		Heat Values Convention	
Not Applicable		Not Applicable		Not Applicable	
Emissions					
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM10-PRI) PM2.5 Primary (Filt +	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Cond)(PM25-PRI) PM2.5 Filterable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
(PM25-FIL) PM Condensable				1	
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Туре	Apportion %
11	Haul Road (located on GVE	A property)		Fugitive	100
	The state of the s		e Point 11	B	ļ <del></del>
Specifications					
ID	11		Туре	Fugitive	
Description	Haul Road (located on GVE	A property)			
Stack Parameters	,				
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acfm	1)
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Geographic Coordinat					
Latitude	63.855392	Longitude	-148.945955	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Location determined near	Retired Date	Not Applicable		
	split in haul road by				
	substation: Healv. AK				
Data Source	Engineering Estimate				

		Fmics	ion Unit 12			
Specifications		LIIIISS	IOII OIIIC 12			
•	1.0		·			
ID Danamintian	12		Design Capacity	372,000 cubic feet		
Description	Coal Storage Pile		Emission Unit Status Manufactured Year	Operating		
Manufacturer Model Number	Not Applicable Not Applicable		Serial Number	Not Applicable Not Applicable		
Initial Startup Date	1967 (estimate)		Retired Date	Not Applicable		
•	11307 (estimate)		Retired Date	Not Applicable		
Regulations						
Regulation/Description						
Not Applicable Control Equipment						
	har					
System Description	Water application					
Control Measures/	Dust Suppression					
Devices Control Efficiency (%)	50					
Capture Efficiency (%)	Not Applicable					
Capture Efficiency (%)		41		Poduction Efficiency (9/)	leo.	
Pollutants Controlled	PM10 Primary (Filt + Con PM25 Primary (Filt + Con			Reduction Efficiency (%) Reduction Efficiency (%)	50	
onutants controlled	PM2.5 Filterable (PM25-	,		Reduction Efficiency (%)	50	
Drococcoc	FIVIZ.3 FIILETADIE (PIVIZ5-I	ПС		neduction efficiency (%)	30	
Processes	Duine and Duine					
Process	Primary Process					
SCC Code	30510303					
	> Industrial Processes					
	> Mineral Products	1 - 1 - 9				
	> Bulk Materials Open S	тоскриеѕ				
Material Processed	> Coal					
	Coal		Dania d Ford	12/21/2010		
Period Start	1/1/2019		Period End	12/31/2019		
Throughput			1		I	
Total	I.	Summer %	Fall %	Winter %	Spring %	
327,213	tons	27	23	30	17	
Operational Schedule	1					
Days/Week	Hours/Day	Weeks/Period	Hours/Period			
7	24	52	8,760			
Fuel Characteristics	•	_				
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content			
	(weight %)	(ppmv)	(weight %)			
Not Applicable	Not Applicable	Not Applicable	Not Applicable			
Heating						
Heat Input		Heat Output		Heat Values Convention		
Not Applicable		Not Applicable		Not Applicable		
Emissions						
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons	
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
PM10 Primary (Filt +	5.918E-01	TONS	YEAR	AP-42 Sections 13.2.2,	5.918E-01	
Cond)(PM10-PRI)	3.310L-01	TONS	TLAN	13.2.4, and 13.2.5	2.310L-01	
PM2.5 Primary (Filt +	6.111E-02	TONS	YEAR	AP-42 Sections 13.2.2,	6.111E-02	
Cond)(PM25-PRI)	0.111L-02	1.5145	TEAN	13.2.4, and 13.2.5	0.111L-02	
PM2.5 Filterable	6.111E-02	TONS	YEAR	AP-42 Sections 13.2.2,	6.111E-02	
(PM25-FIL)	0.111L-02	1.5145	TEAN	13.2.4, and 13.2.5	0.111L-02	
PM Condensable	Not Available	Not Available	Not Available	Not Available	Not Available	
(PM-CON)						
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	

		Fmissi	on Unit 12		
Process	Secondary Process	Lillissi	OII OIIIC 12		
SCC Code	Not Applicable				
See code	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
Material Processed	Not Applicable				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput	1, 1, 2013		i ciioù ciiù	12/31/2013	
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule	ivot Applicable	Not Applicable	Not Applicable	Not Applicable	NOT Applicable
Days/Week	Herre / Day	Weeks/Period	Hours/Period		
	Hours/Day Not Applicable	•			
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics	FI C . If	lugg of the control	A.I. O I		
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
Not Applicable	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating		l		I	
Heat Input		Heat Output		Heat Values Convention	on
Not Applicable		Not Applicable		Not Applicable	
Emissions	1	1		1	_
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensable (PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points					
ID	Description			Туре	Apportion %
12	Coal Storage Pile			Fugitive	100
		Releas	se Point 12		
Specifications					
ID	12		Туре	Fugitive	
Description	Coal Storage Pile				
Stack Parameters					
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (acf	im)
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Geographic Coordinat		1	1-1011-pp00010	1. see	
Latitude	63.854556	Longitude	-148.946703	Datum	World 1984
Base Elevation	1,260		1	Datum	WUI IU 1304
Location Description	Healy, AK	Accuracy Retired Date	Not Applicable		
Data Source	Engineering Estimate	netireu Date	Mot Applicable		
Data Source	Linginieering Estimate				

		Emissio	on Unit 13		
Specifications		Lillioon	)		
•	l.a				
ID	13		Design Capacity	264 HORSEPOWER	
Description	Firewater Pump Engine		Emission Unit Status Manufactured Year	Operating	
Manufacturer Model Number	Caterpillar			1997 6TB14931	
	3406B		Serial Number		
Initial Startup Date	Installed 1997		Retired Date	Not Applicable	
Regulations					
Regulation/Description					
40 CFR 63 Subpart ZZZZ					
Control Equipment					
System Description	Not Applicable				
Control Measures/	Not Applicable				
Devices	Not Applicable				
Control Efficiency (%)	Not Applicable				
Capture Efficiency (%)	Not Applicable			- 1 11	
Pollutants Controlled	Not Applicable			Reduction Efficiency (%)	Not Applicable
- II	Not Applicable			Reduction Efficiency (%)	Not Applicable
> Pollutants Controlle	d				
Pollutant Description				Reduction Efficiency (%)	
Not Applicable				Not Applicable	
Processes					
Process	Primary Process				
SCC Code	20200102				
	> Internal Combustion Er	ngines			
	> Industrial				
	> Distillate Oil (Diesel)				
	> Reciprocating				
Material Processed	Distillate Oil				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
83.09272457	gallons	25	25	25	25
Operational Schedule					
Days/Week		144 1 /2 1 1	III /p d d		
	Hours/Day	Weeks/Period	Hours/Period		
0.005	Hours/Day 0.02	0.04	Hours/Period 6		
		•			
0.005  Fuel Characteristics	0.02	0.04	6		
0.005 Fuel Characteristics Heat Content	0.02  Elem. Sulfur Content	0.04  H2S Sulfur Content	6 Ash Content		
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal)	0.02  Elem. Sulfur Content (weight %)	H2S Sulfur Content (ppmv)	Ash Content (weight %)		
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133	0.02  Elem. Sulfur Content	0.04 H2S Sulfur Content	6 Ash Content		
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating	0.02  Elem. Sulfur Content (weight %)	H2S Sulfur Content (ppmv) Not Available	Ash Content (weight %) Not Available	Heat Values Convention	
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr)	0.02  Elem. Sulfur Content (weight %)	H25 Sulfur Content (ppmv) Not Available Heat Output (horsepowe	Ash Content (weight %) Not Available	Heat Values Convention	
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2	0.02  Elem. Sulfur Content (weight %)	H2S Sulfur Content (ppmv) Not Available	Ash Content (weight %) Not Available	Heat Values Convention HHV	
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions	Elem. Sulfur Content (weight %) 0.0015	H25 Sulfur Content (ppmv) Not Available  Heat Output (horsepowe	Ash Content (weight %) Not Available	нну	Tons
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant	Elem. Sulfur Content (weight %) 0.0015  Emission Factor	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264	Ash Content (weight %) Not Available er)  EF Denominator	HHV EF Source	Tons
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS	Ash Content (weight %) Not Available er)  EF Denominator HORSEPOWER-HOUR	EF Source AP-42 Table 3.3-1	5.291E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available	Ash Content (weight %) Not Available er)  EF Denominator HORSEPOWER-HOUR Not Available	EF Source AP-42 Table 3.3-1 Not Available	5.291E-03 Not Available
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR	EF Source AP-42 Table 3.3-1	5.291E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt +	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available	Ash Content (weight %) Not Available er)  EF Denominator HORSEPOWER-HOUR Not Available	EF Source AP-42 Table 3.3-1 Not Available	5.291E-03 Not Available
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031	D.04  H2S Sulfur Content (ppmv)  Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS  Not Available  POUNDS  POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt +	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031	H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02 1.742E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03	D.04  H2S Sulfur Content (ppmv)  Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS  Not Available  POUNDS  POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02 1.742E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02 1.742E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible (PM-CON)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03 Not Available	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS POUNDS Not Available POUNDS Not Available	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR Not Available	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 Not Available	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03 1.742E-03 Not Available
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible (PM-CON) Sulfur Dioxide(SO2)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03 Not Available 2.13E-04	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS Not Available POUNDS POUNDS POUNDS Not Available POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR GALLON	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 Not Available Mass Balance	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03 1.742E-03 Not Available 2.663E-06
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible (PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03 Not Available	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS POUNDS Not Available POUNDS Not Available	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR Not Available	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 Not Available	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03 1.742E-03 Not Available
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible (PMCON) Sulfur Dioxide(SO2) Volatile Organic Compounds(VOC)	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03 Not Available 2.13E-04 2.51E-03	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepowe 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS Not Available POUNDS POUNDS POUNDS POUNDS Not Available POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR Not Available GALLON HORSEPOWER-HOUR	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 Not Available Mass Balance AP-42 Table 3.3-1	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03 1.742E-03 Not Available 2.663E-06 1.988E-03
0.005 Fuel Characteristics Heat Content (MMBtu/1,000 gal) 133 Heating Heat Input (MMBtu/hr) 2 Emissions Pollutant Carbon Monoxide(CO) Ammonia (NH3) Nitrogen Oxides(NOX) PM10 Primary (Filt + Cond)(PM10-PRI) PM2.5 Primary (Filt + Cond)(PM25-PRI) PM2.5 Filterable (PM25-FIL) PM Condensible (PM-CON) Sulfur Dioxide(SO2) Volatile Organic	Elem. Sulfur Content (weight %) 0.0015  Emission Factor 6.68E-03 Not Available 0.031 2.2E-03 2.2E-03 Not Available 2.13E-04 2.51E-03	D.04  H2S Sulfur Content (ppmv) Not Available  Heat Output (horsepower 264  EF Numerator POUNDS Not Available POUNDS POUNDS POUNDS Not Available POUNDS POUNDS POUNDS Not Available POUNDS	Ash Content (weight %) Not Available  EF Denominator HORSEPOWER-HOUR Not Available HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR HORSEPOWER-HOUR GALLON	HHV  EF Source AP-42 Table 3.3-1 Not Available AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 AP-42 Table 3.3-1 Not Available Mass Balance	5.291E-03 Not Available 2.455E-02 1.742E-03 1.742E-03 1.742E-03 Not Available 2.663E-06

		Emiss	ion Unit 13		
Process	Secondary Process				
SCC Code	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
	Not Applicable				
Material Processed	Not Applicable				
Period Start	1/1/2019		Period End	12/31/2019	
Throughput					
Total		Summer %	Fall %	Winter %	Spring %
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Schedule		•	•	•	•
Days/Week	Hours/Day	Weeks/Period	Hours/Period		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Fuel Characteristics					
Heat Content	Elem. Sulfur Content	H2S Sulfur Content	Ash Content		
neat Content	(weight %)	(ppmv)	(weight %)		
Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Heating	пчот Аррисавіе	INOT Applicable	пос Аррисаріе		
Heat Input		Heat Output		Heat Values Convent	ion
Not Applicable		Not Applicable		Not Applicable	
Emissions	1			1	
Pollutant	Emission Factor	EF Numerator	EF Denominator	EF Source	Tons
Carbon Monoxide(CO)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonia (NH3)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Nitrogen Oxides(NOX)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM10 Primary (Filt + Cond)(PM10-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Primary (Filt + Cond)(PM25-PRI)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM2.5 Filterable (PM25-FIL)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
PM Condensible					
(PM-CON)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sulfur Dioxide(SO2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Volatile Organic Compounds(VOC)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lead and lead compounds	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Release Points				1	
ID	Description			Туре	Apportion %
13	Firewater Pump Engine			Horizontal	100
		Relea	se Point 13		
Specifications					
ID	13		Туре	Horizontal	
Description	Firewater Pump Engine		турс	inonzontai	
	rnewater rump Engine				
Stack Parameters	I			I	
Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (F)	Exit Gas Velocity (fps)	Exit Gas Flow Rate (a	ctm)
10	1	300	6	283	
<b>Geographic Coordinat</b>	e				
Latitude	63.854956	Longitude	-148.951181	Datum	NAD 1983
Base Elevation	1,260	Accuracy	1		
Location Description	Healy, AK	Retired Date	Not Applicable		
	Engineering Estimate				

### 2019 Actual Emissions Calculations - Fuel and Operating Hour Summary Golden Valley Electric Association - Healy Power Plant

EU ID	Description	Fuel Type		Fuel Consumption (gallons)											
EUID	Description	ruei Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Unit 1	ULSD	-	962	464	4,743	9,107	30,677	11,066	28,853	605	7,171	-	22,598	116,247
2	Unit 2	ULSD	73,560	40,749	64,594	10,658	107,547	82,606	111,747	96,864	50,021	130,776	69,160	148,284	986,566
3	Auxiliary Boiler 1	ULSD	4	1	3	3,380	2,816	-	1	273	-	6,142	-	237	12,857
4	Auxiliary Boiler 2	ULSD	-	1,306		1,940	-	-	1	-	-	18,146	2,473	16,474	40,339
5	Diesel Electric Generator	ULSD	-	-	-	-	-	-	-	-	29	-	-	-	29
13	Firewater Pumn	HISD	7	7	7	7	7	7	7	7	7	7	7	7	83

EUID	Description		Coal Consumption (tons)											
EUID	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Unit 1	15,751	14,246	15,821	11,721	9,706	8,646	13,869	10,961	15,322	3,241	14,359	13,047	146,690
2	Unit 2	23,001	13,205	20,398	1,051	5,448	18,679	17,654	18,979	8,790	13,880	19,803	19,637	180,524
	Total	38,753	27,451	36,218	12,772	15,154	27,324	31,523	29,940	24,112	17,120	34,162	32,684	327,213

EU ID	Coal Properties
	Fuel HHV (Btu/lb)
1	7,173
2	7,199
	Ash (wt. %)
1	9.44
2	9.08
	Sulfur (wt. %)
1	0.156
2	0.147

EU ID	Fuel Type	Fuel Usage by Season (%)								
EUID	ruei Type	Summer	Fall	Winter	Spring					
1	ULSD	60.7	6.7	20.3	12.3					
1	Coal	22.8	22.4	29.3	25.4					
2	ULSD	29.5	25.3	26.6	18.5					
2	Coal	30.6	23.5	30.9	14.9					
3	ULSD	2.1	47.8	1.9	48.2					
4	ULSD	0.0	51.1	44.1	4.8					
5	ULSD	25.0	25.0	25.0	25.0					

EU ID	Fuel Type	MMBtu
1	ULSD	15,512.2
1	Coal	2,104,407.6
2	ULSD	131,648.7
2	Coal	2,599,181.7

Fuel Type	Moisture (wt. %)
Coal	30.90

Fuel HHV (Btu/gal)													
Fuel Type	Jan	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Average											
ULSD	133,475	-	-	133,629	-	-	133,076	132,971	133,764	-	133,852	133,322	133,441

EU ID	Description							<b>Operating Ho</b>	urs					
EUID	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	Unit 1 Coal													7,387
1	Unit 1 Oil													54
	Unit 1 Total	744	672	744	554	467	587	738	623	720	177	720	695	7,441
	Unit 2 Coal													6,044
2	Unit 2 Oil													306
	Unit 2	733	432	713	66	265	690	672	656	313	520	635	656	6,350
3	Auxiliary Boiler 1	0	1	1	112	74	-	0	4	-	237		8	437
4	Auxiliary Boiler 2	-	24	-	104	-	-	0	-	-	186	36	100	449
5	Diesel Electric Generator	-	-	-	-	-	-	-	-	0.7			-	1
6	Crusher	156	235	273	75	87	179	189	243	191	194	291	397	2,510
7	Lime Storage Silo	724	420	705	72	230	678	622	655	364	502	666	718	6,357
8	Flyash Storage Silo	733	432	713	66	265	690	672	656	313	520	635	656	6,350
9	Sodium Bicarbonate System	12	11	2	13	16	7	10	6	10	2	21	13	123
10	Coal Handling System	156	235	273	75	87	179	189	243	191	194	291	397	2,510
13	Firewater Pump	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	6

EU ID	Hours by Season (%)										
EUID	Summer	Fall	Winter	Spring							
6	24	27	31	17							
7	31	24	29	16							
8	32	23	29	16							
9	19	27	29	25							
10	24	27	31	17							
13	25	25	25	25							

EU ID		Coal Consump	tion by Season (%)	
EUID	Summer	Fall	Winter	Spring
11 and 12	27	23	30	20

Fuel Type	Avg. Density (lb/gal)
ULSD	7.10

Source: AP 42, Table 3.4-1, footnote a

EU ID	Material	Throughput (tons)
7	Limestone	-
0	Picarhonato	2 111

## 2019 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Emissions Unit  ID Description		Factor Reference	Emission	Emission Factor	2019 Actual Operation	2019 Actual PM Emissions	
			PM	5.10 lb/VMT		3.03 tpy <sup>1</sup>	
11	Coal Haul - Unpaved Portion	AP-42, Section 13.2.2	PM <sub>10</sub>	1.32 lb/VMT	1,190 VMT	0.78 tpy <sup>1</sup>	
			PM <sub>2.5</sub>	0.13 lb/VMT		0.08 tpy <sup>1</sup>	
		•	•		Total PM Emissions	3.03 tpy	
	Total PM₁₀ Emissions						
					Total PM <sub>2.5</sub> Emissions	0.08 tpy	

Notes:

**Unpaved Road Emission Factor** 

AP-42, Section 13.2.2, Equation 1a:

$$E\left(\frac{lb}{VMT}\right) = k\left(\frac{s}{12}\right)^a \left(\frac{W}{3}\right)^b$$

$$\frac{PM}{k} \qquad \frac{PM_{10}}{l.5} \qquad \frac{PM_{2.5}}{l.5} \qquad \frac{PM_{2.$$

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center. AP-42, Section 13.2.2, Equation 2:

$$E_{ext} = E\left(\frac{365 - P}{365}\right)$$

E<sub>ext</sub> = annual size-specific emission factor extrapolated for water mitigation, lb/VMT

E = emission factor from Equation 1a

P = number of days in a year with at least 0.01 inches of precipitation

	PM	PM <sub>10</sub>	$PM_{2.5}$	
E (controlled) =	5.10	1.32	0.13	lb/VMT

<sup>&</sup>lt;sup>1</sup> Coal Haul Road

## 2019 Actual Emissions Calculations - Haul Road Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Coal Throughpu	ıt
----------------	----

Unit 1 actual coal throughput	146,690 tons
Unit 2 actual coal throughput	180,524 tons
Total actual coal throughput	327,213 tons

## Vehicle Miles Traveled (VMT)

$$VMT = \frac{Throughput(tons) \times Roundtrip\ Distance\ \left(\frac{miles}{trip}\right)}{Haul\ Truck\ Capacity\ \left(\frac{tons}{trip}\right)}$$

Haul truck capacity	137.5 tons, estimate
Unpaved distance from coal pile to paved road (round trip)	0.50 miles/trip
Unpaved road VMT =	1,189.87 miles

#### 2019 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Emissions Unit		Factor Reference	Emission	Emission Factor	2019 Actual Operation	2019 Actual PM Emissions	
ID	Description	Factor Reference	EIIIISSIOII	Ellission Factor	2019 Actual Operation	2019 Actual FW Ellissions	
			PM	2.42E-04 lb/ton		4.0E-02 tpy 1	
	Truck Drop Onto Stockpile	AP-42, Section 13.2.4	PM <sub>10</sub>	1.14E-04 lb/ton	327,213 tpy	1.9E-02 tpy 1	
		i .	PM <sub>2.5</sub>	1.73E-05 lb/ton		2.8E-03 tpy 1	
			PM	2.42E-04 lb/ton		4.0E-02 tpy 1	
	Front End Loader Drop Into Grizzly	AP-42, Section 13.2.4	PM <sub>10</sub>	1.14E-04 lb/ton	327,213 tpy	1.9E-02 tpy 1	
12			PM <sub>2.5</sub>	1.73E-05 lb/ton		2.8E-03 tpy 1	
12		AP-42, Section 13.2.2	PM	3.27 lb/VMT	1,189 VMT	1.94 tpy <sup>2</sup>	
	Front End Loader Movement - Coal Pile to Grizzly		PM <sub>10</sub>	0.93 lb/VMT		5.5E-01 tpy <sup>2</sup>	
			PM <sub>2.5</sub>	0.09 lb/VMT		5.5E-02 tpy 2	
			PM	0 g/m²-yr		0 tpy <sup>3</sup>	
	Stockpile Wind Erosion	AP-42, Section 13.2.5	PM <sub>10</sub>	0 g/m²-yr		0 tpy <sup>3</sup>	
			PM <sub>2.5</sub>	0 g/m²-yr		0 tpy <sup>3</sup>	
					Total PM Emissions	2.02 tpy	
1		·			Total PM <sub>10</sub> Emissions	0.59 tpy	
					Total PM <sub>2.5</sub> Emissions	0.06 tpy	

Notes:

<sup>1</sup> Truck Drop onto Stockpile and Front End Loader Drop to Grizzly

Drop Operation Emission Factor:

AP-42, Section 13.2.4

$$E\left(\frac{16}{ton}\right) = \frac{\left(\frac{M}{2}\right)^{1.4}}{\left(\frac{M}{2}\right)^{1.4}} \frac{PM}{k} \frac{PM_{10}}{0.74} \frac{PM_{2.5}}{0.35} \frac{PM_{2.5}}{0.053}$$

$$U = \text{mean wind speed} \frac{16.50}{M = \text{coal moisture content}} \frac{16.50}{30.90} \frac{16.50}{30.90} \frac{16.50}{30.90} \frac{\text{miles/hr}}{\text{percent}}$$

AP-42, Section 13.2.4

Per MET data recorded at GVEA's Eva Creek Wind Farm CY2019, conservative estimation with higher winds than seen at the Healy Power Plant From CY2019 coal proximate analyses

Annual Stockpile Throughput:

 Unit 1 actual coal throughput
 146,690 tons

 Unit 2 actual coal throughput
 180,524 tons

 Total actual coal throughput
 327,213 tons

<sup>2</sup> Front End Loader Movement

Coal moved per trip:

Emission Factor

AP-42, Section 13.2.2, Equation 1a:

#### 2019 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

Healy Alaska annually has 100 days with rainfall greater than or equal to 0.01 inches per the Western Regional Climate Center AP-42, Section 13.2.2, Equation 2:

$$E_{\rm ext} = E\left(\frac{365 - P}{365}\right)$$

E<sub>ext</sub> = annual size-specific emission factor extrapolated for water mitigation, lb/VMT

E = emission factor from Equation 1a

P = number of days in a year with at least 0.01 inches of precipitation

	PM	$PM_{10}$	PM <sub>2.5</sub>	
E (controlled) =	3.27	0.93	0.09	lb/VMT

Vehicle Miles Traveled (VMT)

$$VMT = \frac{Throughput(tons) \times Roundtrip\ Distance\ \left(\frac{miles}{trip}\right)}{Haul\ Truck\ Capacity\ \left(\frac{tons}{trip}\right)}$$

Total Potential Coal Throughput 327,213 tons
Coal moved per trip 7.82 tons
Approximate distance from coal pile to grizzly (round trip) 150 feet
VMT = wehicles miles traveled per year 1,189

<sup>3</sup> Stockpile Wind Erosion Coal Pile Surface Area

Surface area of active face = 10,150 m<sup>2</sup> Engineering estimate of projected use

AP-42 Section 13.2.5, Equation (2)

Emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance, EF

$$EF\left(\frac{g}{m^2yr}\right) = k\sum_{i=1}^{N} P_i$$

k = particle size multiplier (AP-42 Section 13.2.5.3)

N = number of disturbances per year

P<sub>i</sub>= erosion potential corresponding to the fastest mile of wind for the ith period between disturbances, g/m<sup>2</sup>

#### 2019 Actual Emissions Calculations - Coal Storage Pile Particulate Matter Emissions Golden Valley Electric Association - Healy Power Plant

AP-42 Section 13.2.5, Equation (3) Erosion potential function for a dry exposed surface, P  $P = 58 (u^* - u_*^*)^2 + 25 (u^* - u_*^*)$  $P = 0 for u^* \le u_t^*$ u\* = friction velocity (m/s) u<sub>t</sub> = threshold friction velocity (m/s) AP-42 Section 13.2.5, Equation (1) Friction velocity,  $u^*$   $u^* = \frac{0.4 \times u(z)}{(z)}$ when  $z > z_o$ u\* = friction velocity (cm/s) u(z) = wind speed at height z above test surface (cm/s) z = height above test surface (cm) z<sub>o</sub> = roughness height, cm Data: Using average wind speed recorded at GVEA's Eva Creek Wind farm for each month in CY2019 (see table below) u(z) 10 disturbances/year for active face, estimated 365

30 average disturbances/month Uncrusted Coal Pile 1 Ground Coal (Table 13.2.5-2) (Table 13.2.5-2) Threshold Threshold Roughness Erosion Roughness Average Wind Speed Friction Friction Height Height Wind Direction Friction potential Friction Factor, Month-Year PxN (u(10)) a Velocity Velocity function, (z<sub>o</sub>) Velocity (u\*) (z<sub>0</sub>) Velocity (u\* EF function. (u<sub>t</sub>) cm mph cm m/s m/s m/s 18.6 150 0.55 .lan-19 1.12 0.41 0.01 0.29 Feb-19 17.4 180 0.3 0.38 0.01 0.55 0.27 Mar-19 19.9 8.9 179 1.12 0.44 0.01 0.55 0.31 0.3 14.8 6.6 0.55 Apr-19 May-19 0.3 0.23 15.5 6.9 181 0.3 1.12 0.34 0.01 0.55 0.24 Jun-19 9.7 4.3 0.3 0.21 0.55 0.15 Jul-19 11.2 202 0.3 1.12 0.25 0.01 0.55 0.17 Aug-19 Sep-19 Oct-19 13.1 5.9 224 0.3 1.12 0.29 0.01 0.55 0.20 16.9 7.6 197 0.3 1.12 0.37 0.01 0.55 0.26 20 8.9 182 0.3 1.12 0.44 0.01 0.55 0.31

0

0.01

0.55

0.55

0.36

0.27

0.00

0.00

0.00

0.5

0.075

0

10.3

7.8

23.1

17.4

Nov-19

Dec-19

PM Annual Total

PM<sub>10</sub> Annual Total

PM<sub>2.5</sub> Annual Total

1.12

0.51

0.38

0.3

0.3

153 152

a Per MET data recorded at GVEA's Eva Creek Wind Farm 2019

b The erosion potential factor for the uncrusted coal pile is zero for all months. Therefore, wind erosion of the uncrusted coal pile is not a significant source of PM emissions.

<sup>&</sup>lt;sup>c</sup> The erosion potential factor for ground coal is zero for all months. Therefore, wind erosion of the ground coal is not a significant source of PM emissions.

### Healy Power Plant Permit No. AQ0173TVP03

ID 2019	
2019	
2019	Emissions
2019	(tpy)
_	
	248.9000
1 2	2.0550 64.0400
2	3.0920
3	0.0014
4	0.0043
5 3	0.000003
5	0.00061
13	0.00000
EUs 1 & 2 Emissions	318.09
Total SO2 Emissions:	318.09
2018	346.0000
1	0.733
2	27.530
2	1.756
3	0.00061
4 5	0.00003
13	0.00000
EUs 1 & 2 Emissions	376.02
Total SO2 Emissions:	376.02
2017	
1	296.4000
2	0.000
2	0.000
3	0.00092
4	0.00053
13	0.00000
EUs 1 & 2 Emissions	296.40
Total SO2 Emissions: 2016	296.40
1	421.9000
1	0.010
2	5.260
3	0.00000
4	0.00000
	0.00000
5	0.00000
13	0.00000
13 EUs 1 & 2 Emissions	427.20
13 EUs 1 & 2 Emissions Total SO2 Emissions:	427.20 <b>427.2</b> 0
13 EUs 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim	427.20 427.20 ate 156.0000
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1	427.20 427.20 ate 156.0000 112.0000
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1 1	427.20 427.20 nate 156.0000 112.0000 173.000
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1	427.20 <b>427.2</b> 0
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estin 1 1 1 2 2 3	427.20 42
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estin 1 1 2 2 3 4	427.20 427.20 427.20 156.0000 112.0000 173.000 84.000 164.000 0.00140 0.00026
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1 1 2 2 3 4 5	427.20 427.20 427.20 156.0000 112.0000 173.000 84.000 164.000 0.00140 0.00026
13 EU 1 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1 1 2 2 3 4 5 13	427.20 427.20 427.20 156.0000 112.0000 173.000 84.000 164.000 0.00140 0.00026
13 EUS 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1 1 2 2 2 3 4 5 13 EUS 1 & 2 Emissions	427.20 427.20 427.20 427.20 156.0000 112.0000 84.000 164.000 0.00140 0.00002 0.00002 689.00
13 EUs 1 & 2 Emissions Total 502 Emissions: 2015 Emission Fee Estim 1 1 2 2 3 4 5 5 13 EUS 1 & 2 Emission Total 502 Emissions Total 502 Emissions Total 502 Emissions	427.20 427.20 427.20 156.0000 173.000 84.000 164.000 0.00140 0.00026 0.00002 689.00
13 EUs 1 & 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estim 1 1 2 2 3 4 5 13 EUs 1 & 2 Emissions: Total SO2 Emissions: Total SO2 Emissions: 214 1 1 1 2 2 2 3 4 4 1 1 1 1 1 1 1 1 1 1 2 2 2 3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	427.20 427.20 427.20 427.20 427.20 427.20 156.0000 173.000 84.000 164.000 0.00140 0.00002 0.00002 689.00 489.00
13 EUs 1 & 2 Emissions Total 502 Emissions: 2015 Emission Fee Estim 1 1 2 2 3 4 5 5 13 EUS 1 & 2 Emission Total 502 Emissions Total 502 Emissions Total 502 Emissions	427.20 42
13 EUs 1.8 2 Emissions Total SQ2 Emissions: 2015 Emission Fee Estin 1 1 2 2 3 4 5 5 13 EUs 1.8 2 Emissions EUs 1.8 2 Emissions 2 1 1 2 2 2 2 3 4 5 5 1 3 4 5 2 2 2 3 4 5 5 1 3 4 5 2 2 2 3 4 5 2 2 3 4 5 5 1 3 4 5 2 2 2 3 4 5 5 1 3 4 5 2 2 2 2 2 2 2 2 2 2 2 3 4 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	427.20 427.21 427.22 42
13 EUs 1.8 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estin 1 1 2 2 3 4 4 5 5 13 EUs 1.8 2 Emissions Total SO2 Emissions: 2 2 3 4 4 5 1 1 2 2 3 4 4 5 1 1 2 2 3 4 4 5 5 1 3 2 4 7 2 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	427.2C 427.2C 427.2C 427.2C 156.000C 112.000C 12.000C 84.00C 0.0014C 0.0002C 0.00002 0.00002 689.0C 444.400C 0.000C 0.000C 0.000C 0.000C 0.000C 0.000C
13 EUs 1.8.2 Emissions Total SO2 Emissions: 2015 Emission Fee Estin 1 1 2 2 3 4 5 13 EUs 1.8.2 Emissions Total SO2 Emissions: 11 2 2 3 4 5 13 13 2 2 14 2 2 3 4 4 5 13 3 4 4 5 13 3 4 4 5 13 3 4 4 4 4 4 4 4	427.20 427.21 427.22 42
13 EUs 1.8 2 Emissions Total SO2 Emissions: 2015 Emission Fee Estin 1 1 2 2 3 4 4 5 5 13 EUs 1.8 2 Emissions Total SO2 Emissions: 2 2 3 4 4 5 1 1 2 2 3 4 4 5 1 1 2 2 3 4 4 5 5 1 3 2 4 7 2 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 3 4 7 2 3 3 4 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	427.20 427.20 427.20 427.20 156.0000 112.0000 173.000 84.000 164.000 0.00140 0.00026 0.00002

ID	Coal Usage	Coal Usage Percent of Total	Avg Capacity EU was Operated (MMBtu/hr)	Avg Capacity EU was Operated (% of Max)	SO2 E.F.	Hr/vr	SO2 E.F.	SO2 E.F. % reduction From EU	SO2 Emissions (tons)
2019 Actual	(tpy)	rotai	(MINISTU/NF)	(% or iviax)	(10/111)	FII/yI	(ID/IVIIVIDIU)	- '	(tons)
	146,690	45%	284	87%	75.5	7.387	0.266	N/A	278.86
1 2	180,524	45% 55%	430	65%	20.20	6.044	0.266	N/A 82%	61.04
Total	327,214	33%	430	0376	20.20	0,044	0.047	02/0	339.90
2018 Actual	327,214								333.30
1	178,076	69%	312	96%	84.9	8,150	0.272	N/A	345.97
2	81,668	31%	452	69%	21.30	2,585	0.047	83%	27.53
Total	259,744								373.50
2017 Actual									
1	173,463	100%	323	99%	77.1	7,690	0.242	N/A	296.45
2		N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Total Possible Reduction	173,463								296.45
	ons in Emi	ssions							
2019 Scenario 1	114,525	35%	222	68%	75.5	7,387	0.266	N/A	217.71
2	212,689	65%	507	77%	20.20	6,044	0.047	82%	71.92
Total	327,214								289.63
Reduction									50.27
2019 Scenario 2									
1	81,804	25%	158	48%	75.5	7,387	0.266	N/A	155.51
2	245,411	75%	585	89%	20.20	6,044	0.047	82%	82.99
Total	327,214								238.50
Reduction									101.41
2019 Scenario 3					5.				
1		0%	N/A		N/A	N/A	N/A	N/A	0.00
2	327,214	100%	554	84%	20.20	8,500	0.047	N/A	110.73
Total	327,214								110.73
Reduction									229.17

Information from 2019 NEI Assumptions 14.3 MMBtu/ton of coal Assumptions 14.4 MMBtu/ton of coal

Information from 2018 NEI Assumptions 14.3 MMBtu/ton of coal Assumptions 14.3 MMBtu/ton of coal

Information from 2017 NEI Assumptions 14.1 MMBtu/ton of coal

Information from 2019 NEI Assumptions 14.3 MMBtu/ton of coal Assumptions 14.4 MMBtu/ton of coal

Information from 2019 NEI Assumptions 14.3 MMBtu/ton of coal Assumptions 14.4 MMBtu/ton of coal Information from AQ0173TVP0: Rating of EU 1 = 327 MMBtu/hr

Information from AQ0173TVP03 Rating of EU 1 = 327 MMBtu/hr Rating of EU 2 = 658 MMBtu/hr

Information from AQ0173TVP03 Rating of EU 1 = 327 MMBtu/hr

Information from AQ0173TVP03 Rating of EU 1 = 327 MMBtu/hr Rating of EU 2 = 658 MMBtu/hr

Information from AQ0173TVP03 Rating of EU 1 = 327 MMBtu/hr Rating of EU 2 = 658 MMBtu/hr

## JBER Drinking Water... Permit No. AQ0237TVP02

Emissions Inventory		•		Permit	Issue Date	SO2 PTE (tpy)
ID	Emissions (tpy)			Draft AQ0237TVP03	6/16/2020	4.6
2014	•			AQ0237TVP02 Rev. 1	1/23/2017	4.8
13	0.0008			AQ0237TVP02	7/30/2014	4.7
14	0.0012					
24	0.0366	EU no longer p	permitted			
25	0.0103					
26	0.0129					
27	0.0003	EU no longer p	permitted			
28	0.0008					
29	0.0010					
90	0.0004					
91	0.0003					
92	0.0004					
93	0.0000					
94	0.7374		0.001435243			
95	0.7989		0.001555113			
96	0.7884		0.001534666			
98	0.7904		0.001538417			
99	0.7637		0.001486455			
101	0.0000					
Total SO2 Emissions:	3.9					
2017 Actual		Reported	_			
13	0.0000	0.0000				
14	0.0000	0.0000				
25	0.0107		Did not divide by 2,000 lb/ton			
26	0.0134		Did not divide by 2,000 lb/ton			
28	0.0000	0.0000				
29	0.0000	0.0000				
90	0.0000	0.0000				
91	0.0000	0.0000				
92	0.0000	0.0000				
93	0.0000	0.0000				
94	0.7530	0.7530				
95	0.7585	0.7585				
96	0.5501	0.5501				
98	0.6485	0.6485				
99	0.8128	0.8128				
101	0.0000	0.0000				
<b>Total SO2 Emissions:</b>	3.5	51.6				

ADEC Reporting Form			
Emission Inventory Reporting			
State of Alaska Department of Environ	nmental Conservation	Emission Inventory Year - 2017	
Division of Air Quality			
	Emission Unit	•	
ID:	25		
Description:			
	Cleaver Brooks		
Model Number:	M48-700-4000		
Serial Number:			
Year of Manufacture:			
Maximum Nameplate Capacity:	4.0 MMBtu/hr		
Design Capacity:	4.0 MMBtu/hr		
Manufactured Year:			
Installed Date:	2003		
Initial Startup Date:	2003		
Retired Date:	N/A		
Purpose:			
Operational Use:			
Portability:			
Control Equipment (List All): NONE			
Processes (List All):			
	PROCESS:		
		10300603	
	SCC Code:	External Combustion Boilers >> Commercial/Institutional >> Natural Gas >> <10	
	Material Burnard	Million Btu/hr	
	Material Processed:		
	Operational Periods:	s: 1/1/2017 - 12/31/2017	
	Ash Content (weight %):	FUEL INFORMATION	
	Elem. Sulfur Content (lb S/MMscf):		
	H2S Sulfur Content (ppmv):		
	Heat Content(MMBtu/MMscf):		
	Heat Input (MMBtu/hr):	363	
	Heat Output (MMBtu/hr):		
	Ticut Gutput (Minista) iii).	THROUGHPUT	
	Total Amount:		
	Summer %:		
	Fall %:	25%	
	Winter %:		
	Spring %:		
	Days/Week of Operation:	7	
	Weeks/Year of Operation:	52	
	Hours/Day of Operation:		
	Hours/Year of Operation:	8,760.0	

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	84	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-1)	1.497E+00
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	100	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-1)	1.782E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	7.6	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.355E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	1.9	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	3.386E-02
PM Condensable (PM-CON)	5.7	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.016E-01
Sulfur Dioxide (SO2)	0.3	Pounds	Million standard cubic feet	AQ0237CPT04 Technical Analysis Report	0.01
Volatile Organic Compounds (VOC)	5.5	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	9.803E-02
Lead and lead compounds	0.0005	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	8.911E-06

	Stack Description:				
Stack Detail:					
ID:	25				
Туре:	Vertical				
Apportion%:	100				
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute				
Base Elevation:	459				
Stack Height:	14				
Stack Diameter:	1				
Exit Gas Temp:	347				
Exit Gas Velocity:	26				
Actual Exit Gas Flow Rate:	1225.22				
Data Source:					
Description:	Boiler				
Latitude:	61.227544				
Longitude:	-149.650633				
Location Description:					
Horizontal Accuracy (m):	Unknown				
Datum:	NAD-1983				

ADEC Reporting Form
Emission Inventory Reporting
State of Alaska Department of Environmental Conservation

## **Emission Inventory Year - 2017**

Division of Air Quality					
	Mandatory information is highlighted. Make additional copies as n	<u>eeded.</u>			
Inventory Start Date:	1/1/2017				
Inventory End Date:	12/31/2017				
Inventory Type:	Emission Inventory Reporting as required by Condition 60 of AQ0237	7TVP02, Rev. 1			
	Stationary Source Information:				
ADEC Stationary Source ID: 237					
Stationary Source:	Joint Base Elmendorf Richardson - Electric, Gas, Drinking Water and	Sanitary Services			
AFS ID:	0202000002				
Census Area/Community:	20 - Anchorage Borough				
Line of Business (NAICS):	221112 - Fossil Fuel Electric Power Generation				
Line of Business (SIC):	49 - Electric, Gas, and Sanitary Services				
Contact/Owner Name:	Doyon Utilities, LLC				
Contact/Owner Address:	PO Box 74040 Fairbanks, AK 99707-4040				
Contact/Owner Phone Number:	(907) 428-5370				
Stationary Source Physical Address:	36010 Arctic Valley Road, Fort Richardson AK, 99505				
Stationary Source Physical Address.	Lat: 61° 14' 45" North - Long: 149° 42' 41" West				
Mailing Address:	Mailing Address: PO Box 74040 Fairbanks, AK 99707				
Facility Status:	Operating				
Facility Status Year:	1957				
	Certification of Accuracy and Completeness Based on information and belief formed after reasonable inquiry I ce attached to this document are true, accurate, and complete.	rtify that the stateme	ents and informatio	on in and	
Responsible Official: Double Click box to right open signed Cover Letter and Facility Sheet  JBER Signed Cover Letter and Facility Sheet  Letter and Facility Page					
	Shayne Coiley, Senior Vice President				
Date:	27-Apr-18				

ADEC Reporting Form			
Emission Inventory Reporting		5 1 1 1 1 Y 2017	
State of Alaska Department of Environ	nmental Conservation	Emission Inventory Year - 2017	
Division of Air Quality			
Division of All Quality	Emission Unit:		
ID:	13		
Description:	Emergency Generator Engine		
Manufacturer:			
Model Number:	475DSU		
Serial Number:			
Year of Manufacture:			
Maximum Nameplate Capacity:	75 kW or 106 hp (95% efficiency	·)	
Design Capacity:	75 kW or 106 hp (95% efficiency	·)	
Manufactured Year:			
Installed Date:	1990		
Initial Startup Date:	1990		
Retired Date:	N/A		
Purpose:			
Operational Use:			
Portability:			
Control Equipment (List All): NONE			
Processes (List All):			
	PROCESS:	•	
		20100102	
		Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>	
	Material Processed:	Reciprocating	
		·	
	Operational Periods:	1/1/2017 - 12/31/2017	
	Ash Content (weight %):	FUEL INFORMATION Neglicible	
	Elem. Sulfur Content (weight %):		
	H2S Sulfur Content (ppmv):		
	Heat Content(MMBtu/1000 gal):		
	Heat Input (MMBtu/hr):	137	
	Heat Output (MMBtu/hr):		
	meat output (mmzta, m).	THROUGHPUT	
	Total Amount:	30.8 Gallons	
	Summer %:		
	Fall %:		
	Winter %:		
	Spring %:		
	Days/Week of Operation:		
	Weeks/Year of Operation:		
	Hours/Day of Operation:		
	Hours/Year of Operation:	5.7	

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.68E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.016E-03
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.031	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	9.353E-03
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	6.638E-04
PM <sub>2.5</sub> -Filterable (PM25-FIL)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	6.638E-04
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallons	Mass Balance	1.239E-07
Volatile Organic Compounds (VOC)	0.0025141	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	7.586E-04
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:				
Stack Detail:					
ID:	13				
Туре:	Vertical				
Apportion%:	100				
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute				
Base Elevation:	459				
Stack Height:	16.01				
Stack Diameter:	0.25				
Exit Gas Temp:					
Exit Gas Velocity:	150.59				
Actual Exit Gas Flow Rate:	443.52				
Data Source:					
Description:	Emergency Backup Generator				
Latitude:	61.227544				
Longitude:	-149.650633				
Location Description:					
Horizontal Accuracy (m):	Unknown				
Datum:	NAD-1983				

ADEC Reporting Form			
Emission Inventory Reporting		Full Land Nove 2047	
State of Alaska Department of Enviror	nmental Conservation	Emission Inventory Year - 2017	
Division of Air Quality			
2.0.0.0	Emission Unit	! :	
ID:	14		
	Emergency Generator Engine		
Manufacturer:	- ,		
Model Number:	4039TF001		
Serial Number:			
Year of Manufacture:			
Maximum Nameplate Capacity:	60 kW or 85 hp (95% efficiency)		
Design Capacity:			
Manufactured Year:			
Installed Date:	1980		
Initial Startup Date:	1980		
Retired Date:	N/A		
Purpose:			
Operational Use:			
Portability:			
Control Equipment (List All): NONE			
Processes (List All):			
	PROCESS:		
		20100102	
	SCC Code:	Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>	
		Reciprocating	
		Distillate Oil (Diesel)	
	Operational Periods:	1/1/2017 - 12/31/2017	
		FUEL INFORMATION	
	Ash Content (weight %):		
	Elem. Sulfur Content (weight %):		
	H2S Sulfur Content (ppmv):		
	Heat Content(MMBtu/1000 gal):		
	Heat Input (MMBtu/hr):		
	Heat Output (MMBtu/hr):		
		THROUGHPUT	
	Total Amount:		
	Summer %:		
	Fall %:		
	Winter %:		
	Spring %: Days/Week of Operation:		
	Weeks/Year of Operation: Hours/Day of Operation:		
	Hours/Day of Operation: Hours/Year of Operation:		
	Hours/ Year of Operation:	ð.5	

EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.68E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.348E-03
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.031	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.090E-02
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	7.733E-04
PM <sub>2.5</sub> -Filterable (PM25-FIL)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	7.733E-04
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallons	Mass Balance	1.443E-07
Volatile Organic Compounds (VOC)	0.0025141	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	8.837E-04
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:				
Stack Detail:					
ID:	14				
Туре:	Vertical				
Apportion%:	100				
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute				
Base Elevation:	421				
Stack Height:	8.01				
Stack Diameter:	0.33				
Exit Gas Temp:					
Exit Gas Velocity:	124.02				
Actual Exit Gas Flow Rate:	636.44				
Data Source:					
	Emergency Backup Generator				
Latitude:	61.227099				
Longitude:	-149.656376				
Location Description:					
Horizontal Accuracy (m):	Unknown				
Datum:	NAD-1983				

ADEC Reporting Form						
Emission Inventory Reporting		5 · · · · · · · · · · · · · · · · · · ·				
State of Alaska Department of Enviror	mental Conservation	Emission Inventory Year - 2017				
Division of Air Quality						
Emission Unit:						
ID:						
Description:						
	Cleaver Brooks					
Model Number:						
Serial Number:						
Year of Manufacture:						
Maximum Nameplate Capacity:	5.0 MMBtu/hr					
Design Capacity:	5.0 MMBtu/hr					
Manufactured Year:						
Installed Date:	2003 (estimated)					
Initial Startup Date:	2003					
Retired Date:	N/A					
Purpose:						
Operational Use:						
Portability:						
Control Equipment (List All): NONE						
Processes (List All):						
	PROCESS:					
		10300603				
	SCC Code:	External Combustion Boilers >> Commercial/Institutional >> Natural Gas >> <10				
		Million Btu/hr				
	Material Processed:					
	Operational Periods:	1/1/2017 - 12/31/2017				
		FUEL INFORMATION				
	Ash Content (weight %):					
	Elem. Sulfur Content (lb S/MMscf):					
	H2S Sulfur Content (ppmv):					
	Heat Content(MMBtu/MMscf):					
	Heat Input (MMBtu/hr):					
	Heat Output (MMBtu/hr):	THROUGHPUT				
	Total Amount:					
	Summer %:					
	Fall %:					
	Winter %:					
	Spring %:					
	Days/Week of Operation:					
	Weeks/Year of Operation:					
	Hours/Day of Operation:					
	Hours/Year of Operation:					
<u> </u>	,	Jahr anna				

	EMISSIONS .				
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	84	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-1)	1.871E+00
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	100	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-1)	2.228E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	7.6	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.693E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	1.9	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	4.233E-02
PM Condensable (PM-CON)	5.7	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.270E-01
Sulfur Dioxide (SO2)	0.3	Pounds	Million standard cubic feet	AQ0237CPT04 Technical Analysis Report	2.673E+01
Volatile Organic Compounds (VOC)	5.5	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.225E-01
Lead and lead compounds	0.0005	Pounds	Million standard cubic feet	EPA AP-42 (Table 1.4-2)	1.114E-05

	Stack Description:
Stack Detail:	
ID:	26
Туре:	Vertical
Apportion%:	
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute
Base Elevation:	459
Stack Height:	14.01
Stack Diameter:	1
Exit Gas Temp:	347
Exit Gas Velocity:	26.25
Actual Exit Gas Flow Rate:	1237
Data Source:	
Description:	Boiler
Latitude:	61.227544
Longitude:	-149.650633
Location Description:	
Horizontal Accuracy (m):	Unknown
Datum:	NAD-1983

ADEC Reporting Form				
Emission Inventory Reporting		5 ' ' I I V 0045		
State of Alaska Department of Enviror	mental Conservation	Emission Inventory Year - 2017		
Division of Air Quality				
Zitioion of the Quanty	Emission Unit			
ID:	ID: 27			
	Emergency Engine			
Manufacturer:				
Model Number:	NHC-4-P			
Serial Number:				
Year of Manufacture:				
Maximum Nameplate Capacity:	60 kW or 85 hp (95% efficiency			
Design Capacity:	60 kW or 85 hp (95% efficiency			
Manufactured Year:	, ,			
Installed Date:	1957			
Initial Startup Date:	1957			
Retired Date:	12/2014			
Purpose:				
Operational Use:				
Portability:				
Control Equipment (List All): NONE				
Processes (List All):				
	PROCESS:	Primary		
	SCC Code:			
	Material Processed:	N/A		
	Operational Periods:	N/A		
		FUEL INFORMATION		
	Ash Content (weight %):	N/A		
	Elem. Sulfur Content (weight %):	N/A		
	H2S Sulfur Content (ppmv):			
	Heat Content(MMBtu/1000 gal):	N/A		
	Heat Input (MMBtu/hr):			
	Heat Output (MMBtu/hr):			
		<u>THROUGHPUT</u>		
	Total Amount:	'		
	Summer %:			
	Fall %:			
	Winter %:			
	Spring %:			
	Days/Week of Operation:			
	Weeks/Year of Operation:			
	Hours/Day of Operation: N/A			
	Hours/Year of Operation:	N/A		

EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	N/A	N/A	N/A	N/A	N/A
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	N/A	N/A	N/A	N/A	N/A
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	N/A	N/A	N/A	N/A	N/A
PM <sub>2.5</sub> -Filterable (PM25-FIL)	N/A	N/A	N/A	N/A	N/A
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	N/A	N/A	N/A	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A	N/A	N/A	N/A
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

<sup>1</sup> PM10-FIL emission factor was used to estimate PM2.5-FIL emissions since all particulate is assumed to be ≤ 1 μm in size (see AP-42 Table 3.3-1, footnote b).

	Stack Description:				
Stack Detail:					
ID:	N/A				
Туре:	N/A				
Apportion%:	N/A				
Measurement Units:					
Base Elevation:					
Stack Height:	N/A				
Stack Diameter:	N/A				
Exit Gas Temp:	N/A				
Exit Gas Velocity:	N/A				
Actual Exit Gas Flow Rate:	N/A				
Data Source:					
Description:	N/A				
Latitude:	N/A				
Longitude:	N/A				
Location Description:					
Horizontal Accuracy (m):					
Datum:	N/A				

ADEC Reporting Form		
Emission Inventory Reporting		
State of Alaska Department of Enviror	nmental Conservation	Emission Inventory Year - 2017
Division of Air Quality		
Division of All Quality	Emission Unit:	
ID:	28	
	Emergency Engine	
Manufacturer:		
Model Number:	HRS-6-P	
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	150 kW or 212 hp (95% efficiency	()
Design Capacity:		·)
Manufactured Year:		
Installed Date:	1957	
Initial Startup Date:		
Retired Date:	, and the second	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):	ppocres	Bitana
	PROCESS:	
	sec codo:	20100102
		Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
	Material Processed:	Reciprocating
		6/1/2017 - 12/31/2017
	Operational Perious:	FUEL INFORMATION
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/1000 gal):	
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
		THROUGHPUT
	Total Amount:	58.4 Gallons
	Summer %:	54%
	Fall %:	35%
	Winter %:	11%
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	5.4

	EMISSIONS				
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.68E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	3.819E-03
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.031	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.772E-02
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.258E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.258E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallons	Mass Balance	2.348E-07
Volatile Organic Compounds (VOC)	0.0025141	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.437E-03
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
ID:	28			
Туре:	Horizontal			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	248			
Stack Height:	12.99			
Stack Diameter:	0.33			
Exit Gas Temp:	899			
Exit Gas Velocity:				
Actual Exit Gas Flow Rate:	1077.68			
Data Source:				
Description:	Emergency IC Engine			
Latitude:	61.241467			
Longitude:	-149.7285			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form		
Emission Inventory Reporting		
State of Alaska Department of Enviror	amoutal Canaaniation	Emission Inventory Year - 2017
	imental Conservation	,
Division of Air Quality	Postada Hati	
ID.	Emission Unit:	
	29	
Manufacturer:	Emergency Engine	
Model Number: Serial Number:	HKS-6-P	
Year of Manufacture:		
Maximum Nameplate Capacity:	150 kW or 212 hp (95% efficiency	A
Design Capacity:	150 kW of 212 hp (95% efficiency	
Manufactured Year:	130 kW of 212 lip (95% efficiency	)
Installed Date:	1957	
Initial Startup Date:	1957	
Retired Date:	N/A	
Purpose:	14/14	
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
		20100102
	SCC Code:	Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
		Reciprocating
	Material Processed:	Distillate Oil (Diesel)
		1/1/2017 - 12/31/2017
	.,	FUEL INFORMATION
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/1000 gal):	,
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
		THROUGHPUT
	Total Amount:	98.4 Gallons
	Summer %:	32%
	Fall %:	23%
	Winter %:	21%
	Spring %:	24%
	Days/Week of Operation:	0.01
	Weeks/Year of Operation:	0.05
	Hours/Day of Operation:	0.02
	Hours/Year of Operation:	9.1

EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.68E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	6.436E-03
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.031	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.987E-02
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.119E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.119E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallons	Mass Balance	3.956E-07
Volatile Organic Compounds (VOC)	0.0025141	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.422E-03
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:
Stack Detail:	
ID:	29
Туре:	Horizontal
Apportion%:	100
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute
Base Elevation:	240
Stack Height:	12.99
Stack Diameter:	0.33
Exit Gas Temp:	899
Exit Gas Velocity:	210
Actual Exit Gas Flow Rate:	1077.68
Data Source:	
Description:	Emergency IC Engine
Latitude:	61.239352
Longitude:	-149.732838
Location Description:	
Horizontal Accuracy (m):	Unknown
Datum:	NAD-1983

ADEC Reporting Form		
Emission Inventory Reporting		
State of Alaska Department of Enviror	amental Conservation	Emission Inventory Year - 2017
Division of Air Quality	illiental conservation	•
Division of An Quanty	Emission Unit	
ID:	90	
	Backup Generator Engine	
Manufacturer:		
Model Number:		
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	3,000 kW	
Design Capacity:	3,000 kW	
Manufactured Year:	·	
Installed Date:	2010	
Initial Startup Date:	10/2010	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	
		20100102
	SCC Code:	Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
		Reciprocating
	Material Processed:	i i
	Operational Periods:	1/1/2017 - 12/31/2017
		FUEL INFORMATION
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/1000 gal):	
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
	7-1-14	THROUGHPUT  3415.0 Gallons
	Total Amount:	
	Summer %: Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	
	nouis/ real of Operation:	٥.دتا

EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	0.061	Pounds	Gallon	Manufacturer's Data	1.042E-01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.2817	Pounds	Gallon	Manufacturer's Data	4.810E-01
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.0028	Pounds	Gallon	Manufacturer's Data	4.781E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.0028	Pounds	Gallon	Manufacturer's Data	4.781E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallon	Mass Balance	1.372E-05
Volatile Organic Compounds (VOC)	0.012	Pounds	Gallon	Manufacturer's Data	2.049E-02
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:		
Stack Detail:			
ID:	90		
Туре:	Vertical		
Apportion%:	100		
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute		
Base Elevation:	278		
Stack Height:	14.01		
Stack Diameter:	1.67		
Exit Gas Temp:			
Exit Gas Velocity:			
Actual Exit Gas Flow Rate:	8537.29		
Data Source:			
Description:	Backup Generator		
Latitude:	61.257166		
Longitude:	-149.719159		
Location Description:			
Horizontal Accuracy (m):	Unknown		
Datum:	NAD-1983		

ADEC Reporting Form		
Emission Inventory Reporting		F
State of Alaska Department of Enviror	mental Conservation	Emission Inventory Year - 2017
Division of Air Quality		
	Emission Unit:	
ID:		
	Backup Generator Engine	
Manufacturer:		
Model Number:		
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	3,000 kW	
Design Capacity:	3,000 kW	
Manufactured Year:		
Installed Date:	2010	
Initial Startup Date:	10/2010	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	
		20100102
		Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
		Reciprocating
	Material Processed:	
	Operational Periods:	1/1/2017 - 12/31/2017
		<u>FUEL INFORMATION</u>
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/1000 gal):	13/
	Heat Input (MMBtu/hr): Heat Output (MMBtu/hr):	
	Heat Output (MMBtu/nr):	TUROUCURIT
	Total Amount:	THROUGHPUT 5105.0 Gallons
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	
	, or operation.	==

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	0.061	Pounds	Gallon	Manufacturer's Data	1.557E-01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.2817	Pounds	Gallon	Manufacturer's Data	7.190E-01
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.0028	Pounds	Gallon	Manufacturer's Data	7.147E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.0028	Pounds	Gallon	Manufacturer's Data	7.147E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallon	Mass Balance	2.051E-05
Volatile Organic Compounds (VOC)	0.012	Pounds	Gallon	Manufacturer's Data	3.063E-02
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:		
Stack Detail:			
ID:	91		
Туре:	Vertical		
Apportion%:	100		
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute		
Base Elevation:	278		
Stack Height:	14.01		
Stack Diameter:	1.67		
Exit Gas Temp:			
Exit Gas Velocity:	64.96		
Actual Exit Gas Flow Rate:	8537.29		
Data Source:			
Description:	Backup Generator		
Latitude:	61.257069		
Longitude:	-149.719159		
Location Description:			
Horizontal Accuracy (m):	Unknown		
Datum:	NAD-1983		

ADEC Reporting Form		
Emission Inventory Reporting		
State of Alaska Department of Enviror	amontal Concernation	Emission Inventory Year - 2017
Division of Air Quality	imental Conservation	•
DIVISION OF All Quality	Emission Unit	
ID:		
	Backup Generator Engine	
Manufacturer:		
Model Number:		
Serial Number:	C 173	
Year of Manufacture:		
Maximum Nameplate Capacity:	3,000 kW	
Design Capacity:	3,000 kW	
Manufactured Year:	-,	
Installed Date:	2010	
Initial Startup Date:	10/2010	
Retired Date:	N/A	
Purpose:	·	
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
		20100102
	SCC Code:	Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
		Reciprocating
	Material Processed:	Distillate Oil (Diesel)
	Operational Periods:	1/1/2017 - 12/31/2017
		FUEL INFORMATION
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	N/A
	Heat Content(MMBtu/1000 gal):	137
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
		THROUGHPUT
	Total Amount:	4599.0 Gallons
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	21.3

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	0.061	Pounds	Gallon	Manufacturer's Data	1.403E-01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.2817	Pounds	Gallon	Manufacturer's Data	6.478E-01
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.0028	Pounds	Gallon	Manufacturer's Data	6.439E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.0028	Pounds	Gallon	Manufacturer's Data	6.439E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallon	Mass Balance	1.848E-05
Volatile Organic Compounds (VOC)	0.012	Pounds	Gallon	Manufacturer's Data	2.759E-02
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:		
Stack Detail:			
ID:	92		
Туре:	Vertical		
Apportion%:	100		
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute		
Base Elevation:	278		
Stack Height:	14.01		
Stack Diameter:	1.67		
Exit Gas Temp:			
Exit Gas Velocity:	64.96		
Actual Exit Gas Flow Rate:	8537.29		
Data Source:			
Description:	Backup Generator		
Latitude:	61.25697		
Longitude:	-149.719159		
Location Description:			
Horizontal Accuracy (m):	Unknown		
Datum:	NAD-1983		

ADEC Reporting Form		
Emission Inventory Reporting		
State of Alaska Department of Environ	mental Conservation	Emission Inventory Year - 2017
Division of Air Quality	inicital conscivation	-
Division of All Quality	Emission Unit	
ID:		<u>:</u>
	Emergency Generator Engine	
Manufacturer:		
Model Number:		
Serial Number:	17/012-101	
Year of Manufacture:		
Maximum Nameplate Capacity:	526 bhp	
Design Capacity:	526 bhp	
Manufactured Year:	· P	
Installed Date:	2008	
Initial Startup Date:	2008	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
		20100102
	SCC Code:	Internal Combustion Engines >> Electric Generation >> Distillate Oil (Diesel) >>
		Reciprocating
	Material Processed:	
	Operational Periods:	1/1/2017 - 12/31/2017
		<u>FUEL INFORMATION</u>
	Ash Content (weight %):	Negligible
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/1000 gal):	137
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
		THROUGHPUT
	Total Amount:	341.4 Gallons
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %: Days/Week of Operation:	
	Days/ Week of Operation: Weeks/Year of Operation:	
	Weeks/Year of Operation: Hours/Day of Operation:	
	Hours/Day of Operation: Hours/Year of Operation:	
	nours/ rear or Operation:	0،د

	<u>EMISSIONS</u>				
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.68E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.581E-02
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.031	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	7.338E-02
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	5.207E-03
PM <sub>2.5</sub> -Filterable (PM25-FIL)	2.20E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	5.207E-03
PM Condensable (PM-CON)	N/A	N/A	N/A	No AP-42 Emission Factor	N/A
Sulfur Dioxide (SO2)	8.04E-06	Pounds	Gallons	Mass Balance	1.372E-06
Volatile Organic Compounds (VOC)	0.0025141	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	5.951E-03
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
	93			
Type:	Vertical			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	464			
Stack Height:	10.01			
Stack Diameter:	0.5			
Exit Gas Temp:	923			
Exit Gas Velocity:	221.78			
Actual Exit Gas Flow Rate:	2612.78			
Data Source:				
Description:	Emergency Generator			
	61.22725			
Longitude:	-149.650376			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form		
Emission Inventory Reporting		F
State of Alaska Department of Environ	nmental Conservation	Emission Inventory Year - 2017
Division of Air Quality	michtal Conscivation	
Division of All Quality	Emission Unit	•
ID:		•
	LFG Generator Engine	
Manufacturer:		
Model Number:	JGS 420	
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	1,966 bhp (landfill gas) or 1,721 bh	np (natural gas)
Design Capacity:	1,966 bhp (landfill gas) or 1,721 bh	np (natural gas)
Manufactured Year:		
Installed Date:	2012	
Initial Startup Date:	08/2012	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
	SCC Code:	20100802
		Internal Combustion Engines >> Electric Generation >> Landfill Gas >> Reciprocating
		Landfill Gas/Natural Gas
	Operational Periods:	1/1/2017 - 12/31/2017
		FUEL INFORMATION
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/MMscf):	
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	TURALIANIA
	Total Amount:	THROUGHPUT
		172,299.0 (1000 Cubic Feet) Landfill Gas
	Summer %:	
	Fall %: Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	
	nours/ rear of Operation:	/,43/.U

	<u>EMISSIONS</u>				
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	3.6	Grams	Brake Horsepower - Hour	Vendor Data	5.802E+01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.6	Grams	Brake Horsepower - Hour	Vendor Data	9.670E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.018	Grams	Brake Horsepower - Hour	Vendor Data	2.901E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.009	Grams	Brake Horsepower - Hour	Vendor Data	1.451E-01
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	0.20	Pounds	Hour	AQ0237CPT04 Technical Analysis Report Table A-1	7.530E-01
Volatile Organic Compounds (VOC)	1.0	Grams	Brake Horsepower - Hour	Vendor Data	1.612E+01
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
ID:	94			
Туре:	Vertical			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	449			
Stack Height:	43.01			
Stack Diameter:	1.4583			
Exit Gas Temp:	869			
Exit Gas Velocity:	17.75			
Actual Exit Gas Flow Rate:	1778.83			
Data Source:				
Description:	Landfill Gas IC Engine			
Latitude:	61.285066			
Longitude:	-149.611679			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form		
Emission Inventory Reporting		F
State of Alaska Department of Environ	nmental Conservation	Emission Inventory Year - 2017
Division of Air Quality		
	Emission Unit	
ID:		
	LFG Generator Engine	
Manufacturer:		
Model Number:	JGS 420	
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	1,966 bhp (landfill gas) or 1,721 bh	p (natural gas)
Design Capacity:	1,966 bhp (landfill gas) or 1,721 bh	p (natural gas)
Manufactured Year:		
Installed Date:	2012	
Initial Startup Date:	08/2012	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
	SCC Code:	
	Managed Burnered	Internal Combustion Engines >> Electric Generation >> Landfill Gas >> Reciprocating
		Landfill Gas/Natural Gas
	Operational Periods:	1/1/2017 - 12/31/2017
	Ash Content (weight %):	FUEL INFORMATION
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (weight %):	
	Heat Content (MMBtu/MMscf):	
	Heat Input (MMBtu/hr):	333
	Heat Output (MMBtu/hr):	
	Heat Output (WWDtu/III).	THROUGHPUT
	Total Amount:	173,550.1 (1000 Cubic Feet) Landfill Gas
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	20.52
	Hours/Year of Operation:	

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	3.6	Grams	Brake Horsepower - Hour	Vendor Data	5.844E+01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.6	Grams	Brake Horsepower - Hour	Vendor Data	9.740E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.018	Grams	Brake Horsepower - Hour	Vendor Data	2.922E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.009	Grams	Brake Horsepower - Hour	Vendor Data	1.461E-01
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	0.20	Pounds	Hour	AQ0237CPT04 Technical Analysis Report Table A-1	7.585E-01
Volatile Organic Compounds (VOC)	1.0	Grams	Brake Horsepower - Hour	Vendor Data	1.623E+01
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
ID:	95			
Туре:	Vertical			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	449			
Stack Height:	43.01			
Stack Diameter:	1.4583			
Exit Gas Temp:	869			
Exit Gas Velocity:	17.75			
Actual Exit Gas Flow Rate:	1778.83			
Data Source:				
Description:	Landfill Gas IC Engine			
Latitude:	61.285108			
Longitude:	-149.611703			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form				
Emission Inventory Reporting		Fuelesian Inventant Vana 2017		
State of Alaska Department of Environ	nmental Conservation	Emission Inventory Year - 2017		
Division of Air Quality	michtal Conscivation			
Division of All Quality	Emission Unit	•		
ID:		•		
	LFG Generator Engine			
Manufacturer:				
Model Number:	JGS 420			
Serial Number:				
Year of Manufacture:				
Maximum Nameplate Capacity:	1,966 bhp (landfill gas) or 1,721 bh	np (natural gas)		
Design Capacity:	1,966 bhp (landfill gas) or 1,721 bh	np (natural gas)		
Manufactured Year:				
Installed Date:	2012			
Initial Startup Date:	08/2012			
Retired Date:	N/A			
Purpose:				
Operational Use:				
Portability:				
Control Equipment (List All): NONE				
Processes (List All):				
	PROCESS:	Primary		
	SCC Code:	20100802		
		Internal Combustion Engines >> Electric Generation >> Landfill Gas >> Reciprocating		
		Landfill Gas/Natural Gas		
	Operational Periods:	1/1/2017 - 12/31/2017		
		FUEL INFORMATION		
	Ash Content (weight %):			
	Elem. Sulfur Content (weight %):			
	H2S Sulfur Content (ppmv):			
	Heat Content(MMBtu/MMscf):			
	Heat Input (MMBtu/hr):			
	Heat Output (MMBtu/hr):	TURALIANIA		
	Total Amount:	THROUGHPUT		
		125,870.7 (1000 Cubic Feet) Landfill Gas		
	Summer %:			
	Fall %: Winter %:			
	Spring %:			
	Days/Week of Operation:			
	Weeks/Year of Operation:			
	Hours/Day of Operation:			
	Hours/Year of Operation:			
	nours/ rear of Operation:	3,433.0		

	<u>EMISSIONS</u>				
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	3.6	Grams	Brake Horsepower - Hour	Vendor Data	4.239E+01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.6	Grams	Brake Horsepower - Hour	Vendor Data	7.064E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.018	Grams	Brake Horsepower - Hour	Vendor Data	2.119E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.009	Grams	Brake Horsepower - Hour	Vendor Data	1.060E-01
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	0.20	Pounds	Hour	AQ0237CPT04 Technical Analysis Report Table A-1	5.501E-01
Volatile Organic Compounds (VOC)	1.0	Grams	Brake Horsepower - Hour	Vendor Data	1.177E+01
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
ID:	96			
Туре:	Vertical			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	449			
Stack Height:	43.01			
Stack Diameter:	1.4583			
Exit Gas Temp:	869			
Exit Gas Velocity:	17.75			
Actual Exit Gas Flow Rate:	1778.83			
Data Source:				
Description:	Landfill Gas IC Engine			
Latitude:	61.28515			
Longitude:	-149.611728			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form		
Emission Inventory Reporting		5 · · · · · · · · · · · · · · · · · · ·
State of Alaska Department of Enviror	mental Conservation	Emission Inventory Year - 2017
Division of Air Quality		
	Emission Unit	
ID:		
	LFG Generator Engine	
Manufacturer:		
Model Number:	JGS 420	
Serial Number:		
Year of Manufacture:		
Maximum Nameplate Capacity:	1,966 bhp (landfill gas) or 1,721 bh	np (natural gas)
Design Capacity:	1,966 bhp (landfill gas) or 1,721 bh	
Manufactured Year:		
Installed Date:	2012	
Initial Startup Date:	08/2012	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
	SCC Code:	
		Internal Combustion Engines >> Electric Generation >> Landfill Gas >> Reciprocating
		Landfill Gas/Natural Gas
	Operational Periods:	1/1/2017 - 12/31/2017
		<u>FUEL INFORMATION</u>
	Ash Content (weight %):	
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (ppmv):	
	Heat Content(MMBtu/MMscf):	533
	Heat Input (MMBtu/hr):	
	Heat Output (MMBtu/hr):	
		THROUGHPUT
	Total Amount:	-, (,
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	b,4U5.U

<u>EMISSIONS</u>					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	3.6	Grams	Brake Horsepower - Hour	Vendor Data	4.997E+01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.6	Grams	Brake Horsepower - Hour	Vendor Data	8.328E+00
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.018	Grams	Brake Horsepower - Hour	Vendor Data	2.499E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.009	Grams	Brake Horsepower - Hour	Vendor Data	1.249E-01
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	0.20	Pounds	Hour	AQ0237CPT04 Technical Analysis Report Table A-1	6.485E-01
Volatile Organic Compounds (VOC)	1.0	Grams	Brake Horsepower - Hour	Vendor Data	1.388E+01
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

	Stack Description:			
Stack Detail:				
ID:	98			
Туре:	Vertical			
Apportion%:	100			
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute			
Base Elevation:	449			
Stack Height:	43.01			
Stack Diameter:	1.4583			
Exit Gas Temp:	869			
Exit Gas Velocity:	17.75			
Actual Exit Gas Flow Rate:	1778.83			
Data Source:				
	Landfill Gas IC Engine			
	61.285193			
Longitude:	-149.611754			
Location Description:				
Horizontal Accuracy (m):	Unknown			
Datum:	NAD-1983			

ADEC Reporting Form Emission Inventory Reporting		Emission Inventory Year - 2017
State of Alaska Department of Environ	nmental Conservation	Emission meentory rear 2017
Division of Air Quality		
ID.	Emission Unit	
	LFG Generator Engine	
Manufacturer:		
Model Number:		
Serial Number:	163 420	
Year of Manufacture:		
Maximum Nameplate Capacity:	1,966 bhp (landfill gas) or 1,721 bh	nn (natural gas)
Design Capacity:	1,966 bhp (landfill gas) or 1,721 bh	
Manufactured Year:	-/ ( 6//	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Installed Date:	2012	
Initial Startup Date:	08/2012	
Retired Date:	N/A	
Purpose:		
Operational Use:		
Portability:		
Control Equipment (List All): NONE		
Processes (List All):		
	PROCESS:	Primary
	SCC Code:	
		Internal Combustion Engines >> Electric Generation >> Landfill Gas >> Reciprocating
		Landfill Gas/Natural Gas
	Operational Periods:	1/1/2017 - 12/31/2017
	Ash Content (weight %):	FUEL INFORMATION
	Elem. Sulfur Content (weight %):	
	H2S Sulfur Content (weight %):	
	Heat Content(MMBtu/MMscf):	
	Heat Input (MMBtu/hr):	555
	Heat Output (MMBtu/hr):	
	neat Output (MMbtu/III).	THROUGHPUT
	Total Amount:	185,968.1 (1000 Cubic Feet) Landfill Gas
	Summer %:	
	Fall %:	
	Winter %:	
	Spring %:	
	Days/Week of Operation:	
	Weeks/Year of Operation:	
	Hours/Day of Operation:	
	Hours/Year of Operation:	8,027.0

EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	3.6	Grams	Brake Horsepower - Hour	Vendor Data	6.262E+01
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.6	Grams	Brake Horsepower - Hour	Vendor Data	1.044E+01
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	0.018	Grams	Brake Horsepower - Hour	Vendor Data	3.131E-01
PM <sub>2.5</sub> -Filterable (PM25-FIL)	0.009	Grams	Brake Horsepower - Hour	Vendor Data	1.566E-01
PM Condensable (PM-CON)	N/A	N/A	N/A	N/A	N/A
Sulfur Dioxide (SO2)	0.20	Pounds	Hour	AQ0237CPT04 Technical Analysis Report Table A-1	8.128E-01
Volatile Organic Compounds (VOC)	1.0	Grams	Brake Horsepower - Hour	Vendor Data	1.740E+01
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

Stack Description:	
Stack Detail:	
ID:	99
Туре:	Vertical
Apportion%:	100
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute
Base Elevation:	449
Stack Height:	43.01
Stack Diameter:	1.4583
Exit Gas Temp:	869
Exit Gas Velocity:	17.75
Actual Exit Gas Flow Rate:	1778.83
Data Source:	
Description:	Landfill Gas IC Engine
Latitude:	61.285235
Longitude:	-149.611778
Location Description:	
Horizontal Accuracy (m):	Unknown
Datum:	NAD-1983

ADEC Reporting Form				
Emission Inventory Reporting				
State of Alaska Department of Environ	amental Conservation	Emission Inventory Year - 2017		
Division of Air Quality	intental Conservation	-		
Division of All Quality	Emission Unit:			
ID:	ID: 100			
	CHPP Backup Sump Pump Engine			
Manufacturer:				
Model Number:				
Serial Number:				
Year of Manufacture:				
Maximum Nameplate Capacity:	Unknown			
Design Capacity:				
Manufactured Year:				
Installed Date:	Unknown (prior to 2006)			
Initial Startup Date:	Unknown (prior to 2006)			
Retired Date:	N/A			
Purpose:				
Operational Use:				
Portability:				
Control Equipment (List All): NONE				
Processes (List All):				
	PROCESS:			
	SCC Code:			
	Material Processed:			
	Operational Periods:	1/1/2017 - 12/31/2017		
		FUEL INFORMATION		
	Ash Content (weight %):			
	Elem. Sulfur Content (weight %):			
	H2S Sulfur Content (ppmv):			
	Heat Content(MMBtu/1000 gal):	130		
	Heat Input (MMBtu/hr):			
	Heat Output (MMBtu/hr):			
	7.1.14	THROUGHPUT		
	Total Amount:	3.8 Gallons		
	Summer %:			
	Fall %: Winter %:			
	Spring %:			
	Spring %: Days/Week of Operation:			
	Weeks/Year of Operation:			
	Hours/Day of Operation:			
	Hours/Year of Operation:			
	Hours/ rear of Operation:	5.0		

EMISSIONS EMISSIONS					
Pollutant	Emission Factor	Emission Factor Numerator	Emission Factor Denominator	Emission Factor Source	Tons Emitted (Total)
Carbon Monoxide (CO)	6.96E-03	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	1.949E-05
Ammonia (NH3)	N/A	N/A	N/A	N/A	N/A
Nitrogen Oxides (NOX)	0.011	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	3.080E-05
PM <sub>10</sub> -Primary (Filt + Cond) (PM10-PRI)	7.21E-04	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.019E-06
PM <sub>2.5</sub> -Filterable (PM25-FIL)	7.21E-04	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.019E-06
PM Condensable (PM-CON)	N/A	N/A	N/A	No AP-42 Emission Factor	N/A
Sulfur Dioxide (SO2)	0.01234	Pounds	Gallons	Mass Balance	2.369E-05
Volatile Organic Compounds (VOC)	2.16E-02	Pounds	Horsepower - Hour	EPA AP-42 (Table 3.3-1)	2.116E-03
Lead and lead compounds	N/A	N/A	N/A	N/A	N/A

Stack Description:	
Stack Detail:	
ID:	100
Туре:	Unknown
Apportion%:	100
Measurement Units:	Feet, degrees Farenheit, feet per second, actual cubic feet per minute
Base Elevation:	Unknown
Stack Height:	Unknown
Stack Diameter:	Unknown
Exit Gas Temp:	Unknown
Exit Gas Velocity:	Unknown
Actual Exit Gas Flow Rate:	Unknown
Data Source:	
Description:	Unknown
Latitude:	Unknown
Longitude:	Unknown
Location Description:	
Horizontal Accuracy (m):	Unknown
Datum:	Unknown