RAINBOW ENERGY CENTER

2875 Third Street SW
Underwood, North Dakota 58576
701.207.9988
rainbowenergycenter.com

January 29, 2024

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Fl
Bismarck, ND 58503-1324

Director
Air & Radiation Program (8P-AR)
U.S. Environmental Protection Agency
1595 Wynkoop Street
Denver, CO 80202-1129

RE: Rainbow Energy Center - Coal Creek Station
Permit Number: AOP-28371 v5.1
Title V Permit Renewal

Dear Permit Document Coordinator:

Enclosed is the Title V permit renewal application for Rainbow Energy Center's ("REC") Coal Creek Station ("CCS"). Per NDAC 33.1-15-14-06.4 and 33.1-15-14-06.6, REC is required to submit the application for reissuance at least six months before the expiration date of the permit. The permit for CCS will expire on September 7, 2024.

The following documents are included with this submittal:
1. Title V permit to operate renewal application – SFN52824
2. Title V permit to operate – REC redline comments
3. Attachment A – CAM plan
4. Title IV acid rain permit cover letter to EPA
5. Title IV acid rain permit application – EPA Form 7610-16
6. Title IV NO_x compliance plan – EPA Form 7610-28

CAM Plan
The compliance assurance monitoring (CAM) plan has been reviewed and continues to be appropriate for the operations at Coal Creek Station, therefore no changes will be made to the monitoring or compliance approach in the CAM plan. A copy of the current CAM plan is provided as Attachment A.

Permits to Construct (PTC)
Coal Creek Station has no open PTCs on file at North Dakota Department of Environmental Quality.

If you have any questions regarding this submittal, please contact Benjamin Gress at (701) 207-8979.

Sincerely,

RAINBOW ENERGY CENTER

Jennifer Charles
Leader, Environmental & Regulatory

c:
Benjamin Gress, REC-CCS
Todd Peterson, REC-CCS

U.S. EPA Clean Air Markets Division (one copy of Acid Rain permit & NO_x Compliance Plan)

TITLE V PERMIT TO OPERATE - RENEWAL APPLICATION

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
SFN 52824 (9-2021)

In accordance with 33 1-15-14-04 c of the North Dakota Air Pollution Control Rules, a Title V permit renewal application must be submitted to the Department at least six months, but no more than eighteen months, prior to the expiration date Permit renewal applications are incomplete unless all information requested herein is supplied The current Title V permit will be the baseline reference for this renewal The requirements (40 CFR 70 5(c) & NDAC 33 1-15-14-06 4.c) to include a citation and description of all applicable requirements and a description of or reference to any applicable test method for determining compliance with each applicable requirement may be met by accomplishing either or both of the following 1) enclose an annotated (red-lined) copy of the current permit indicating all changes needed to reflect the current facility configuration, applicable requirements and test methods, 2) enclose a narrative that conveys all changes needed to the current permit to reflect the current facility configuration, all applicable requirements and test methods

FOR ACID RAIN UNITS ONLY – Submit with the Title V permit renewal application all Acid Rain renewal applications (the Acid Rain Permit Application, the Phase II NO_x Compliance Plan, and if applicable, the Phase II NO_x Averaging Plan)

PART 1. GENERAL APPLICATION INFORMATION

Owner's Name: Rainbow Energy Center

Facility Name: Coal Creek Station

Name of Person Completing Application: Benjamin Gress Phone: 701-207-8979

Title: Regulatory Compliance Specialist Email: Benjamin Gress@rainbowenergycenter com

Current Operating Permit Number: AOP28371v5 1

Expiration Date of Current Operating Permit: 09 / 07 / 2024

PART 2. COMPLIANCE CERTIFICATION

A Schedule for Submission of Compliance Certifications During the Term of the Permit

Frequency of Submittal	Date Beginning (month/day/year)
Annual	

B Statement of Compliance with Compliance Assurance Monitoring (CAM) and Compliance Certification Requirements

The facility identified in this application is in compliance with applicable monitoring and compliance certification requirements

- ☑ Yes
- ☐ No - Describe below which requirements are not being met
- ☐ CAM not applicable

C Certification of Compliance with all Applicable Requirements

This certification must be signed by a "responsible official" as defined in NDAC 33 1-15-14-06 1 Forms without a signed certification will be returned as incomplete

Except for requirements identified in Compliance Schedule and Plan (Section G) of Title V Permit to Operate application forms for which compliance is not achieved, I hereby certify that, based on information and belief formed after reasonable inquiry, the air contaminant source identified in this form is in compliance with all applicable requirements

Signed	Date
John Bauer	01/29/2024
Typed Name John Bauer	

PART 3. STATUS OF SOURCE

Has there been any change to the source since the most recent initial or renewal permit application, minor permit modification, significant modification or administrative permit amendment?

☐ No ☑ Yes

If yes, complete and submit appropriate sections of Title V Permit to Operate application forms

PART 4. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

Note This certification must be signed by a "responsible official" as defined in NDAC 33.1-15-14-06 1 Applications without a signed certification will be returned as incomplete

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete

Name (typed) John Bauer

(Signed) John Bauer Date 01 / 29 / 2024

Telephone Number 701-207-8951

Send original renewal application to

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324
(701)328-5188

Send copy of renewal application to

Air Program (8P-AR)
Office of Partnerships & Regulatory Assistance
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

NORTH Dakota | Environmental Quality
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AIR POLLUTION CONTROL
TITLE V PERMIT TO OPERATE

Permittee: **Name**: Rainbow Energy Center, LLC **Address**: 919 Seventh Street, Suite 405 Bismarck, ND 58504	**Permit Number**: AOP-28371 v5.1 **Source Name**: Coal Creek Station
Source Location: 2875 Third Street SW Underwood, ND 58576-9596 Sec. 8, 9, 16, 17, T146N, R82W McLean County	**Source Type**: Electric Generating Unit; Coal

Expiration Date:

September 7, 2024

Pursuant to Chapter 23.1-06 of the North Dakota Century Code (NDCC), and the Air Pollution Control Rules of the State of North Dakota, Article 33.1-15 of the North Dakota Administrative Code (NDAC), and in reliance on statements and representations heretofore made by the permittee (i.e., owner) designated above, a Title V Permit to Operate is hereby issued authorizing such permittee to operate the emissions units at the location designated above. This Title V Permit to Operate is subject to all applicable rules and orders now or hereafter in effect of the North Dakota Department of Environmental Quality (Department) and to any conditions specified on the following pages. All conditions are enforceable by EPA and citizens under the Clean Air Act unless otherwise noted.

Renewal: 9/18/19
Revision (Admin.): 5/1/22

James L. Semerad
Director
Division of Air Quality

Coal Creek Station
Title V Permit to Operate
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Attachment A - Compliance Assurance Monitoring (CAM) Plan for EU 1 and 2

1. **Emission Unit Identification**: The emission units regulated by this permit are as follows:

A. **Point Sources**:

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Lignite-fired boiler (6,015 x 10^6 Btu/hr heat input) (Unit 1)	1	1	ESP and Wet Scrubber
Lignite-fired boiler (6,022 x 10^6 Btu/hr heat input) (Unit 2)	2	2	ESP and Wet Scrubber
Auxiliary boiler No. 91 fired on liquid fuels (172 x 10^6 Btu/hr heat input)	3	3	None
Auxiliary boiler No. 92 fired on liquid fuels (172 x 10^6 Btu/hr heat input)	4	3	None
Emergency engine generator 91 - diesel engine-driven emergency generator (rated at 3,500 bhp, manuf. Oct. 2015; Tier III certified)	5 [A]	5	None
Diesel engine-driven emergency fire pump (nominal 399 bhp built in 2009)	6 [A]	6	None
Lignite transfer house	7	7	Bagfilter
Lignite emergency reclaim system	8	8	Bagfilter
Lignite yard storage silos	9	9	Bagfilter
Lignite yard storage silos	10	10	Bagfilter
Crusher building (two crushers each rated at 1,500 tph)	11	11	Bagfilter
Generation building coal hopper	12	12	Bagfilter
Base of Falkirk Mining Company mine silo	13	13	Bagfilter
Generation building coal hopper	14	14	Bagfilter
Generation building coal hopper	15	15	Bagfilter
Generation building coal hopper	16	16	Bagfilter
Generation building coal hopper	17	17	Bagfilter
Fly ash silo (truck air slide)	20	20a, 20b, & 20c	Bagfilters
Fly ash silo (truck air slide)	21	21a, 21b, & 21c	Bagfilters
Fly ash railroad marketing silo	25	25a & 25b	Bagfilters
Fly ash dome	26	26a, 26b, 26c, 26d	Bagfilters
Coal dryer 26	27	27	Bagfilter
CD26 coal crusher	27a		
Coal dryer crusher building	28	36	Bagfilter
Coal dryer transfer tower	29	37	Bagfilter
Auxiliary boiler area	30	38	Bagfilter

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Coal dryer 11 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	31	39	Bagfilter
Coal dryer 12 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	32		
Coal dryer 13 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	33	40	Bagfilter
Coal dryer 14 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	34		
Coal dryer 21 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	35	41	Bagfilter
Coal dryer 22 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	36		
Coal dryer 23 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	37	42	Bagfilter
Coal dryer 24 and associated equipment with a maximum rated capacity of approximately 138 tons of coal per hour	38		
Air jig 21	39a	43	Bagfilter
Air jig 22	39b		
Lignite rail loading silo	40	44	Bagfilter
Lignite dust collector 98	41	45	Bagfilter
Lignite rail loading surge hopper 91	42	46	Bagfilter
Lignite dust collector 99	43	47	Bagfilter
Fluidized bed pilot dryer	45	49	Bagfilter
Emergency engine generator 92 - diesel engine-driven emergency generator (rated at 3,500 bhp, manuf. Oct. 2015; Tier III certified)	46 [A]	50	None
Air jig rejects Silo 92	47	51	Bagfilter
Air jig rejects loadout Spout 92	48	52	Bagfilter
Air jig rejects conveyor 921	49	53	Bagfilter
Air jig rejects conveyor 922	50	54	Bagfilter

[A] The potential to emit for an emergency stationary reciprocating internal combustion engine (RICE) is based on operating no more hours per year than is allowed by the subpart (40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ) for other than emergency situations. For engines to be considered emergency stationary RICE under the RICE rules, engine operations must comply with the operating hour limits as specified in the applicable subparts. There is no time limit on the use of emergency stationary RICE in emergency situations.

B. **Fugitive Emissions Sources**:

1) Cooling towers No. 91, No. 92, and No. 93
2) Boombelt conveyor (stackout)
3) Conveyor 909 (stackout)
4) Scrubber building flyash silo (stackout)
5) Coal pile maintenance
6) Coal handling

C. **Continuous Emission Monitoring Systems (CEMS)**: Emissions from EU 1 and EU 2 (Units 1 & 2 main stacks) are each monitored by Opacity, SO_2, NO_x, CO_2, Flow and Mercury (Hg) monitors.

2. **Applicable Standards, Restrictions and Miscellaneous Conditions**:

A. **Fuel Restriction**:

1) EU 1 and EU 2 shall be operated using lignite coal as the primary fuel. During startup, distillate fuel oils, used oil or any combination of these fuels may be utilized. During unstable firing conditions or ignition support for placing coal elevations in and out of service, distillate fuel oils, used oil or any combination of these fuels may be utilized.

2) EU 3 and EU 4 shall be operated using only ultra-low sulfur diesel fuel ($\leq$15 ppm sulfur), used oil (see Condition 2.A.4), or any combination of these fuels.

3) EU 5, EU 6 and EU 46 shall be operated using only ultra-low sulfur diesel fuel ($\leq$15 ppm sulfur).

Applicable Requirement: NDAC 33.1-15-12-03, Subpart IIII

4) Used oil may be burned as outlined below.

a) Combustion of Used Oil Containing Polychlorinated Biphenyls (PCBs) (State Enforceable Only): Burning of used oil in EU 1 and EU 2 containing PCBs is allowed during normal operations subject to the following:

1] The owner/operator shall file a Notification of Hazardous Waste Activity (EPA Form 8700-12) with the Department indicating used oil fuel activities.

2] Only oil which contains less than 50 ppm PCB may be burned. Burning of oil which contains PCB is only allowed for used oil generated by the permittee, its associated electric system, or its associated mining facilities.

3] Soil, rock and other earthen debris contaminated with mineral oil dielectric fluid which contains less than 50 ppm PCB may be burned during periods of stable load.

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

b) **Used Oil Combustion**: Burning of used oil in EU 1, EU 2, EU 3 and EU 4 is allowed subject to the following:

1] The burning of used oil shall comply with NDAC Sections 33.1-24-05-600 through 33.1-24-05-689 - Standards for the Management of Used Oil - and other applicable rules, regulations, and ordinances.

2] The annual emission inventory reports required by Condition 6.F shall include the amount of specification used oil burned.

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

Fuels other than those listed above may be burned if approved in advance by the Department and compliance with the applicable emission limits is maintained.

Applicable Requirement: Permit to Construct

B. **Stack Heights**: Emissions shall be vented from the following minimum stack heights.

Emission Point	Minimum Stack Height (feet)	Applicable Requirement
36	140	ACP-17132 v1.0
37	154	
38	230	
39	300	
40	300	
41	300	ACP-17130 v1.0
42	300	
43	230	ACP-17132 v1.0
46	110	
47	131	
48	110	

Applicable Requirements: ACP-17130 v1.0 and ACP-17132 v1.0

C. **New Source Performance Standards (NSPS)**: The permittee shall comply with all applicable requirements of the following NDAC 33.1-15-12-02 and 40 CFR 60 subparts in addition to complying with Subpart A – General Provisions.

1) Subpart D – Standards of Performance of Fossil Fuel-Fired Steam Generators (EU 1 and EU 2).

2) Subpart Y – Standards of Performance for Coal Preparation and Processing Plants (EU 7 through EU 17, EU 28 through EU 30, EU 39 through EU 45 and EU 47 through EU 50).

3) Subpart IIII (4I) – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (EU 5, EU 6 and EU 46).

Applicable Requirements: NDAC 33.1-15-12, Subparts A, D, Y and IIII

D. **Maximum Achievable Control Technology (MACT)**: The permittee shall comply with all applicable requirements of the following NDAC 33.1-15-22-03 and 40 CFR 63 subparts in addition to complying with Subpart A - General Provisions.

1) Subpart ZZZZ (4Z) – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (EU 5, EU 6 and EU 46).

2) Subpart DDDDD (5D) – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters (EU 3 and EU 4).

a) EU 3 and EU 4 (auxiliary boilers) are each classified as a *limited-use boiler*. In order to maintain *limited-use boiler* classification as defined by 40 CFR 63 Subpart DDDDD, each of the boilers shall be limited to an average annual capacity factor of no more than 10 percent as defined in 40 CFR 63.7575.

3) Subpart UUUUU (5U) – National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (EU 1 and EU 2).

Applicable Requirements: NDAC 33.1-15-22-03, Subparts A, ZZZZ, DDDDD and UUUUU

E. **Like-Kind Engine Replacement**: This permit allows the permittee to replace the existing engine(s) with a like-kind engine. Replacement is subject to the following conditions.

1) The Department must be notified within 10 days after change-out of the engine.

2) The replacement engine shall operate in the same manner, provide no increase in throughput and have equal or less emissions than the engine it is replacing.

3) The date of manufacture of the replacement engine must be included in the notification. The facility must comply with any applicable federal standards (e.g. NSPS, NESHAP, MACT) triggered by the replacement.

4) The replacement engine is subject to the same state emission limits as the existing engine in addition to any NSPS or MACT emission limit that is applicable.

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

3. **Emission Unit Limits**:

A. **Emission Limits**:

Emission Unit Description	**EU**	**EP**	**Pollutant/ Parameter**	**Emission Limit [A]**	**NDAC Applicable Requirement**
Lignite-fired boiler (Unit 1)	1	1	PM	0.10 lb/10^6 Btu [B] & 528 lb/hr [C]	33.1-15-12, Subpart D & PTC Condition
			PM (filterable)	0.03 lb/10^6 Btu [D]	33.1-15-22-03, Subpart 5U
			SO_2	1.2 lb/10^6 Btu [B], 0.15 lb/10^6 Btu [E] (See Cond. 3.B) & 6,336 lb/hr [C]	33.1-15-12, Subpart D, ACP-17249 v1.0 & PTC Condition
			NO_x	5,104 lb/hr [F]	PTC Condition
			HCl	0.002 lb/10^6 Btu [D] or SO_2 Surrogate: 0.2 lb/10^6 Btu [D]	33.1-15-22-03, Subpart 5U
			Hg	4.0 lb/10^{12} Btu [D]	33.1-15-22-03, Subpart 5U
			Opacity	See Cond. 3.C.2	33.1-15-03-02 & 33.1-15-12, Subpart D

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit [A]	NDAC Applicable Requirement
Lignite-fired boiler (Unit 2)	2	2	PM	0.10 lb/10^6 Btu [B] & 528 lb/hr [C]	33.1-15-12, Subpart D & PTC Condition
			PM (filterable)	0.03 lb/10^6 Btu [D]	33.1-15-22-03, Subpart 5U
			SO_2	1.2 lb/10^6 Btu [B], 0.15 lb/10^6 Btu [E] (See Cond. 3.B) & 6,336 lb/hr [C]	33.1-15-12, Subpart D, ACP-17249 v1.0 & PTC Condition
			NO_x	5,104 lb/hr [F]	PTC Condition
			HCl	0.002 lb/10^6 Btu [D] or SO_2 Surrogate: 0.2 lb/10^6 Btu [D]	33.1-15-22-03, Subpart 5U
			Hg	4.0 lb/10^{12} Btu [D]	33.1-15-22-03, Subpart 5U
			Opacity	See Cond. 3.C.2	33.1-15-03-02 & 33.1-15-12, Subpart D
Auxiliary boiler No. 91	3	3	PM	0.41 lb/10^6 Btu & 4.5 lb/hr	33.1-15-05-02 & PTC Condition
			SO_2	3.0 lb/10^6 Btu & 516 lb/hr [C]	33.1-15-06 & PTC Condition
			NO_x	0.7 lb/10^6 Btu	PTC Condition
			Opacity	See Cond. 3.C.1	33.1-15-03-02
			Annual Capacity	See Cond. 2.D.2)a	33.1-15-22-03, Subpart 5D
Auxiliary boiler No. 92	4	3	PM	0.41 lb/10^6 Btu & 4.5 lb/hr	33.1-15-03-02 & PTC Condition
			SO_2	3.0 lb/10^6 Btu & 516 lb/hr [C]	33.1-15-06 & PTC Condition
			NO_x	0.7 lb/10^6 Btu	PTC Condition
			Opacity	See Cond. 3.C.1	33.1-15-03-02
			Annual Capacity	See Cond. 2.D.2)a	33.1-15-22-03, Subpart 5D

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit [A]	NDAC Applicable Requirement
Emergency engine generator 91	5	5	Opacity	See Cond. 3.C.1	33.1-15-03-02
			Operating Hours	See Cond. 1.A, Footnote A	33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z
Emergency fire pump engine	6	6	Opacity	See Cond. 3.C.1	33.1-15-03-02
			Operating Hours	See Cond. 1.A, Footnote A	33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z
Lignite transfer house	7	7	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Lignite emergency reclaim system	8	8	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Lignite yard storage silos	9	9	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Lignite yard storage silos	10	10	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Crusher building (two crushers)	11	11	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Generation building coal hopper	12	12	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Base of Falkirk Mining Company mine silo	13	13	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Generation building coal hopper	14	14	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit [A]	NDAC Applicable Requirement
Generation building coal hopper	15	15	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Generation building coal hopper	16	16	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Generation building coal hopper	17	17	PM	3 lb/hr	PTC Condition
			Opacity	See Cond. 3.C.3	33.1-15-03-02 & 33.1-15-12, Subpart Y
Fly ash silo	20	20a, 20b & 20c	PM	3 lb/hr [G]	PTC Condition
			Opacity	See Cond. 3.C.1 [G]	33.1-15-03-02
Fly ash silo	21	21a, 21b & 21c	PM	3 lb/hr [G]	PTC Condition
			Opacity	See Cond. 3.C.1 [G]	33.1-15-03-02
Fly ash railroad marketing silo	25	25a & 25b	PM	3 lb/hr [G]	33.1-15-14-06.5.b(1)
			Opacity	See Cond. 3.C.1 [G]	33.1-15-03-02
Fly ash dome	26	26a, 26b, 26c, 26d	PM	0.4 lb/hr [H]	33.1-15-14-06.5.b(1)
			Opacity	See Cond. 3.C.1 [G]	33.1-15-03-02
Coal dryer 26	27	27	PM	3.1 lb/hr	PTC04006
CD26 coal crusher	27a		Opacity	See Cond. 3.C.1	33.1-15-03-02
Coal dryer crusher building	28	36	PM/PM_{10}	0.004 gr/dscf & 0.75 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Coal dryer transfer tower	29	37	PM/PM_{10}	0.004 gr/dscf & 0.59 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit [A]	NDAC Applicable Requirement
Auxiliary boiler area	30	38	PM/PM_{10}	0.004 gr/dscf & 0.90 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Coal dryer 11	31	39	PM/PM_{10}	0.004 gr/dscf & 5.3 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
Coal dryer 12	32		Opacity	10%	33.1-15-15 (BACT)
Coal dryer 13	33	40	PM/PM_{10}	0.004 gr/dscf & 5.3 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
Coal dryer 14	34		Opacity	10%	33.1-15-15 (BACT)
Coal dryer 21	35	41	PM	7.0 lb.hr	ACP-17130 v1.0 & 33.1-15-14-03.6
Coal dryer 22	36		Opacity	See Cond. 3.C.1	33.1-15-03-02
Coal dryer 23	37	42	PM	7.0 lb.hr	ACP-17130 v1.0 & 33.1-15-14-03.6
Coal dryer 24	38		Opacity	See Cond. 3.C.1	33.1-15-03-02
Air jig 21	39a	43	PM/PM_{10}	0.004 gr/dscf & 1.4 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
Air jig 22	39b		Opacity	10%	33.1-15-15 (BACT)
Lignite rail loading silo	40	44	PM/PM_{10}	0.004 gr/dscf & 0.08 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Lignite dust collector 98	41	45	PM/PM_{10}	0.004 gr/dscf & 0.13 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Lignite rail loading surge hopper 91	42	46	PM/PM_{10}	0.004 gr/dscf & 0.08 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Lignite dust collector 99	43	47	PM/PM_{10}	0.004 gr/dscf & 0.75 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit [A]	NDAC Applicable Requirement
Fluidized bed pilot dryer	45	49	PM/PM_{10}	0.005 gr/dscf & 0.30 lb/hr [I]	33.1-15-15 (BACT) 33.1-15-02-07
			Opacity	10%	33.1-15-15 (BACT)
Emergency engine generator 92	46	50	Opacity	See Cond. 3.C.1	33.1-15-03-02
			Operating Hours	See Cond.1.A, Footnote A	33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z
Air jig rejects silo 92	47	51	PM	0.010 gr/dscf	33.1-15-12, Subpart Y
			Opacity	See Cond. 3.C.4	33.1-15-12, Subpart Y
Air jig rejects loadout Spout 92	48	52	PM	0.010 gr/dscf	33.1-15-12, Subpart Y
			Opacity	See Cond. 3.C.4	33.1-15-12, Subpart Y
Air jig rejects conveyor 921	49	53	PM	0.010 gr/dscf	33.1-15-12, Subpart Y
			Opacity	See Cond. 3.C.4	33.1-15-12, Subpart Y
Air jig rejects conveyor 922	50	54	PM	0.010 gr/dscf	33.1-15-12, Subpart Y
			Opacity	See Cond. 3.C.4	33.1-15-12, Subpart Y

A Emission limits are based on a 1-hour average, unless otherwise noted.
B This standard does not apply during startup, shutdown and malfunction.
C 3-hr rolling average
D 30-boiler operating day rolling average; emissions from both units (EU 1 and EU 2) may be averaged.
E 30-day rolling average; emissions from both units (EU 1 and EU 2) may be averaged.
F 12-month rolling average
G Emission limit applies to each emission point.
H Emission limit applies to the total of the emission points (EP 26a through 26d).
I Most stringent limit applies.

B. **EU 1 and EU 2**: The term "30-day rolling average," as used in this permit, shall be determined by calculating an arithmetic average of all hourly rates for the current boiler operating day and the previous 29 boiler operating days. A new 30-day rolling average shall be calculated for each boiler operating day. Each 30-day rolling average rate shall include start-up, shutdown, emergency and malfunction periods unless those periods are exempt by this permit. The 30-day rolling average emission rate is calculated as follows:

- Calculate the hourly average emission rate for any hour in which any fuel is combusted in the boiler.

- Calculate the 30-day rolling average emission rate as the arithmetic average of all valid hourly average emission rates for the 30 successive boiler operating days.

The term "boiler operating day," as used in this permit, means any twenty-four-hour period between midnight and the following midnight during which any fuel is combusted at any time at the steam generating unit.

1) Unit 1 and Unit 2 shall not discharge or cause the discharge of sulfur dioxide (SO_2) into the atmosphere in excess of either:

   a) 0.15 pounds per million British thermal units ($lb/10^6$ Btu) of heat input on a 30-day rolling average basis; or as an alternative

   b) 5.0% of the SO_2 reaching the inlet of the scrubber (95.0% reduction) on a 30-day rolling average basis.

   For determining compliance with the above emission limits, the permittee may average emissions from Unit 1 and Unit 2 provided the average does not exceed 0.15 $lb/10^6$ Btu; or 5.0 percent (95.0% reduction) of the SO_2 reaching the inlet of the scrubbing system(s), as appropriate.

   Applicable Requirement: ACP-17249 v1.0

C. **Opacity Limits**: The following are the opacity limits referenced for the various emission units listed in the Condition 3.A table:

1) EU 3 through 6, 20 through 27, EU 35 through 38 and EU 46 - Twenty percent (six-minute average), except that a maximum of forty percent (six-minute average) is permissible for not more than one six-minute period per hour. This standard applies at all times.

   Applicable Requirement: NDAC 33.1-15-03-02

2) EU 1 and EU 2 - Twenty percent (six-minute average), except that a maximum of twenty-seven percent (six-minute average) is permissible for not more than one six-minute period per hour. This standard does not apply during startup, shutdown and malfunction.

   Applicable Requirements: NDAC 33.1-15-12, Subpart A and Subpart D

3) EU 7 through EU 17 - Twenty percent opacity (six-minute average) or greater shall not be discharged into the atmosphere. This standard does not apply during startup, shutdown and malfunction.

   Applicable Requirements: NDAC 33.1-15-12, Subpart A and Subpart Y

4) EU 47 through EU 50 - Ten percent opacity (six-minute average) or greater shall not be discharged into the atmosphere.

   Applicable Requirements: NDAC 33.1-33.1-15-12, Subpart A and Subpart Y

4. **Monitoring Requirements and Conditions:**

A. **Requirements:**

Emission Unit Description	EU	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Lignite-fired boiler (Unit 1)	1	PM/ PM (filterable)	O&M/Compliance Assurance Monitoring (CAM)/Emissions Test	4.B.1, 4.B.7, 4.B.8 & 4.B.13	33.1-15-14-06.10, 33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		SO_2	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, 4.B.7 & 4.B.15	33.1-15-12, Subpart D, 33.1-15-21 & ACP-17249 v1.0
		NO_x	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, & 4.B.7	33.1-15-21
		NO_x & CO	Tune-up	4.B.6	33.1-15-22-03, Subpart 5U
		CO_2	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, & 4.B.7	33.1-15-12, Subpart D, 33.1-15-21 & ACP-17249 v1.0
		HCl	O&M/Emissions Test or SO_2 CEMS	4.B.1, 4.B.7 & 4.B.8	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		Hg	O&M/Emissions Test or Hg CEMS	4.B.1, 4.B.7 & 4.B.8	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		Opacity	O&M/COMS	4.B.1, 4.B.2, 4.B.3, 4.B.4 & 4.B.7	33.1-15-14-06.5.a(3)(a), 33.1-15-12, Subpart D & 33.1-15-21
		Flow	Flow Monitor	4.B.1, 4.B.3 & 4.B.4	33.1-15-21 & ACP-17249 v1.0

Emission Unit Description	EU	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Lignite-fired boiler (Unit 2)	2	PM/ PM (filterable)	O&M/CAM/ Emissions Test	4.B.1, 4.B.7, 4.B.8 & 4.B.13	33.1-15-14-06.10, 33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		SO_2	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, 4.B.7 & 4.B.15	33.1-15-12, Subpart D, 33.1-15-21 & ACP-17249 v1.0
		NO_x	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, & 4.B.7	33.1-15-21
		NO_x & CO	Tune-up	4.B.6	33.1-15-22-03, Subpart 5U
		CO_2	O&M/CEMS	4.B.1, 4.B.3, 4.B.4, & 4.B.7	33.1-15-12, Subpart D, 33.1-15-21 & ACP-17249 v1.0
		HCl	O&M/Emissions Test or SO_2 CEMS	4.B.1, 4.B.7 & 4.B.8	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		Hg	O&M/Emissions Test or Hg CEMS	4.B.1, 4.B.7 & 4.B.8	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5U
		Opacity	O&M/COMS	4.B.1, 4.B.2, 4.B.3, 4.B.4 & 4.B.7	33.1-15-14-06.5.a(3)(a), 33.1-15-12, Subpart D & 33.1-15-21
		Flow	Flow Monitor	4.B.1, 4.B.3 & 4.B.4	33.1-15-21 & ACP-17249 v1.0
Auxiliary boiler No. 91	3	PM/Opacity	Recordkeeping	4.B.5 & 4.B.8)b	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5D
		SO_2	Sulfur Analysis	4.B.11	33.1-15-14-06.5.a(3)(a)
		NO_x/HAP	Tune-up	4.B.9	33.1-15-22-03, Subpart 5D
		Annual Capacity Factor	Recordkeeping	4.B.14	33.1-15-22-03, Subpart 5D & 33.1-15-14-06.5.a(3)(a)

Emission Unit Description	EU	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Auxiliary boiler No. 92	4	PM/Opacity	Recordkeeping	4.B.5 & 4.B.8)b	33.1-15-14-06.5.a(3)(a) & 33.1-15-22-03, Subpart 5D
		SO_2	Sulfur Analysis	4.B.11	33.1-15-14-06.5.a(3)(a)
		NO_x/HAP	Tune-up	4.B.9	33.1-15-22-03, Subpart 5D
		Annual Capacity Factor	Recordkeeping	4.B.14	33.1-15-22-03, Subpart 5D & 33.1-15-14-06.5.a(3)(a)
Emergency engine generator 91	5	Opacity	Recordkeeping	4.B.5	33.1-15-14-06.5.a(3)(a)
		Operating Hours	Recordkeeping	Cond.1.A, Footnote A & 4.B.12	33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z
Emergency fire pump engine	6	Opacity	Recordkeeping	4.B.5	33.1-15-14-06.5.a(3)(a)
		Operating Hours	Recordkeeping	Cond.1.A, Footnote A & 4.B.12	33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z
Lignite transfer house	7	PM/Opacity	O&M/VE Observations (VEO)	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite emergency reclaim system	8	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite yard storage silos	9	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite yard storage silos	10	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Crusher building (two crushers)	11	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Generation building coal hopper	12	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Base of Falkirk Mining Company mine silo	13	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Generation building coal hopper	14	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Generation building coal hopper	15	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Generation building coal hopper	16	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)

Emission Unit Description	EU	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Generation building coal hopper	17	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Fly ash silo	20	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Fly ash silo	21	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Fly ash railroad marketing silo	25	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Fly ash dome	26	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 26	27	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
CD26 coal crusher	27a				
Coal dryer crusher building	28	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer transfer tower	29	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Auxiliary boiler area	30	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 11	31	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 12	32				
Coal dryer 13	33	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 14	34				
Coal dryer 21	35	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 22	36				
Coal dryer 23	37	PM/Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Coal dryer 24	38				
Air jig 21	39a	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Air jig 22	39b				
Lignite rail loading silo	40	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite dust collector 98	41	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite rail loading surge hopper 91	42	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Lignite dust collector 99	43	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Fluidized bed pilot dryer	45	PM/PM_{10}/ Opacity	O&M/VEO	4.B.7 & 4.B.10	33.1-15-14-06.5.a(3)(a)
Emergency engine generator 92	46	Opacity Operating Hours	Recordkeeping Recordkeeping	4.B.5 Cond.1.A, Footnote A & 4.B.12	33.1-15-14-06.5.a(3)(a) 33.1-15-12, Subpart 4I & 33.1-15-22, Subpart 4Z

Emission Unit Description	EU	Pollutant/ Parameter	Monitoring Requirement (Method)	Condition Number	NDAC Applicable Requirement
Air jig rejects silo 92	47	PM	Emissions Test	4.B.17	ACP-17754 v1.0 & 33.1-15-12-03, Subpart Y
		Opacity	O&M/VEO	4.B.7 & 4.B.16	ACP-17754 v1.0, 33.1-15-14-06.5.a(3)(a) & 33.1-15-12-03, Subpart Y
Air jig rejects loadout spout 92	48	PM	Emissions Test	4.B.17	ACP-17754 v1.0 & 33.1-15-12-03, Subpart Y
		Opacity	O&M/VEO	4.B.7 & 4.B.16	ACP-17754 v1.0, 33.1-15-14-06.5.a(3)(a) & 33.1-15-12-03, Subpart Y
Air jig rejects conveyor 921	49	PM	Emissions Test	4.B.17	ACP-17754 v1.0 & 33.1-15-12-03, Subpart Y
		Opacity	O&M/VEO	4.B.7 & 4.B.16	ACP-17754 v1.0, 33.1-15-14-06.5.a(3)(a) & 33.1-15-12-03, Subpart Y
Air jig rejects conveyor 922	50	PM	Emissions Test	4.B.17	ACP-17754 v1.0 & 33.1-15-12-03, Subpart Y
		Opacity	O&M/VEO	4.B.7 & 4.B.16	ACP-17754 v1.0, 33.1-15-14-06.5.a(3)(a) & 33.1-15-12-03, Subpart Y

B. **Emission Monitoring Conditions**:

1) The monitoring shall be in accordance with the following applicable requirements of the North Dakota Air Pollution Control Rules (NDAC) 33.1-15-06, 33.1-15-12, 33.1-15-21 and 33.1-15-22. Emissions are calculated using 40 CFR 75, Appendix F and 40 CFR 60, Appendix A.

a) NDAC 33.1-15-06-04, Monitoring Requirements.

b) NDAC 33.1-15-12-02 and 40 CFR 60, Subpart A, §60.13, Monitoring Requirements.

c) NDAC 33.1-15-12-02 and 40 CFR 60, Subpart D, §60.45, Emission and Fuel Monitoring.

d) NDAC 33.1-15-21-09, Monitoring Requirements.

e) NDAC 33.1-15-22-03 and 40 CFR 63, Subpart UUUUU, §63.10020, Continuous Compliance Requirements

f) 40 CFR 72 and 40 CFR 75

2) The permittee shall conduct performance evaluations of the continuous opacity monitoring system with quarterly performance audits and annual zero alignments in accordance with 40 CFR 60 Appendix F, Procedure 3. For the performance evaluation, conformance with the specification for calibration error, Section 13.3 Field Audit Performance Specifications, Paragraph (2) Calibration Error of 40 CFR 60, Appendix B, Performance Specification 1 must be demonstrated. Quarterly assessments may be reduced in frequency to semi-annual with four consecutive quarters of quality-assured data (40 CFR 60 Appendix F, Procedure 3, Section 2.0). The requirements of 40 CFR 60, Appendix F, Procedure 3 include daily calibration checks, quarterly performance audits and annual primary zero alignment under clear path conditions. The procedures of Section 8.1, paragraph (3)(ii) Calibration Check of 40 CFR 60, Appendix B, Performance Specification 1 shall be used to determine conformance with the specification for calibration error.

3) The Department may require additional performance audits of the CEMS.

4) When a failure of a continuous emission monitoring system occurs, an alternative method, acceptable to the Department, for measuring or estimating emissions must be undertaken as soon as possible. The procedures outlined in 40 CFR 75, Subpart D for substitution are considered an acceptable method. Timely repair of the emission monitoring system must be made.

5) For purposes of compliance monitoring, burning of fuel in compliance with Conditions 2.A.1, 2.A.2 and 2.A.3 shall be considered credible evidence of compliance with any applicable opacity, particulate and SO_2 emission limit. However, results from tests conducted in accordance with the test methods in 40 CFR 50, 51, 60, 61, or 75 will take precedence over burning fuel in compliance with Conditions 2.A.1, 2.A.2 and 2.A.3 for evidence of compliance or noncompliance with any applicable opacity, particulate and SO_2 emission limit, in the event of enforcement action.

6) Conduct a tune-up on each existing coal-fired boiler at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, in accordance with 40 CFR 63, Subpart UUUUU.

7) The permittee shall maintain and operate emission sources and air pollution control equipment in a manner consistent with good air pollution control practice for maintaining continuous compliance. The manufacturer's recommended Operations and Maintenance (O&M) procedures, or a site-specific O&M procedure (developed from the manufacturer's recommended O&M procedures), shall be followed to assure proper operation and maintenance of the equipment. The permittee shall have the O&M procedures available on-site and provide the Department with a copy when requested.

8) a) Within two years of issuance of the renewal permit, the permittee shall conduct an emissions test to measure particulate emissions, using EPA Test Methods in 40 CFR 60, Appendix A or 40 CFR 63, Subpart UUUUU. A test shall consist of three runs, with each run at least one hour in length. Other tests may be used provided they are approved, in advance, by the Department.

Note: This requirement may be satisfied if recurring testing is otherwise performed in accordance with requirements under 40 CFR 63, Subpart UUUUU (including LEE emissions testing; see Condition 4.B.8.b).

b) Conduct particulate emissions performance tests quarterly for units subject to 40 CFR 63, Subpart UUUUU. If the permittee maintains Low-Emitting EGU (LEE) status for PM under 40 CFR 63, Subpart UUUUU, the particulate emissions test schedule may be modified to every three years.

9) Complete a boiler tune-up once every five years as specified in §63.7540 of 40 CFR 63, Subpart DDDDD.

10) At least once per week in which the emission unit is operated, a company representative (need not be certified) shall observe the emission point. If no visible emissions are observed, the date and time shall be recorded.

If visible emissions are observed, the permittee must investigate the problem within eight hours. Any problems that are discovered must be corrected as soon as possible. If the correction of the emissions is expected to take longer than 24 hours, the permittee shall follow procedures as outlined in Condition 7.H. Following corrective maintenance, a visible emissions observation shall be made.

All investigations of malfunctions and visible emissions shall be recorded. The permittee shall comply with the visible emissions and particulate emission limits and nothing in this condition shall be construed as authorizing otherwise.

11) The sulfur analysis for the fuel may be conducted by the permitted or by the source where the fuel is purchased. The permittee shall calculate sulfur dioxide emission rates from the sulfur content of the fuel using EPA emission factors or other methods approved by the Department.

12) A log shall be kept of the total hours of operation on a calendar year basis using a non-resettable hour meter. Records shall be maintained to differentiate annual emergency vs. non-emergency hours of operation.

For certified engines, collect operational and maintenance data to demonstrate that the facility complies with the engine manufacturer's emission-related written instructions [40 CFR 60.4211(a)].

13) The permittee shall conduct the monitoring, recordkeeping and reporting as required by the applicable subparts of 40 CFR 64. Monitoring shall be conducted in accordance with the

Compliance Assurance Monitoring (CAM) Plan in Attachment A of this permit. The indicator ranges for emission units subject to CAM are as follows:

Indicator Emission Unit	Indicator Monitored	Range
EU 1 (ESP) (Particulate)	Opacity	≤ 20%
EU 2 (ESP) (Particulate)	Opacity	≤ 20%

14) The permittee shall monitor and record the type and amount of fuel used by the Auxiliary Boilers (EU 3 and EU 4). By the 15th day of each January, the permittee shall calculate and record for each limited use boiler the annual capacity factor as defined in §63.7575. These records shall be retained by the permittee for a period of five years and made available to the Department upon request. If the annual capacity factor exceeds 10 percent, the permittee shall notify the Department within 15 days after making the calculation.

15) When averaging the emissions of Unit 1 and Unit 2, compliance shall be determined in accordance with the following:

$$\text{Average ER} = \frac{[(AER_1)(HI_1)+(AER_2)(HI_2)]}{(HI_1 + HI_2)}$$

$$\text{Average ER} = \frac{[(ER_1)(HI_1)+(ER_2)(HI_2)]}{(HI_1 + HI_2)}$$

Average ER = Average Actual Emission Rate
AER_1 = Average Actual Emission Rate of EU Unit 1
AER_2 = Average Actual Emission Rate of EU Unit 2
ER_1 = Actual Emission Rate (lb/10^6 Btu or % Reduction) of EU Unit 1
ER_2 = Actual Emission Rate (lb/10^6 Btu or % Reduction) of EU Unit 2
HI_1 = Actual Heat Input (10^6 Btu) of EU Unit 1
HI_2 = Actual Heat Input (10^6 Btu) of EU Unit 2

Notes:
- ER and HI are 30-day rolling averages.
- 30-day rolling average for the 30 successive boiler operating days as defined in Condition 3.B.
- % Reduction can be on either a lb/10^6 Btu, ppmvd @ 3% O_2, or pounds of SO_2 basis.

16) Following the initial opacity performance test, a new performance test must be conducted according to the requirements in paragraphs (b)(2)(i) through (iii) of 40 CFR 60, Subpart Y, §60.255, as applicable, except as provided for in paragraphs (e) and (f) of the section. The opacity performance tests shall be performed by a visible emissions certified company/permittee representative.

a) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

If average opacity readings in the most recent performance test exceed half the applicable opacity limit, the requirements of paragraph (b)(2)(i) of 40 CFR 60, Subpart Y, §60.255 shall be followed.

17) Following the initial emissions test, an owner or operator subject to a PM emission standard and using a control device with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the requirements of paragraphs (b)(1)(i) and (ii) of 40 CFR 60, Subpart Y, §60.255 provided that the owner or operator meets all of the conditions specified in paragraphs (d)(1) through (3) of §60.255, which are:

a) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit;

b) The control device manufacturer's recommended maintenance procedures are followed; and

c) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the applicable opacity limit or the monitoring requirements in paragraphs (e) or (f) of §60.255 are followed.

If any one condition or a combination of the conditions is not met, the requirements of paragraphs (b)(1)(i) and (ii) of 40 CFR 60, Subpart Y, §60.255 shall be followed.

5. **Recordkeeping Requirements**:

A. The permittee shall maintain compliance monitoring records as outlined in the Monitoring Records table that include the following information.

1) The date, place (as defined in the permit) and time of sampling or measurement.

2) The date(s) testing was performed.

3) The company, entity, or person that performed the testing.

4) The testing techniques or methods used.

5) The results of such testing.

6) The operating conditions that existed at the time of sampling or measurement.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(3)(b)[1]

7) The records of quality assurance for emissions measuring systems including but not limited to quality control activities, audits and calibration drifts as required by the applicable test method.

8) A copy of all field data sheets from the emissions testing.

9) A record shall be kept of all maintenance conducted on the emission units or air pollution control equipment.

10) Records shall be kept as to the type of fuel usage.

Applicable Requirement: ACP-17249 v1.0

Monitoring Records

Emission Unit Description	**EU**	**Pollutant/ Parameter**	**Compliance Monitoring Record**
Lignite-fired boiler (Unit 1)	1	PM/PM (filterable)	CAM Data & Emissions Test Data
		SO_2 (lb/10^6 Btu)	O&M & CEMS Data
		SO_2 (lb/hr)	O&M, CEMS & Material Balance Data
		NO_x & CO	O&M, CEMS & Tune-up Records Data
		CO_2	O&M & CEMS Data
		HCl	O&M Data & CEMS or Emissions Test Data
		Hg	O&M Data & CEMS or Emissions Test Data
		Opacity	O&M & COMS Data
		Flow	Flow Monitor Data

Emission Unit Description	EU	Pollutant/ Parameter	Compliance Monitoring Record
Lignite-fired boiler (Unit 2)	2	PM/PM (filterable)	CAM Data & Emissions Test Data
		SO_2 (lb/10^6 Btu)	O&M & CEMS Data
		SO_2 (lb/hr)	O&M, CEMS & Material Balance Data
		NO_x & CO	O&M, CEMS & Tune-up Records Data
		CO_2	O&M & CEMS Data
		HCl	O&M Data & CEMS or Emissions Test Data
		Hg	O&M Data & CEMS or Emissions Test Data
		Opacity	O&M & COMS Data
		Flow	Flow Monitor Data
Auxiliary Boiler No. 91	3	PM/Opacity	Type of Fuel Usage
		SO_2	Sulfur Analysis
		NO_x	Emissions Test Data or Tune-up Records
		HAP	Tune-up Records
		Annual Capacity Factor	Fuel Records & Calculations
Auxiliary Boiler No. 92	4	PM/Opacity	Type of Fuel Usage
		SO_2	Sulfur Analysis
		NO_x	Emissions Test Data or Tune-up Records
		HAP	Tune-up Records
		Annual Capacity Factor	Fuel Records & Calculations
Emergency generator engine 91	5	Opacity	Type of Fuel Usage
		Operating Hours	Hours of Operation Data

Emission Unit Description	EU	Pollutant/ Parameter	Compliance Monitoring Record
Emergency fire pump engine	6	Opacity Operating Hours	Type of Fuel Usage Hours of Operation Data
Lignite transfer house	7	PM/Opacity	O&M & VEO Data
Lignite emergency reclaim system	8	PM/Opacity	O&M & VEO Data
Lignite yard storage silos	9	PM/Opacity	O&M & VEO Data
Lignite yard storage silos	10	PM/Opacity	O&M & VEO Data
Crusher building (two crushers)	11	PM/Opacity	O&M & VEO Data
Generation building coal hopper	12	PM/Opacity	O&M & VEO Data
Base of Falkirk Mining Company mine silo	13	PM/Opacity	O&M & VEO Data
Generation building coal hopper	14	PM/Opacity	O&M & VEO Data
Generation building coal hopper	15	PM/Opacity	O&M & VEO Data
Generation building coal hopper	16	PM/Opacity	O&M & VEO Data
Generation building coal hopper	17	PM/Opacity	O&M & VEO Data
Fly ash silo	20	PM/Opacity	O&M & VEO Data
Fly ash silo	21	PM/Opacity	O&M & VEO Data
Fly ash railroad marketing silo	25	PM/Opacity	O&M & VEO Data
Fly ash dome	26	PM/Opacity	O&M & VEO Data
Coal dryer	27	PM/Opacity	O&M & VEO Data
CD26 coal crusher	27a		
Coal dryer crusher building	28	PM/PM_{10}/Opacity	O&M & VEO Data
Coal dryer transfer tower	29	PM/PM_{10}/Opacity	O&M & VEO Data
Auxiliary boiler area	30	PM/PM_{10}/Opacity	O&M & VEO Data
Coal dryer 11	31	PM/PM_{10}/Opacity	O&M & VEO Data
Coal dryer 12	32		
Coal dryer 13	33	PM/PM_{10}/Opacity	O&M & VEO Data
Coal dryer 14	34		
Coal dryer 21	35	PM/Opacity	O&M & VEO Data
Coal dryer 22	36		
Coal dryer 23	37	PM/Opacity	O&M & VEO Data
Coal dryer 24	38		
Air jig 21	39a	PM/PM_{10}/Opacity	O&M & VEO Data
Air jig 22	39b		
Lignite rail loading silo	40	PM/PM_{10}/Opacity	O&M & VEO Data
Lignite dust collector 98	41	PM/PM_{10}/Opacity	O&M & VEO Data
Lignite rail loading surge hopper 91	42	PM/PM_{10}/Opacity	O&M & VEO Data
Lignite dust collector 99	43	PM/PM_{10}/Opacity	O&M & VEO Data

Emission Unit Description	EU	Pollutant/ Parameter	Compliance Monitoring Record
Fluidized bed pilot dryer	45	PM/PM_{10}/Opacity	O&M & VEO Data
Emergency Engine Generator 92	46	Opacity Operating Hours	Type of Fuel Usage Hours of Operation Data
Air Jig Rejects Silo 92	47	PM/Opacity	Emissions Test, O&M & VEO Data
Air Jig Rejects Loadout Spout 92	48	PM/Opacity	Emissions Test, O&M & VEO Data
Air Jig Rejects Conveyor 921	49	PM/Opacity	Emissions Test, O&M & VEO Data
Air Jig Rejects Conveyor 922	50	PM/Opacity	Emissions Test, O&M & VEO Data

B. In addition to requirements outlined in Condition 5.A, recordkeeping for EU 1, EU 2, EU 7 through EU 17 and EU 47 through EU 50 shall be in accordance with the following requirements of NDAC 33.1-15-06, 33.1-15-12, 33.1-15-14, 33.1-15-21 and 33.1-15-22, as applicable:

1) NDAC 33.1-15-06-05, Reporting and Recordkeeping Requirements.

2) NDAC 33.1-15-12 and 40 CFR 60, Subpart A, §60.7, Notification and Recordkeeping and Subpart Y, §60.258, Reporting and Recordkeeping.

3) NDAC 33.1-15-14 and 40 CFR 64, §64.9 - Reporting and Recordkeeping Requirements, Paragraph (b) General Recordkeeping Requirements.

4) NDAC 33.1-15-21-09, 40 CFR 72 and 40 CFR 75 - Recordkeeping Requirements.

5) NDAC 33.1-15-22 and 40 CFR 63, Subpart UUUUU, §63.10032 and §63.10033, Notification, Reports and Records.

Applicable Requirements: NDAC 33.1-15-06, NDAC 33.1-15-12, NDAC 33.1-15-21, NDAC 33.1-15-22, 40 CFR 72, 40 CFR 75

C. Recordkeeping for EU 3 and 4 (auxiliary boilers) shall be in accordance with 40 CFR 63, Subpart DDDDD, §63.7555 and §63.7560, Notification, Reports and Records.

Applicable Requirement: NDAC 33.1-15-22, Subpart DDDDD

B. The permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sampling, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings/computer printouts of continuous monitoring instrumentation, and copies of all reports required by the permit.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(3)(b)[2]

6. **Reporting**:

A. Reporting for EU 1, EU 2, EU 7 through EU 17 and EU 47 through EU 50 shall be in accordance with the following requirements of NDAC 33.1-15-06, 33.1-15-12, 33.1-15-14, 33.1-15-21 and 33.1-15-22, as applicable:

1) NDAC 33.1-15-06-05, Reporting and Recordkeeping Requirements.

2) NDAC 33.1-15-12 and 40 CFR 60, Subpart A, §60.7, Notification and Recordkeeping and Subpart Y, §60.258, Reporting and Recordkeeping.

3) NDAC 33.1-15-14 and 40 CFR 64, §64.9 - Reporting and Recordkeeping Requirements, Paragraph (a) General Reporting Requirements.

4) NDAC 33.1-15-21-09, Reporting and Recordkeeping Requirements.

5) NDAC 33.1-15-22 and 40 CFR 63, Subpart UUUUU, §63.10030 and §63.10031, Notification, Reports and Records.

6) 40 CFR 75, Subpart F, Reporting Requirements.

7) Quarterly excess emissions reports for EU 1 and EU 2 shall be submitted by the 30th day following the end of each calendar quarter. Excess emissions are defined as emissions which exceed the emission limits for EU 1 and EU 2 as outlined in Condition 3. Excess emissions shall be reported for the following:

Parameter	Reporting Period
SO_2 lb/10^6 Btu	3-hour rolling average
SO_2 lb/10^6 Btu or percent reduction	30-day rolling average
SO_2 lb/hr	3-hour rolling average
NO_x lb/hr	12-month rolling average
Hg lb/10^{12} Btu	30-boiler operating day average
Opacity %	6-minute average

Applicable Requirements: NDAC 33.1-15-06, NDAC 33.1-15-21, NDAC 33.1-15-22, 40 CFR 72, 40 CFR 75 and ACP-17249 v1.0

B. For EU 3 and EU 4 (auxiliary boilers), reporting shall be in accordance with 40 CFR 63, Subpart A, §63.10, Recordkeeping and Reporting and 40 CFR 63, Subpart DDDDD, Notification, Reports and Records.

Applicable Requirement: NDAC 33.1-15-22

C. The permittee shall submit a semi-annual monitoring report for all monitoring records required under Condition 5 in a format provided or approved by the Department. All instances of deviations

from the permit must be identified in the report. A monitoring report shall be submitted within 45 days after June 30 and December 31 of each year.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(3)(c)[1] and [2]

D. The permittee shall submit an annual compliance certification report in accordance with NDAC 33.1-15-14-06.5.c(5) within 45 days after December 31 of each year in a format provided or approved by the Department.

Applicable Requirement: NDAC 33.1-15-14-06.5.c(5)

E. For emission units where the method of compliance monitoring is demonstrated by an EPA Test Method or a portable analyzer test, the test report shall be submitted to the Department within 60 days after completion of the test.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(e)

F. The permittee shall submit an annual emission inventory report in a format provided or approved by the Department. This report shall be submitted by March 15 of each year. Insignificant units/activities listed in this permit do not need to be included in the report.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(7) and NDAC 33.1-15-23-04

7. **Facility Wide Operating Conditions**:

A. **Ambient Air Quality Standards**:

1) Particulate and gases. The permittee shall not emit air contaminants in such a manner or amount that would violate the standards of ambient air quality listed in Table 1 of NDAC 33.1-15-02, external to buildings, to which the general public has access.

2) Radioactive substances. The permittee shall not release into the ambient air any radioactive substances exceeding the concentrations specified in NDAC 33.1-10.

3) Other air contaminants. The permittee shall not emit any other air contaminants in concentrations that would be injurious to human health or well-being or unreasonably interfere with the enjoyment of property or that would injure plant or animal life.

4) Disclaimer. Nothing in any other part or section of this permit may in any manner be construed as authorizing or legalizing the emission of air contaminants in such manner that would violate the standards in Paragraphs 1), 2) and 3) of this condition.

Applicable Requirements: NDAC 33.1-15-02-04 and 40 CFR 50.1(e)

B. **Fugitive Emissions**: The release of fugitive emissions shall comply with the applicable requirements in NDAC 33.1-15-17.

Applicable Requirement: NDAC 33.1-15-17

C. **Open Burning**: The permittee may not cause, conduct, or permit open burning of refuse, trade waste, or other combustible material, except as provided for in Section 33.1-15-04-02 and may not conduct, cause, or permit the conduct of a salvage operation by open burning. Any permissible open burning under NDAC 33.1-15-04-02 must comply with the requirements of that section.

Applicable Requirement: NDAC 33.1-15-04

D. **Asbestos Renovation or Demolition**: Any asbestos renovation or demolition at the facility shall comply with emission standard for asbestos in NDAC 33.1-15-13.

Applicable Requirement: NDAC 33.1-15-13-02

E. **Requirements for Organic Compounds Gas Disposal**:

1) Any organic compounds, gases and vapors which are generated as wastes as the result of storage, refining or processing operations and which contain hydrogen sulfide shall be incinerated, flared or treated in an equally effective manner before being released into the ambient air.

2) Each flare must be equipped and operated with an automatic ignitor or a continuous burning pilot.

Applicable Requirement: NDAC 33.1-15-07-02

F. **Rotating Pumps and Compressors**: All rotating pumps and compressors handling volatile organic compounds must be equipped and operated with properly maintained seals designed for their specific product service and operating conditions.

Applicable Requirement: NDAC 33.1-15-07-01.5

G. **Shutdowns/Malfunction/Continuous Emission Monitoring System Failure**:

1) Maintenance Shutdowns. In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Department at least 24 hours prior to the planned shutdown provided that the air contaminating source will be operated while the control equipment is not in service. Such prior notice shall include the following:

a) Identification of the specific facility to be taken out of service as well as its location and permit number.

b) The expected length of time that the air pollution control equipment will be out of service.

c) The nature and estimated quantity of emissions of air pollutants likely to be emitted during the shutdown period.

d) Measures, such as the use of off-shift labor and equipment, that will be taken to minimize the length of the shutdown period.

e) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.

f) Nothing in this subsection shall in any manner be construed as authorizing or legalizing the emission of air contaminants in excess of the rate allowed by this article or a permit issued pursuant to this article.

Applicable Requirement: NDAC 33.1-15-01-13.1

2) Malfunctions.

a) When a malfunction in any installation occurs that can be expected to last longer than 24 hours and cause the emission of air contaminants in violation of this article or other applicable rules and regulations, the person responsible for such installation shall notify the Department of such malfunction as soon as possible during normal working hours. The notification must contain a statement giving all pertinent facts, including the estimated duration of the breakdown. The Department shall be notified when the condition causing the malfunction has been corrected.

b) Immediate notification to the Department is required for any malfunction that would threaten health or welfare or pose an imminent danger. During normal working hours the Department can be contacted at 701-328-5188. After hours the Department can be contacted through the 24-hour state radio emergency number 1-800-472-2121. If calling from out of state, the 24-hour number is 701-328-9921.

c) Unavoidable Malfunction. The owner or operator of a source who believes any excess emissions resulted from an unavoidable malfunction shall submit a written report to the Department which includes evidence that:

[1] The excess emissions were caused by a sudden, unavoidable breakdown of technology that was beyond the reasonable control of the owner or operator.

[2] The excess emissions could not have been avoided by better operation and maintenance, did not stem from an activity or event that could have been foreseen and avoided, or planned for.

[3] To the extent practicable, the source maintained and operated the air pollution control equipment and process equipment in a manner consistent with good practice for minimizing emissions, including minimizing any bypass emissions.

[4] Any necessary repairs were made as quickly as practicable, using off-shift labor and overtime as needed and possible.

[5] All practicable steps were taken to minimize the potential impact of the excess emissions on ambient air quality.

[6] The excess emissions are not part of a recurring pattern that may have been caused by inadequate operation or maintenance, or inadequate design of the malfunctioning equipment.

The report shall be submitted within 30 days of the end of the calendar quarter in which the malfunction occurred or within 30 days of a written request by the Department, whichever is sooner.

The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred. The Department may elect not to pursue enforcement action after considering whether excess emissions resulted from an unavoidable equipment malfunction. The Department will evaluate, on a case-by-case basis, the information submitted by the owner or operator to determine whether to pursue enforcement action.

Applicable Requirement: NDAC 33.1-15-01-13.2

3) Continuous Emission Monitoring System Failures. When a failure of a continuous emission monitoring system occurs, an alternative method for measuring or estimating emissions must be undertaken as soon as possible. The owner or operator of a source that uses an alternative method shall have the burden of demonstrating that the method is accurate. Timely repair of the emission monitoring system must be made. The provisions of this subsection do not apply to sources that are subject to monitoring requirements in Chapter 33.1-15-21 (40 CFR 75, Acid Rain Program).

Applicable Requirement: NDAC 33.1-15-01-13.3

H. **Noncompliance Due to an Emergency**: The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

1) An emergency occurred, and that the permittee can identify the cause(s) of the emergency;

2) The permitted facility was at the time being properly operated;

3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and

4) The permittee submitted notice of the emergency to the Department within one working day of the time when emission limitations were exceeded longer than 24-hours due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. Those emergencies not reported within one working day, as well as those that were, will be included in the semi-annual report.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

Technology-based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a New Source Performance Standard) rather than those established to attain a health-based air quality standard.

An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of this source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes this source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Applicable Requirement: NDAC 33.1-15-14-06.5.g

I. **Air Pollution from Internal Combustion Engines**: The permittee shall comply with all applicable requirements of NDAC 33.1-15-08-01 – Internal Combustion Engine Emissions Restricted.

Applicable Requirement: NDAC 33.1-15-08-01

J. **Prohibition of Air Pollution**:

1) The permittee shall not permit or cause air pollution, as defined in NDAC 33.1-15-01-04.

2) Nothing in any other part of this permit or any other regulation relating to air pollution shall in any manner be construed as authorizing or legalizing the creation or maintenance of air pollution.

Applicable Requirement: NDAC 33.1-15-01-15

K. **Performance Tests**:

1) The Department may reasonably require the permittee to make or have made tests, at a reasonable time or interval, to determine the emission of air contaminants from any source, for the purpose of determining whether the permittee is in violation of any standard or to satisfy other requirements of NDCC 23.1-06. All tests shall be made, and the results calculated in accordance with test procedures approved or specified by the Department including the North Dakota Department of Environmental Quality Emission Testing Guideline. All tests shall be conducted by reputable, qualified personnel. The Department shall be given a copy of the test results in writing and signed by the person responsible for the tests.

2) The Department may conduct tests of emissions of air contaminants from any source. Upon request of the Department, the permittee shall provide necessary and adequate access into stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices, as may be necessary for proper determination of the emission of air contaminants.

Applicable Requirement: NDAC 33.1-15-01-12

3) Except for sources subject to 40 CFR 63, the permittee shall notify the Department by submitting a Proposed Test Plan, or its equivalent, at least 30 calendar days in advance of any tests of emissions of air contaminants required by the Department. The permittee shall notify the Department at least 60 calendar days in advance of any performance testing required under 40 CFR 63, unless otherwise specified by the subpart. If the permittee is unable to conduct the performance test on the scheduled date, the permittee shall notify the Department as soon as practicable when conditions warrant and shall coordinate a new test date with the Department.

Failure to give the proper notification may prevent the Department from observing the test. If the Department is unable to observe the test because of improper notification, the test results may be rejected.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(3)(a), NDAC 33.1-15-12-02 Subpart A (40 CFR 60.8), NDAC 33.1-15-13-01.2 Subpart A (40 CFR 61.13), NDAC 33.1-15-22-03 Subpart A (40 CFR 63.7)

L. **Pesticide Use and Disposal**: Any use of a pesticide or disposal of surplus pesticides and empty pesticide containers shall comply with the requirements in NDAC 33.1-15-10.

Applicable Requirements: NDAC 33.1-15-10-01 and NDAC 33.1-15-10-02

M. **Air Pollution Emergency Episodes**: When an air pollution emergency episode is declared by the Department, the permittee shall comply with the requirements in NDAC 33.1-15-11.

Applicable Requirements: NDAC 33.1-15-11-01 through NDAC 33.1-15-11-04

N. **Stratospheric Ozone Protection**: The permittee shall comply with any applicable standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in Subpart B:

1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

4) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to Section 82.156.

Applicable Requirement: 40 CFR 82

O. **Chemical Accident Prevention**: The permittee shall comply with all applicable requirements of Chemical Accident Prevention pursuant to 40 CFR 68. The permittee shall comply with the requirements of this part no later than the latest of the following dates:

1) Three years after the date on which a regulated substance is first listed under this part; or

2) The date on which a regulated substance is first present above a threshold quantity in a process.

Applicable Requirement: 40 CFR 68

P. **Air Pollution Control Equipment**: The permittee shall maintain and operate air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The manufacturer's recommended Operations and Maintenance (O&M) procedures, or a site-specific O&M procedure developed from the manufacturer's recommended O&M procedures, shall be followed to assure proper operation and maintenance of the equipment. The permittee shall have the O&M procedures available onsite and provide the Department with a copy when requested.

Applicable Requirement: NDAC 33.1-15-14-06.5.b(1)

Q. **Prevention of Significant Deterioration of Air Quality** (40 CFR 52.21 as incorporated by NDAC Chapter 33.1-15-15): If this facility is classified as a major stationary source under the Prevention of Significant Deterioration of Air Quality (PSD) rules, a Permit to Construct must be obtained from the Department for any project which meets the definition of a "major modification" under 40 CFR 52.21(b)(2).

If this facility is classified as a major stationary source under the PSD rules and the permittee elects to use the method specified in 40 CFR 52.21(b)(41)(ii)(a) through (c) for calculating the projected actual emissions of a proposed project, then the permittee shall comply with all applicable requirements of 40 CFR 52.21(r)(6).

Applicable Requirement: NDAC 33.1-15-15-01.2

8. **General Conditions**:

A. **Annual Fee Payment**: The permittee shall pay an annual fee, for administering and monitoring compliance, which is determined by the actual annual emissions of regulated contaminants from the previous calendar year. The Department will send a notice, identifying the amount of the annual permit fee, to the permittee of each affected installation. The fee is due within 60 days following the date of such notice. Any source that qualifies as a "small business" may petition the Department to reduce or exempt any fee required under this section. Failure to pay the fee in a timely manner or submit a certification for exemption may cause this Department to initiate action to revoke the permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(7) and NDAC 33.1-15-23-04

B. **Permit Renewal and Expiration**: This permit shall be effective from the date of its issuance for a fixed period of five years. The permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least six months, but no more than 18 months, prior to the date of permit expiration. The Department shall approve or disapprove the renewal application within 60 days of receipt. Unless the Department requests additional information or otherwise notifies the applicant of incompleteness, the application shall be deemed complete. For timely and complete renewal applications for which the Department has failed to issue or deny the renewal permit before the expiration date of the previous permit, all terms and conditions of the permit, including any permit shield previously granted shall remain in effect until the renewal permit has been issued or denied. The application for renewal shall include the current permit number, description of any permit revisions and off-permit changes that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term.

Applicable Requirements: NDAC 33.1-15-14-06.4 and NDAC 33.1-15-14-06.6

C. **Transfer of Ownership or Operation**: This permit may not be transferred except by procedures allowed in Chapter 33.1-15-14 and is to be returned to the Department upon the destruction or change of ownership of the source unit(s), or upon expiration, suspension or revocation of this permit. A change in ownership or operational control of a source is treated as an administrative permit amendment if no other change in the permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Department.

Applicable Requirement: NDAC 33.1-15-14-06.6.d

D. **Property Rights**: This permit does not convey any property rights of any sort, or any exclusive privilege.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(d)

E. **Submissions**:

1) Reports, test data, monitoring data, notifications, and requests for renewal shall be submitted to the Department using a format provided or approved by the Department. Physical submittals shall be submitted to:

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324

2) Any application form, report or compliance certification submitted shall be certified as being true, accurate, and complete by a responsible official.

Applicable Requirement: NDAC 33.1-15-14-06.4.d

F. **Right of Entry**: Any duly authorized officer, employee or agent of the North Dakota Department of Environmental Quality may enter and inspect any property, premise or place listed on this permit or where records are kept concerning this permit at any reasonable time for the purpose of ascertaining the state of compliance with this permit and the North Dakota Air Pollution Control Rules. The Department may conduct tests and take samples of air contaminants, fuel, processing material, and other materials which affect or may affect emissions of air contaminants from any source. The Department shall have the right to access and copy any records required by the Department's rules and to inspect monitoring equipment located on the premises.

Applicable Requirements: NDAC 33.1-15-14-06.5.c(2) and NDAC 33.1-15-01-06

G. **Compliance**: The permittee must comply with all conditions of this permit. Any noncompliance with a federally-enforceable permit condition constitutes a violation of the Federal Clean Air Act. Any noncompliance with any State enforceable condition of this permit constitutes a violation of NDCC Chapter 23.1-06 and NDAC 33.1-15. Violation of any condition of this permit is grounds for enforcement action, for permit termination, revocation and reissuance or modification, or for denial of a permit renewal application. Noncompliance may also be grounds for assessment of penalties under the NDCC 23.1-06. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(6)(a) and NDAC 33.1-15-14-06.5.a(6)(b)

H. **Duty to Provide Information**: The permittee shall furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This includes instances where an alteration, repair, expansion, or change in method of operation of the source occurs. Upon request, the permittee shall also furnish to the

Department copies of records that the permittee is required to keep by this permit, or for information claimed to be confidential, the permittee may furnish such recourse directly to the Department along with a claim of confidentiality. The permittee, upon becoming aware that any relevant facts were omitted, or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. Items that warrant supplemental information submittal include, but are not limited to, changes in the ambient air boundary and changes in parameters associated with emission points (i.e., stack parameters). The permittee shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete renewal application was submitted but prior to release of a draft permit.

Applicable Requirements: NDAC 33.1-15-14-06.5.a(6)(e), NDAC 33.1-15-14-06.6.b(3) and NDAC 33.1-15-14-06.4.b

I. **Reopening for Cause**: The Department will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:

1) Additional applicable requirements under the Federal Clean Air Act become applicable to the permittee with a remaining permit term of three or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.

2) The Department or the United States Environmental Protection Agency determines that this permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

3) The Department or the United States Environmental Protection Agency determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

4) Reopenings shall not be initiated before a notice of intent to reopen is provided to the permittee by the Department at least 30 days in advance of the date that this permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency. Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

Applicable Requirement: NDAC 33.1-15-14-06.6.f

J. **Permit Changes**: The permit may be modified, revoked, reopened, and reissued or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(6)(c)

K. **Off-Permit Changes**: A permit revision is not required for changes that are not addressed or prohibited by this permit, provided the following conditions are met:

1) No such change may violate any term or condition of this permit.

2) Each change must comply with all applicable requirements.

3) Changes under this provision may not include changes or activities subject to any requirement under Title IV or that are modifications under any provision of Title I of the Federal Clean Air Act.

4) A Permit to Construct under NDAC 33.1-15-14-02 has been issued, if required.

5) Before the permit change is made, the permittee must provide written notice to both the Department and Air Program (8P-AR), Office of Partnerships & Regulatory Assistance, US EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, except for changes that qualify as insignificant activities in Section 33.1-15-14-06. This notice shall describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result.

6) The permittee shall record all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes. The record shall reside at the permittee's facility.

Applicable Requirement: NDAC 33.1-15-14-06.6.b(3)

L. **Administrative Permit Amendments**: This permit may be revised through an administrative permit amendment, if the revision to this permit accomplishes one of the following:

1) Corrects typographical errors.

2) Identifies a change in the name, address or phone number of any person identified in this permit or provides a similar minor administrative change at the source.

3) Requires more frequent monitoring or reporting by the permittee.

4) Allows for a change in ownership or operational control of the source where the Department determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the Department.

5) Incorporates into the Title V permit the requirements from a Permit to Construct when the review was substantially equivalent to Title V requirements for permit issuance, renewal, reopenings, revisions and permit review by the United States Environmental Protection Agency and affected state review, that would be applicable to the change if it were subject to review as a permit modification and compliance requirements substantially equivalent to Title V requirements for permit content were contained in the Permit to Construct.

6) Incorporates any other type of change which the Administrator of the United States Environmental Protection Agency has approved as being an administrative permit amendment as part of the Department's approved Title V operating permit program.

Applicable Requirement: NDAC 33.1-15-14-06.6.d

M. **Minor Permit Modification**: This permit may be revised by a minor permit modification, if the proposed permit modification meets the following requirements:

1) Does not violate any applicable requirement.

2) Does not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in this permit.

3) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis.

4) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include a federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act; and alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the Federal Clean Air Act.

5) Is not a modification under NDAC 33.1-15-12, 33.1-15-13, and 33.1-15-15 or any provision of Title I of the Federal Clean Air Act.

6) Is not required to be processed as a significant modification.

Applicable Requirement: NDAC 33.1-15-14-06.6.e(1)

N. **Significant Modifications**:

1) Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments. Every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping permit terms or conditions shall be considered significant. Nothing therein shall be construed to preclude the permittee from making changes consistent with this subsection that would render existing permit compliance terms and conditions irrelevant.

2) Significant permit modifications shall meet all Title V requirements, including those for applications, public participation, review by affected states, and review by the United States Environmental Protection Agency, as they apply to permit issuance and permit

renewal. The Department shall complete review of significant permit modifications within nine months after receipt of a complete application.

Applicable Requirement: NDAC 33.1-15-14-06.6.e(3)

O. **Operational Flexibility**: The permittee is allowed to make a limited class of changes within the permitted facility that contravene the specific terms of this permit without applying for a permit revision, provided the changes do not exceed the emissions allowable under this permit, are not Title I modifications and a Permit to Construct is not required. This class of changes does not include changes that would violate applicable requirements; or changes to federally-enforceable permit terms or conditions that are monitoring, recordkeeping, reporting, or compliance certification requirements.

The permittee is required to send a notice to both the Department and Air Program (8P-AR), Office of Partnerships & Regulatory Assistance, US EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129, at least seven days in advance of any change made under this provision. The notice must describe the change, when it will occur and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The permittee shall attach each notice to its copy of this permit. Any permit shield provided in this permit does not apply to changes made under this provision.

Applicable Requirement: NDAC 33.1-15-14-06.6.b(2)

P. **Relationship to Other Requirements**: Nothing in this permit shall alter or affect the following:

1) The provisions of Section 303 of the Federal Clean Air Act (emergency orders), including the authority of the administrator of the United States Environmental Protection Agency under that section.

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.

3) The ability of the United States Environmental Protection Agency to obtain information from a source pursuant to Section 114 of the Federal Clean Air Act.

4) Nothing in this permit shall relieve the permittee of the requirement to obtain a Permit to Construct.

Applicable Requirements: NDAC 33.1-15-14-06.3 and NDAC 33.1-15-14-06.5.f(3)(a), (b) and (d)

Q. **Severability Clause**: The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Applicable Requirement: NDAC 33.1-15-14-06.5.a(5)

R. **Circumvention**: The permittee shall not cause or permit the installation or use of any device of any means which conceals or dilutes an emission of air contaminants which would otherwise violate this permit.

Applicable Requirement: NDAC 33.1-15-01-08

9. **Phase II Acid Rain Provisions**:

Affected Source Unit: Coal Creek Station
ORIS Plant Code: 6030
Boiler ID: 1 and 2

This section incorporates the definition of terms in NDAC Chapter 33.1-15-21 by reference effective April 1, 2003.

A. **Permit Requirements**:

1) The designated representative of each affected source and each affected unit at the source shall:

a) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR 72 in accordance with the deadlines specified in NDAC 33.1-15-14-08.1 and 40 CFR 72.30, including application for permit renewal; and

b) Submit in a timely manner any supplemental information that the North Dakota Department of Environmental Quality, Division of Air Quality, determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.

2) The owners and operators of each affected source and each affected unit at the source shall:

a) Operate the unit in compliance with a complete Acid Rain permit application including any application for permit renewal or a superseding Acid Rain permit issued by the North Dakota Department of Environmental Quality, Division of Air Quality and

b) Have an Acid Rain permit.

Applicable Requirement: NDAC 33.1-15-21-08.1 and NDAC 33.1-15-21-09

B. **Monitoring Requirements**:

1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR 75 and 76.

2) The emissions measurements recorded and reported in accordance with 40 CFR 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

3) The requirements of 40 CFR 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Federal Clean Air Act and other provisions of the operating permit for the source.

Applicable Requirements: NDAC 33.1-15-21-08.1, NDAC 33.1-15-21-09 and 40 CFR 76

C. **Sulfur Dioxide Requirements**:

1) The owners and operators of each source and each affected unit at the source shall:

a) Hold allowances, as of the allowance transfer deadline, in the units compliance subaccount [after deductions under 40 CFR 73.34(c)] not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and

b) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Federal Clean Air Act.

3) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

4) An allowance shall not be deducted in order to comply with the requirements under Condition 9.C.1)a) of this permit prior to the calendar year for which the allowance was allocated.

5) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, this permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

6) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Applicable Requirements: NDAC 33.1-15-21-08.1, NDAC 33.1-15-21-09 and 40 CFR 73

D. **Nitrogen Oxides Requirements**:

1) NO_x Emission Limitations: The owner or operator shall not discharge, or allow to be discharged, emissions of NO_x to the atmosphere in excess of the following limits:

Boiler ID	Emission Limitation
1	0.40 lb/10^6 Btu*
2	0.40 lb/10^6 Btu*

*Annual average basis

The owner/operator shall also comply with the duty under 40 CFR 76.9(d) to reapply for an NO_x compliance plan prior to expiration of this permit and requirements under 40 CFR 76.13 for calculating NO_x emissions.

Applicable Requirements: 40 CFR 76.7(a)(1), 76.7(a)(2), 76.8(a)(1), 76.9(d), 76.13 and NDAC 33.1-15-21-10

E. **Excess Emissions Requirements**:

1) The designated representative of an affected unit that has excess emissions of SO_2 in any calendar year shall submit a proposed offset plan, to the Administrator as required under 40 CFR 77, with a copy to the North Dakota Department of Environmental Quality, Division of Air Quality.

2) The owners and operators of an affected unit that has excess emissions of NO_x or SO_2 in any calendar year shall:

a) Pay to the Administrator without demand the penalty required, and pay to the Administrator upon demand the interest on that penalty, as required by 40 CFR 77; and

b) Comply with the terms of an approved offset plan for SO_2, as required by 40 CFR 77.

Applicable Requirement: NDAC 33.1-15-21-08.1, NDAC 33.1-15-21-09 and 40 CFR 77

F. **Recordkeeping and Reporting Requirements**:

1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on-site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator of the U.S. EPA or the North Dakota Department of Environmental Quality, Division of Air Quality:

a) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on-site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

b) All emissions monitoring information, in accordance with 40 CFR 75, provided that to the extent that 40 CFR 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;

c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

d) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 72, Subpart I, NDAC 33.1-15-21-08, and 40 CFR 75.

Applicable Requirements: NDAC 33.1-15-21-08.1 and NDAC 33.1-15-21-09

G. **Liability**:

1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, this Acid Rain Permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to Section 113(c) of the Federal Clean Air Act.

2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to Section 113(c) of the Federal Clean Air Act and 18 U.S.C. 1001.

3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated represented of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.

6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plan) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

7) Each violation of a provision of NDAC 33.1-15-21-08.1 through 33.1-15-21-10 and 40 CFR 72, 73, 75, 76 and 77 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Federal Clean Air Act.

Applicable Requirements: NDAC 33.1-15-21-08.1, NDAC 33.1-15-21-09, and NDAC 33.1-15-21-10 and 40 CFR 72, 73, 75, 76 and 77

H. **Effect on Other Authorities**: No provision of the Acid Rain Program, an Acid Rain permit application, this Acid Rain permit condition, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

1) Except as expressly provided in Title IV of the Federal Clean Air Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Federal Clean Air Act, including the provisions of Title I of the Federal Clean Air Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Federal Clean Air Act,

3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Applicable Requirement: NDAC 33.1-15-21-08.1

I. **Permit Shield**: Each affected unit operating in accordance with this permit which is issued in compliance with Title IV of the Federal Clean Air Act, as provided in 40 CFR 72, 73, 75, 77 and 78, and the regulations implementing Section 407 of the Federal Clean Air Act, shall be deemed operating in compliance with the Acid Rain Program, except as provided in 40 CFR 72.9(g)(6). The permit shield does not take effect until the effective date of the acid rain permit.

Applicable Requirements: NDAC 33.1-15-21-08.1, NDAC 33.1-15-21-09, and 40 CFR 73, 77 and 78

J. **Reopening for Cause**: In addition to any reasons for reopening for cause previously stated in this permit, the Department will reopen and revise this permit as necessary to remedy deficiencies in the following circumstance: If additional requirements, including excess emissions requirements, become applicable to an affected source under Title IV of the Federal Clean Air Act or the regulations promulgated there under. Upon approval by the administrator of the United States Environmental Protection Agency, excess emissions offset plans shall be deemed to be incorporated into the permit.

Applicable Requirements: NDAC 33.1-15-14-06.6.f(1)(b) and 40 CFR 70.7(f)(1)(ii)

10. **State Enforceable Only Conditions (not Federally enforceable)**:

A. **General Odor Restriction**: The permittee shall not discharge into the ambient air any objectionable odorous air contaminant which exceeds the limits established in NDAC 33.1-15-16.

Applicable Requirement: NDAC 33.1-15-16

Attachment A

Compliance Assurance Monitoring (CAM) Plan
(EU 1 and 2)

Attachment A

Compliance Assurance Monitoring (CAM) Protocol for Particulate Mass Emissions

Coal Creek Station
Boilers 1 and 2

Revision Date

May 13, 2019

May 1, 2022 (Admin.)

Review Date

May 13, 2019

COMPLIANCE ASSURANCE MONITORING PROTOCOL
ELECTROSTATIC PRECIPITATOR (ESP) AND SPRAY TOWER SCRUBBER FOR PARTICLE MASS EMISSIONS CONTROL

I. Background

A. Emissions Units

Description/ Identification:	Unit 1: 6,015 mmBtu/hr lignite-fired boiler Unit 2: 6,022 mmBtu/hr lignite-fired boiler
Facility:	Coal Creek Station Underwood, ND

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Regulations:	NDAC § 33.1-15, Permit to Construct (PTC)
Emissions Limits (both units):	
Particulate Matter (PM):	(1) 0.10 lb/mmBtu [NDAC 33.1-15-12,Subpart D] (2) 528 lb/hr [PTC Condition[1]]
Current Monitoring Requirements:	Continuous Opacity Monitoring (COM) and Periodic compliance testing

C. Control Technologies

(1) Electrostatic precipitator (each unit)
(2) Spray tower scrubber (each unit)

II. Monitoring Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1. The primary performance indicator is the measured opacity from the continuous opacity monitoring system (COMS) on the stack of each unit. This CAM Plan does not apply to units continuously monitoring particulate emissions.

[1] The PTC "lb/hr" limit is based on estimated boiler heat input and NDAC 33.1-15-12,Subpart D "lb/mmBtu" limit.

III. Corrective Action

The key elements of the corrective action procedures are presented in Table 2. Corrective action is designed to discover and correct the problem that is creating the opacity increase. Corrective action is initiated before an excursion has occurred and continues until the potential excursion condition has been rectified. The trigger point that initiates corrective action is consecutive stack opacity greater than 20 percent based on a six-minute average, excluding those events defined as startup/shutdown and malfunctions. Initiation of corrective action does not create a reporting requirement.

Table 1. Monitoring Approach

	Compliance Indicator
I. Indicator	Stack opacity.
Measurement Approach	The opacity is measured using a Continuous Opacity Monitoring System (COMS) at the stack of each boiler.
II. Indicator Range	An excursion is defined as a measured stack opacity greater than 20 percent, based on a three-hour rolling average, excluding those events defined as startup/shutdown and malfunctions. An excursion triggers a reporting requirement. Corrective action must be initiated when consecutive measured stack opacity six-minute averages are greater than 20 percent excluding those events defined as startup/shutdown and malfunctions. Corrective action does not trigger a reporting requirement.
III. Performance Criteria A. Data Representativeness	Opacity is related to the size and concentration of particles in the flue gas. As particulate mass emissions increase, it can be reasonably expected that stack opacity will also increase. Each boiler discharges to a single, dedicated stack. Each stack is equipped with a COMS that meets the installation and minimum acceptable accuracy requirements of 40 CFR Part 60, Performance Specification 1. The COMS is located downstream of the scrubber and ESP and, therefore, reflects the performance of both control devices and scrubber bypass operation.
B. Verification of Operational Status	Not applicable. Monitoring approach uses existing equipment.
C. QA/QC Practices and Criteria	Daily zero and calibration drift check, periodic cleaning of optical surfaces and other periodic QA/QC checks as specified in the applicable version of Performance Specification 1.
D. Monitoring Frequency	Continuous.
Data Collection Procedures	The COMS collects a data point every 10 seconds and the datalogger reduces the data to six-minute averages and three-hour rolling averages.
Averaging Period	Three-hour rolling average for an excursion. Six-minute block average for corrective action.

Table 2. Corrective Action Procedures Summary

		Description
I.	Initiation of Corrective Action Procedures	Corrective action shall be initiated when consecutive six-minute opacity averages exceeds 20 percent. The plant staff that made the discovery shall immediately notify the leader of plant operations, and the regulatory compliance specialist. If they are unable to be reached, the leader of environmental services shall be notified.
II.	Time of Completion of Corrective Action Procedures	As soon as practically possible.
III.	Corrective Action Description	Figure 1 provides a flow chart summarizing the corrective action procedures. Since the ESPs provide the bulk of the particulate emissions removal, corrective action will focus on ESP operation. Corrective action will begin with an inspection of the COMS. Plant staff should verify the opacity monitor readings, to the extent possible, in the event of a possible COMS malfunction. If it is determined that the opacity monitor readings are accurate, plant staff must then verify whether or not saturated flue gas conditions exist in the stack by observing stack temperature. If saturated stack conditions are present, staff must increase scrubber bypass such that stack temperature increases above saturation. If saturated stack conditions are not present, corrective action will continue. Corrective action will include inspection of one or more ESPs, including an evaluation of the ash removal and rapper systems. Corrective action may also include one or more of the following to reduce opacity below the trigger level: (1) Return tripped ESP sections to service (2) Increase power levels on remaining, in-service sections (to the extent possible) (3) Reduce unit load (if absolutely necessary)

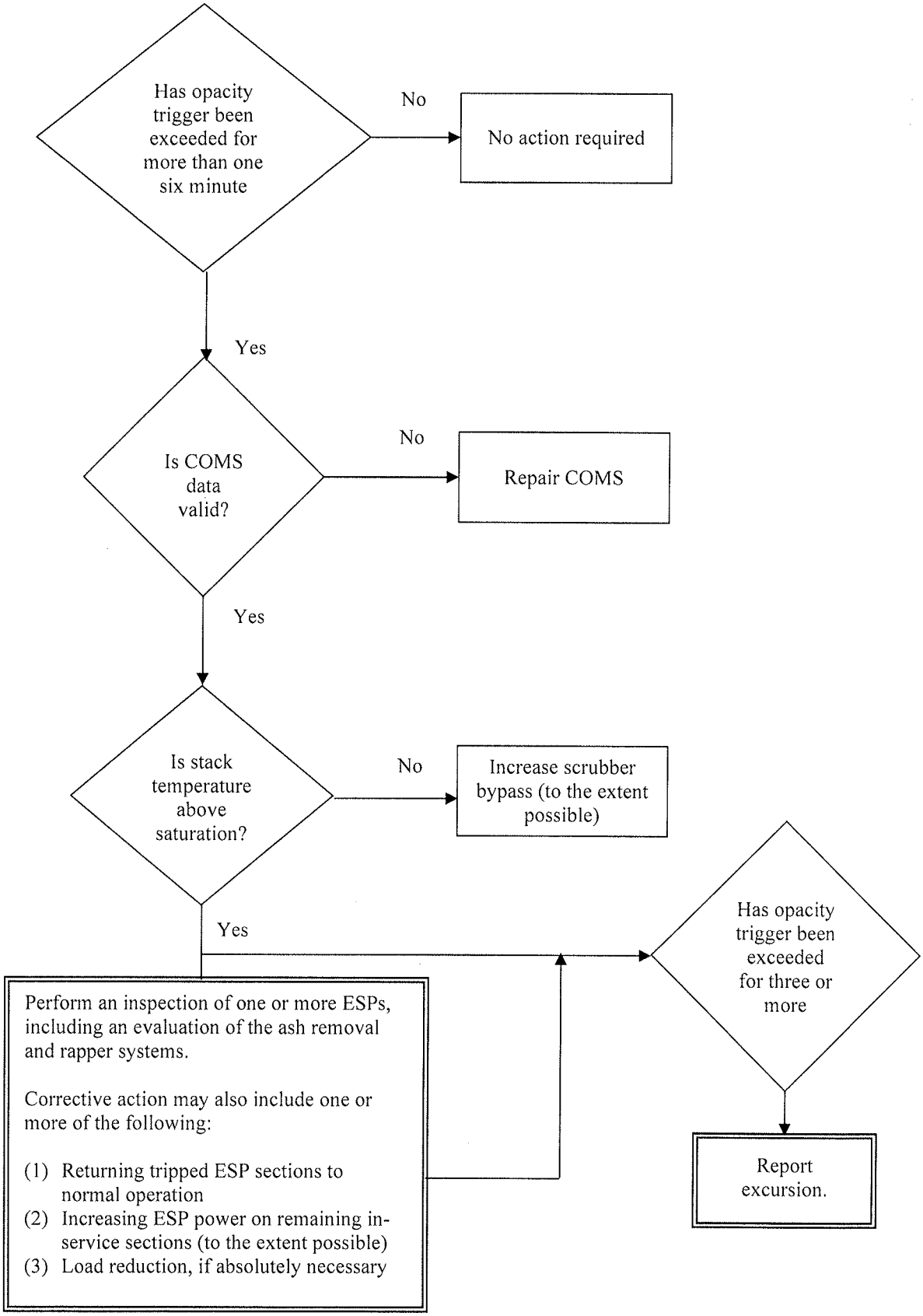

Figure 1. Coal Creek Station CAM Corrective Action Procedures

MONITORING APPROACH JUSTIFICATION

I. Background

Coal Creek is a mine-mouth plant adjacent to the Falkirk Coal Mine in Underwood, ND. Units 1 and 2 are tangentially fired boilers that discharge through separate, dedicated stacks. Unit 1 has a rated heat input of 6,015 mmBtu/hr. Unit 2 has a rated heat input of 6,022 mmBtu/hr. Both units burn lignite coal as their primary fuel and Number 2 fuel oil for unit start-up and flame stabilization. Both boilers are subject to SIP limits (North Dakota Administrative Code § 33.1-15-12, Subpart D and Permit to Construct conditions) for particulate matter. Units 1 and 2 have particulate mass limits of 0.10 lb/mmBtu and 528 lb/hr. The units also have a stack opacity limit of 20 percent, excluding periods of startup and shutdown.

Particulate emissions from each boiler are controlled by two ESPs, located downstream of the air heater in a side-by-side configuration. Each ESP is six fields deep in the direction of gas flow and four sections across. The combined specific collection area for the ESPs is 600 ft^2/1000 acfm. Neither unit has bypass capabilities for the ESPs.

Each unit is also equipped with a spray tower, flue gas desulfurization system downstream of the ESP for the control of SO_2 emissions. Each scrubber is designed to remove up to 90 percent of the SO_2 from the treated gas. The scrubbers can treat up to 95 percent of the boiler gas flow. The remainder of the gas, which bypasses the absorbers, is used for reheating the gas leaving the absorbers and is controlled by bypass damper position. Although the primary function of the control device is SO_2 control, the scrubber does provide some additional particulate removal. Scrubber operation is automatically controlled based on boiler load and is relatively constant at normal, full load. Stack temperature is normally above saturation.[2] Stack reheat systems were installed in 2017 to maintain stack temperature above saturation during maximum scrubbing.

Each stack is equipped with an existing Continuous Opacity Monitoring System (COMS), as required by NDAC § 33.1-15-03-02 and § 33.1-15-12, Subpart D. Currently, both units are subject to 40 CFR 63 Subpart UUUUU and must be tested in accordance with the rule to determine compliance with particulate mass emissions limits. There are no direct, continuous particulate monitoring requirements on either of the units. The most recent particulate compliance test, conducted during September 2021, demonstrated a particulate mass emission rate of 0.006 lb/10^6 Btu for Unit 1 and 0.003 lb/10^6 Btu for Unit 2. Recent testing suggests that both units are able to meet their particulate mass emissions limits without the operation of the scrubber.

A rigorous maintenance program is voluntarily implemented at Coal Creek that is designed to maintain optimal performance of the ESPs. The maintenance program includes a series of daily, weekly, monthly, quarterly, and annual inspections of the equipment. Additional inspections are conducted during major outages. The details of

[2] The stack temperature for Units 1 and 2 during normal operation is between 138 and 145 degrees F. This is above stack saturation.

these inspections are periodically adjusted based on the engineering judgement of the mechanical condition of each control device. Examples of the tasks involved with these inspections are as follows:

Daily Inspections – Inspection procedure may include a check of the ash handling system operation, verification of rapper and voltage controller operation, and/or an inspection of alarm status and shift logs to identify potential operating problems.

Weekly Inspections – Inspection procedure may include checks of the primary voltage and current readings, verification of rapper control systems and operation of rapper drive motors, and/or checks of the transformer-rectifier coolant levels.

Monthly Inspections – Inspection procedure may include a check of the penthouse air conditioning system.

Quarterly Inspections – Inspection procedure may include verification of the automatic voltage controller cabinet ventilating fan operation, cleaning of the control cabinet air filters and/or ventilating fans, and/or verification of ash hopper level indicators.

Annual Inspections – Inspection may include a thorough maintenance routine of penthouse air conditioning system.

Outage Inspections – Inspection procedure may include internal checks for close clearances between discharge electrodes and collecting plates, checks of rapper hammers for wear and/or breakage, verification of hammer and anvil alignment, checks of the rapper drive insulators and drive shafts, and/or checks of the internal structure for signs of deterioration or leakage.

II. Rationale for Selection of Performance Indicators and Indicator Ranges

The purpose of this section is to provide technical justification in support of a compliance assurance protocol based on opacity known as "test and cap." Under a test and cap approach, the relationship of stack opacity to particulate mass concentration is determined at or very near the opacity limit. If the mass concentration is below the permit limit, then two opacity trigger points are set at this level. The first trigger point is the threshold at which corrective action is to be performed. This trigger point indicates that the control device may not be operating properly and action should be taken to restore normal operation. The second trigger point defines an excursion. This trigger point is set at the opacity limit as well but has a longer averaging period and causes a reportable event under CAM.

The COMS will be used as the primary indicator for each unit at Coal Creek. The selected indicator range will be the existing stack opacity limit of 20 percent. Corrective action will be initiated when consecutive six-minute average stack opacity exceeds 20

percent. As described in Table 2, corrective action begins with an evaluation of the occurrence to determine the action required to correct the situation. Consecutive six-minute opacity averages that initiate corrective action do not have to be reported under CAM (the second six-minute average would be reported according to the NSPS standards). An excursion is defined as a three-hour opacity average of 20 percent or higher, excluding startup/shutdown and malfunction events. All excursions will be documented and reported on a unit-basis including the associated corrective action.

Opacity Monitor Theory of Operation

All opacity monitors operate under a physics principle known as optical extinction. In a basic configuration, a beam of light of a specific wavelength is transmitted across a particulate-laden fluid flow. A receiver at some distance from the transmitter measures the amount of light that is received. Due to reflection and refraction of the light beam by the particles within the fluid, the amount of light reaching the receiver will be less than the beam's initial intensity. This property is referred to as transmittance and is represented by the following equation:

$$T = \frac{I}{I_o}$$

Opacity is related to transmittance by the following equation:

$$O = 1 - T$$

The physics of the opacity meter are based on Lambert's Law, which can be expressed mathematically by the following equation:

$$O = 1 - e^{\frac{-S_{avg} m_{avg} x}{4}}$$

Where:
O = opacity of flue gas
S_{avg} = specific surface area of the particles (m^2/g)
m_{avg} = particulate mass concentration (g/Nm^3)
x = optical path length (m)

For a coal-fired boiler equipped with an ESP operating under normal load, the particle size distribution and specific surface area of the particles will remain relatively similar. This means that any change in opacity, as a first-order approximation, will be directly proportional to the mass concentration.[3] Therefore, while opacity is not a direct measurement of particulate mass, it can be used as a surrogate. If opacity is increasing, it can be reasonably expected that the particulate mass concentration is also increasing.

Scrubber Issues

Although the primary function of the scrubbers at Coal Creek is SO_2 removal, particulate removal is a secondary effect of the scrubbing process. For configurations where a wet-

[3] Parker, K.R., Applied Electrostatic Precipitation

impingement scrubber is downstream of an ESP, like Coal Creek, additional particulate removal by the scrubber is relatively small because of the device's low collection efficiency of fine particles. This is exacerbated by the fine particle size distribution of the flue gas exiting the ESP. As a result, under normal operation the ESP will remove most of the particulate matter. This is confirmed by previous test data, which suggest that the scrubbers at Coal Creek are not required to meet the particulate emissions limit.[4] Because of their relative importance to particulate removal, corrective action procedures will focus on the ESPs.

The injection of the lime slurry into the flue gas stream from the scrubbing process provides sensible cooling of the flue gas. Gas temperature decreases while relative moisture content increases. The flue gas is further cooled in the ductwork leading to the stack and within the stack itself. Excessive scrubbing can decrease flue gas temperature to the point where the gas becomes saturated. Under these saturated conditions, water vapor molecules interfere with the operation of the COMS, thereby producing excessively high opacity measurements. Flue gas temperatures suggest that this is not a problem for either unit at Coal Creek. Both stacks operate well above saturation during normal load.[5] At maximum scrubbing condition, the stacks still operate above saturation. Scrubber operation is controlled based on generator load and is relatively constant. As a result, stack temperatures are also relatively constant. Given the possibility that saturated stack conditions may occasionally cause false excursions, part of the initial corrective action procedure is to check for saturated stack conditions and adjust scrubber bypass as necessary to increase temperature above saturation.

The scrubber does not impose any additional restrictions on the application of a test and cap monitoring approach. Under §64.4(g) of the CAM rule, sources may apply a single monitoring approach to multiple control devices. Use of the existing COMS as the compliance indicator for CAM is valid because it reflects the performance of both control devices. If the ESP or scrubber fail for any reason, the net effect will be the same - an increase in opacity and particulate emissions. Furthermore, the COMS will automatically account for the changes in opacity as a result of scrubber bypass operation, thereby fulfilling the bypass monitoring requirements of §64.3(a)(2).

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[4] *A Study of Toxic Emissions from a Coal-Fired Power Plant Utilizing an ESP/Wet FGD System,* U.S. Department of Energy, 1992.

[5] Flue gas temperature is typically above 138° F during normal operation.

Opacity and CAM

Developing an accurate correlation between opacity and particulate mass is difficult, if not impossible, because of the variability in the process factors that affect the particle properties and size distribution. For CAM, however, it is sufficient that the indicator and emission rate are related so as to provide a reasonable assurance of compliance. The previous section on opacity measurement principles demonstrates this relationship. Furthermore, the use of opacity as a CAM indicator for particulate mass, with the existing opacity limit as the indicator range, is considered presumptively acceptable under §64.3(d), provided there are sufficient data to show that this indicator range is appropriate.

Verification of Opacity/Mass Relationships

Particulate mass emissions tests were conducted at the stack of each unit to validate the selection of the monitoring approach and indicator range. The objective of the testing was to derive the opacity/mass relationship for each unit and show that while opacity is maintained at or below the current opacity limit, both units also demonstrate a reasonable assurance of compliance with the particulate mass limits. Testing was conducted on Units 1 and 2 beginning June 16, 2003, through June 21, 2003. Additional details on the results of the particulate testing can be found in the final test report.[6]

The test program was designed to simulate boiler and control device operation under the normal or "baseline" operating condition and under two additional conditions that simulated varying degrees of control device failure. Since the ESPs are the primary particulate control devices for both units and the most likely cause of any excursions, tests simulating control device failures were conducted only for the ESPs. Both scrubbers were under normal, steady-state operation for the duration of each test. Any change in stack opacity and particulate mass emissions was attributed to the operation of the ESPs.

The most common types of ESP failure (or cause of reduced performance) are either grounded fields or close clearances. In order to simulate these conditions, the ESP of the tested unit was "de-tuned" by reducing and/or eliminating power to selected portions of the precipitator. This effectively increases the particulate mass loading and opacity at the stack. These "de-tuned" tests included a "high-level" test, where the stack opacity was close to the 20 percent limit, and a "mid-level" test where the stack opacity is approximately halfway between the high-level test and the normal operating duct opacity.

For each test, boilers were operated at normal full load. This represents the highest level of particulate mass emissions and will produce conservative indicator ranges under the proposed CAM monitoring approach. Each test consisted of three runs using EPA Reference Method 17. Boiler, scrubber and ESP operating data were also taken to demonstrate stable, normal load operation during each test.

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[6] *Compliance Assurance Monitoring Performance Testing, Coal Creek Station, Units 1 and 2,* RMB Consulting & Research, 9/19/03.

Unit 1 Results

Table 1 shows a summary of the test results for Unit 1. For the baseline condition, the data show an opacity of two percent and particulate emissions rates of 0.003 lb/mmBtu and 18 lb/hr. This suggests that Unit 1 operates at less than five percent of its mass limit during normal operation.

Test Condition	Stack Opacity	Particulate Mass Emissions [lb/mmbtu]	Particulate Mass Emissions [lb/hr]
Baseline	2	0.003	18
ESP "De-tuned" (Mid)	12	0.032	196
ESP "De-tuned" (High)	17	0.038	229

Table 3. Unit 1 CAM Test Results

For the "de-tuned" tests, Unit 1 boiler was operating under steady, normal load and the ESP power levels where reduced to simulate control device failure. For the "mid-level" condition, the data show an opacity of 12 percent and particulate mass emissions rates of 0.032 lb/mmBtu and 196 lb/hr. For the "high-level" condition, the data show an opacity of 17 percent and particulate mass emissions rates of 0.038 lb/mmBtu and 229 lb/hr.

Figures 2 and 3 show graphs of the opacity/unit mass relationships for Unit 1 including the baseline and de-tuned operating conditions. Based on a four-point linear regression, the predicted mass emissions rates at 20 percent opacity are 0.049 lb/mmBtu and 296 lb/hr. The data suggest that, under this "worst-case" scenario, the particulate mass emissions are approximately 50 percent of the mass emissions limits. This suggests a relatively large compliance margin for CAM.

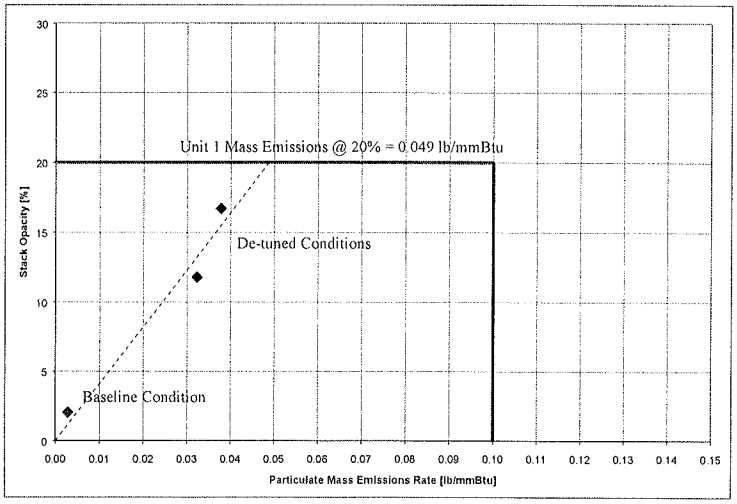

Figure 2. Unit 1 Opacity/Mass Relationship [lb/mmBtu]

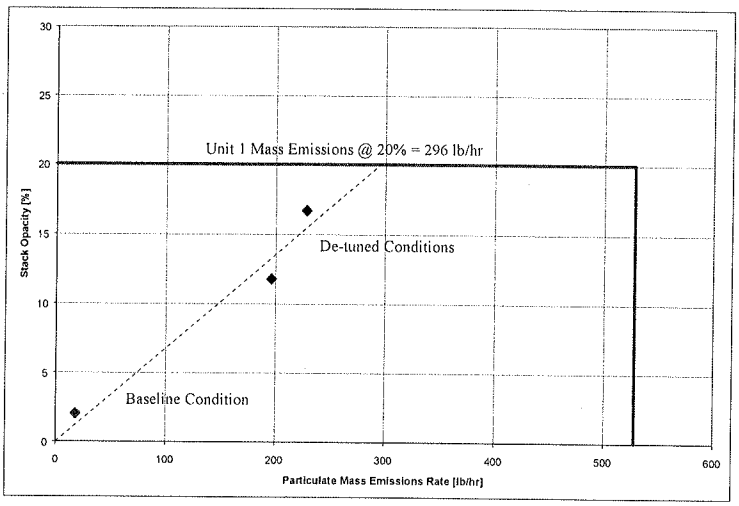

Figure 3. Unit 1 Opacity/Mass Relationship [lb/hr]

Unit 2 Results

Table 4 shows a summary of the test results for Unit 2. For the baseline condition, the data show an opacity of five percent and particulate emissions rates of 0.004 lb/mmBtu and 18 lb/hr. This suggests that Unit 2 also operates at less than five percent of its mass limit during normal operation.

Test Condition	Stack Opacity	Particulate Mass Emissions [lb/mmbtu]	Particulate Mass Emissions [lb/hr]
Baseline	5	0.004	28
ESP "De-tuned" (Mid)	14	0.023	151
ESP "De-tuned" (High)	18	0.040	354

Table 4. Unit 2 CAM Test Results

For the "de-tuned" tests, Unit 2 boiler was operating under steady, normal load and the ESP power levels where reduced to simulate control device failure. For the "mid-level" condition, the data show an opacity of 14 percent and particulate mass emissions rates of 0.023 lb/mmBtu and 151 lb/hr. For the "high-level" condition, the data show an opacity of 18 percent and particulate mass emissions rates of 0.040 lb/mmBtu and 354 lb/hr.

Figures 4 and 5 show graphs of the opacity/unit mass relationships for Unit 2 including the baseline and de-tuned operating conditions. Based on a four-point linear regression, the predicted mass emissions rates at 20 percent opacity are 0.040 lb/mmBtu and 341 lb/hr. The data suggest that, under this "worst-case" scenario, the particulate mass emissions are less than 50 percent of the "lb/mmbtu" mass emissions limit and less than 65 percent of the "lb/hr" emissions limit.

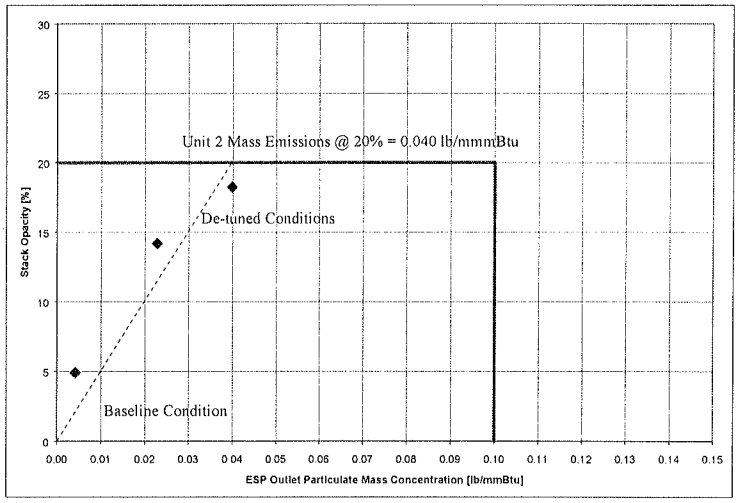

Figure 4. Unit 2 Opacity/Mass Relationship [lb/mmBtu]

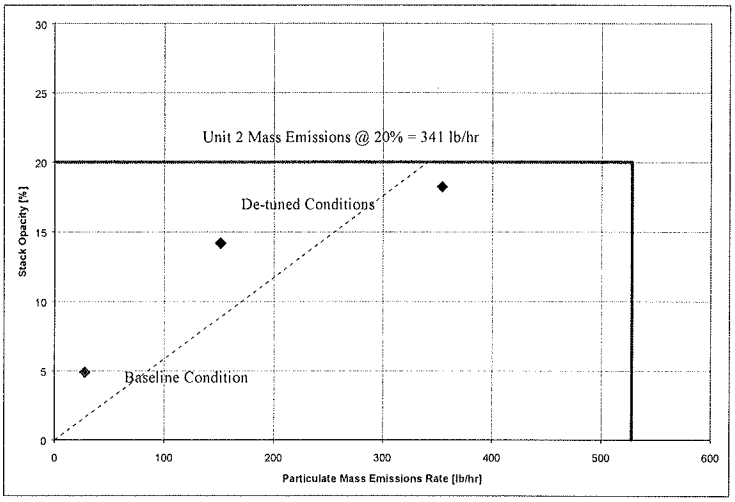

Figure 5. Unit 2 Opacity/Mass Relationship [lb/hr]

Monitoring Approach Validity

The test data show that the opacity/mass relationships support the proposed test and cap approach using the COMS as the primary indicator with a trigger level of 20 percent for both corrective action and excursions. In all cases, the opacity/mass relationships predicted mass emissions that were below the mass limits of each unit at 20 percent opacity. This suggests that the selected indicator and indicator range meet the general design criteria outlined in §64.3(a) of the CAM Rule and will be sufficient to demonstrate a reasonable assurance of compliance during normal operation of each unit.

Attachment A

Compliance Assurance Monitoring (CAM) Protocol for Particulate Mass Emissions

Coal Creek Station
Boilers 1 and 2

Revision Date

January 29, 2024

Review Date

January 29, 2024

Rainbow Energy Center (REC)
918 E. Divide Ave
Bismarck, ND 58504

COMPLIANCE ASSURANCE MONITORING PROTOCOL
ELECTROSTATIC PRECIPITATOR (ESP) AND SPRAY TOWER SCRUBBER FOR PARTICLE MASS EMISSIONS CONTROL

I. Background

A. Emissions Units

Description/ Identification:	Unit 1: 6,015 mmBtu/hr lignite-fired boiler Unit 2: 6,022 mmBtu/hr lignite-fired boiler
Facility:	Coal Creek Station Underwood, ND

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Regulations:	NDAC § 33.1-15, Permit to Construct (PTC)
Emissions Limits (both units):	
Particulate Matter (PM):	(1) 0.10 lb/mmBtu [NDAC 33.1-15-12,Subpart D] (2) 528 lb/hr [PTC Condition[1]]
Current Monitoring Requirements:	Continuous Opacity Monitoring (COM) and Periodic compliance testing

C. Control Technologies

(1) Electrostatic precipitator (each unit)
(2) Spray tower scrubber (each unit)

II. Monitoring Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1. The primary performance indicator is the measured opacity from the continuous opacity monitoring system (COMS) on the stack of each unit. This CAM Plan does not apply to units continuously monitoring particulate emissions.

[1] The PTC "lb/hr" limit is based on estimated boiler heat input and NDAC 33.1-15-12,Subpart D "lb/mmBtu" limit.

III. Corrective Action

The key elements of the corrective action procedures are presented in Table 2. Corrective action is designed to discover and correct the problem that is creating the opacity increase. Corrective action is initiated before an excursion has occurred and continues until the potential excursion condition has been rectified. The trigger point that initiates corrective action is consecutive stack opacity greater than 20 percent based on a six-minute average, excluding those events defined as startup/shutdown and malfunctions. Initiation of corrective action does not create a reporting requirement.

Table 1. Monitoring Approach

		Compliance Indicator
I.	Indicator	Stack opacity.
	Measurement Approach	The opacity is measured using a Continuous Opacity Monitoring System (COMS) at the stack of each boiler.
II.	Indicator Range	An excursion is defined as a measured stack opacity greater than 20 percent, based on a three-hour rolling average, excluding those events defined as startup/shutdown and malfunctions. An excursion triggers a reporting requirement. Corrective action must be initiated when consecutive measured stack opacity six-minute averages are greater than 20 percent excluding those events defined as startup/shutdown and malfunctions. Corrective action does not trigger a reporting requirement.
III.	Performance Criteria	
	A. Data Representativeness	Opacity is related to the size and concentration of particles in the flue gas. As particulate mass emissions increase, it can be reasonably expected that stack opacity will also increase. Each boiler discharges to a single, dedicated stack. Each stack is equipped with a COMS that meets the installation and minimum acceptable accuracy requirements of 40 CFR Part 60, Performance Specification 1. The COMS is located downstream of the scrubber and ESP and, therefore, reflects the performance of both control devices and scrubber bypass operation.
	B. Verification of Operational Status	Not applicable. Monitoring approach uses existing equipment.
	C. QA/QC Practices and Criteria	Daily zero and calibration drift check, periodic cleaning of optical surfaces and other periodic QA/QC checks as specified in the applicable version of Performance Specification 1.
	D. Monitoring Frequency	Continuous.
	Data Collection Procedures	The COMS collects a data point every 10 seconds and the datalogger reduces the data to six-minute averages and three-hour rolling averages.
	Averaging Period	Three-hour rolling average for an excursion. Six-minute block average for corrective action.

Table 2. Corrective Action Procedures Summary

		Description
I.	Initiation of Corrective Action Procedures	Corrective action shall be initiated when consecutive six-minute opacity averages exceeds 20 percent. The plant staff that made the discovery shall immediately notify the shift team leader, plant environmental coordinator, and air compliance specialist.
II.	Time of Completion of Corrective Action Procedures	As soon as practically possible.
III.	Corrective Action Description	Figure 1 provides a flow chart summarizing the corrective action procedures. Since the ESPs provide the bulk of the particulate emissions removal, corrective action will focus on ESP operation. Corrective action will begin with an inspection of the COMS. Plant staff should verify the opacity monitor readings, to the extent possible, in the event of a possible COMS malfunction. If it is determined that the opacity monitor readings are accurate, plant staff must then verify whether or not saturated flue gas conditions exist in the stack by observing stack temperature. If saturated stack conditions are present, staff must increase scrubber bypass such that stack temperature increases above saturation. If saturated stack conditions are not present, corrective action will continue. Corrective action will include inspection of one or more ESPs, including an evaluation of the ash removal and rapper systems. Corrective action may also include one or more of the following to reduce opacity below the trigger level: (1) Return tripped ESP sections to service (2) Increase power levels on remaining, in-service sections (to the extent possible) (3) Reduce unit load (if absolutely necessary)

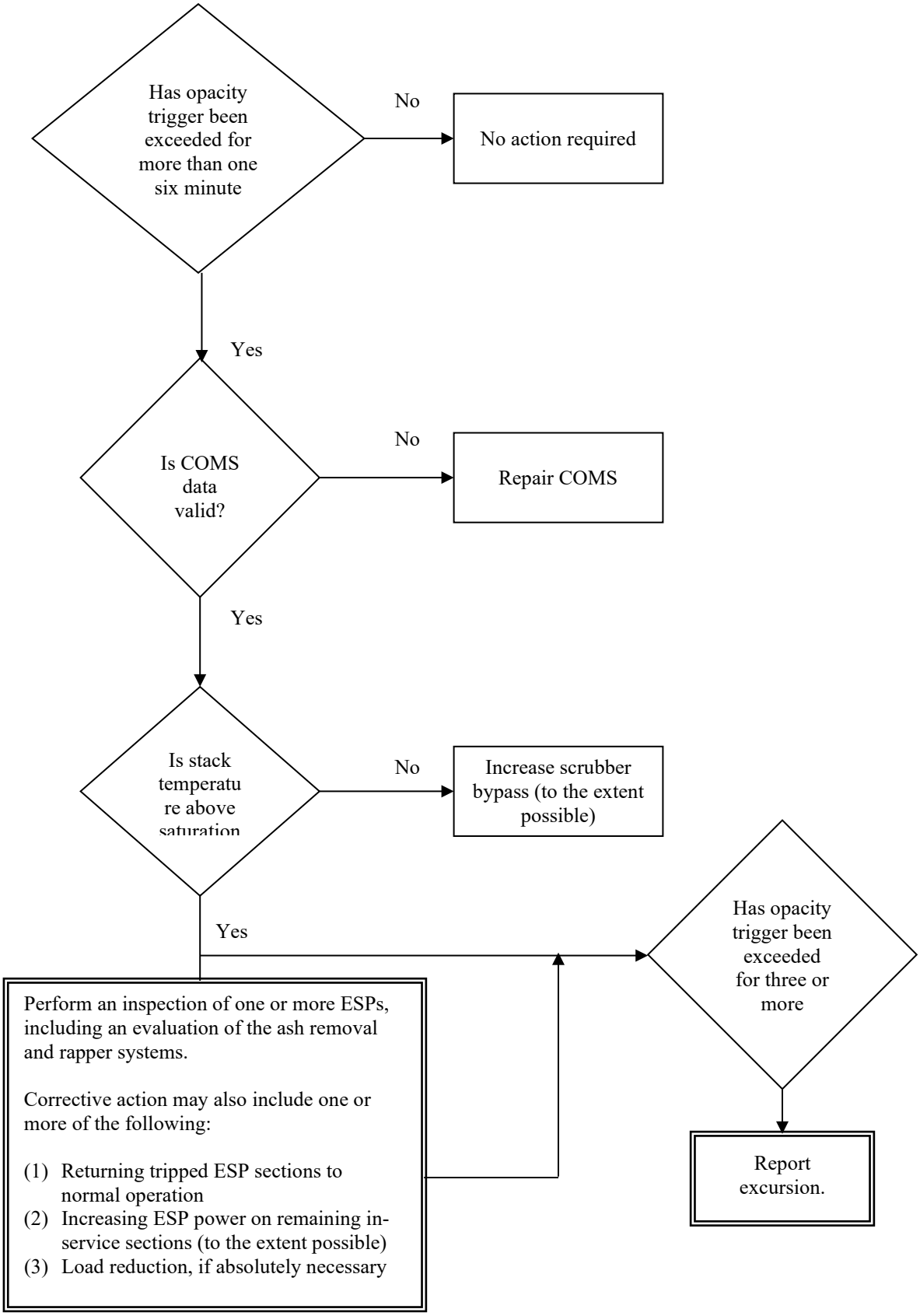

Figure 1. Coal Creek Station CAM Corrective Action Procedures

MONITORING APPROACH JUSTIFICATION

I. Background

Coal Creek is a mine-mouth plant adjacent to the Falkirk Coal Mine in Underwood, ND. Units 1 and 2 are tangentially fired boilers that discharge through separate, dedicated stacks. Unit 1 has a rated heat input of 6,015 mmBtu/hr. Unit 2 has a rated heat input of 6,022 mmBtu/hr. Both units burn lignite coal as their primary fuel and Number 2 fuel oil for unit start-up and flame stabilization. Both boilers are subject to SIP limits (North Dakota Administrative Code § 33.1-15-12, Subpart D and Permit to Construct conditions) for particulate matter. Units 1 and 2 have particulate mass limits of 0.10 lb/mmBtu and 528 lb/hr. The units also have a stack opacity limit of 20 percent, excluding periods of startup and shutdown.

Particulate emissions from each boiler are controlled by two ESPs, located downstream of the air heater in a side-by-side configuration. Each ESP is six fields deep in the direction of gas flow and four sections across. The combined specific collection area for the ESPs is 600 ft^2/1000 acfm. Neither unit has bypass capabilities for the ESPs.

Each unit is also equipped with a spray tower, flue gas desulfurization system downstream of the ESP for the control of SO_2 emissions. Each scrubber is designed to remove up to 90 percent of the SO_2 from the treated gas. The scrubbers can treat up to 70 percent of the boiler gas flow. The remainder of the gas, which bypasses the absorbers, is used for reheating the gas leaving the absorbers and is controlled by bypass damper position. Although the primary function of the control device is SO_2 control, the scrubber does provide some additional particulate removal. Scrubber operation is automatically controlled based on boiler load and is relatively constant at normal, full load. Stack temperature is normally well above saturation.[2] Operating experience has shown that during periods of maximum scrubbing, stack temperature is still above saturation.

Each stack is equipped with an existing Continuous Opacity Monitoring System (COMS), as required by NDAC § 33.1-15-03-02 and § 33.1-15-12, Subpart D. Currently, both units must be tested annually for compliance with particulate mass emissions limits. There are no direct, continuous particulate monitoring requirements on either of the units. The most recent particulate compliance test, conducted during September 2002, demonstrated a particulate mass emission rate of 0.08 lb/10^6 Btu for Unit 1 and 0.05 lb/10^6 Btu for Unit 2. Recent testing suggests that both units are able to meet their particulate mass emissions limits without the operation of the scrubber.

REC voluntarily implements a rigorous maintenance program at Coal Creek that is designed to maintain optimal performance of the ESPs. The maintenance program includes a series of daily, weekly, monthly, quarterly, and annual inspections of the equipment. Additional inspections are conducted during major outages. The details of these inspections are periodically adjusted based on REC's engineering judgement of the

[2] The stack temperature for Units 1 and 2 during normal operation is between 180 and 190 degrees F. This is well above stack saturation.

mechanical condition of each control device. Examples of the tasks involved with these inspections are as follows:

Daily Inspections – Inspection procedure may include a check of the ash handling system operation, verification of rapper and voltage controller operation, and/or an inspection of alarm status and shift logs to identify potential operating problems.

Weekly Inspections – Inspection procedure may include checks of the primary voltage and current readings, verification of rapper control systems and operation of rapper drive motors, and/or checks of the transformer-rectifier coolant levels.

Monthly Inspections – Inspection procedure may include a check of the penthouse air conditioning system.

Quarterly Inspections – Inspection procedure may include verification of the automatic voltage controller cabinet ventilating fan operation, cleaning of the control cabinet air filters and/or ventilating fans, and/or verification of ash hopper level indicators.

Annual Inspections – Inspection may include a thorough maintenance routine of penthouse air conditioning system.

Outage Inspections – Inspection procedure may include internal checks for close clearances between discharge electrodes and collecting plates, checks of rapper hammers for wear and/or breakage, verification of hammer and anvil alignment, checks of the rapper drive insulators and drive shafts, and/or checks of the internal structure for signs of deterioration or leakage.

II. Rationale for Selection of Performance Indicators and Indicator Ranges

The purpose of this section is to provide technical justification in support of a compliance assurance protocol based on opacity known as "test and cap." Under a test and cap approach, the relationship of stack opacity to particulate mass concentration is determined at or very near the opacity limit. If the mass concentration is below the permit limit, then two opacity trigger points are set at this level. The first trigger point is the threshold at which corrective action is to be performed. This trigger point indicates that the control device may not be operating properly and action should be taken to restore normal operation. The second trigger point defines an excursion. This trigger point is set at the opacity limit as well but has a longer averaging period and causes a reportable event under CAM.

The COMS will be used as the primary indicator for each unit at Coal Creek. The selected indicator range will be the existing stack opacity limit of 20 percent. Corrective action will be initiated when consecutive six-minute average stack opacity exceeds 20 percent. As described in Table 2, corrective action begins with an evaluation of the

occurrence to determine the action required to correct the situation. Consecutive six-minute opacity averages that initiate corrective action do not have to be reported under CAM (the second six-minute average would be reported according to the NSPS standards). An excursion is defined as a three-hour opacity average of 20 percent or higher, excluding startup/shutdown and malfunction events. All excursions will be documented and reported on a unit-basis including the associated corrective action.

Opacity Monitor Theory of Operation

All opacity monitors operate under a physics principle known as optical extinction. In a basic configuration, a beam of light of a specific wavelength is transmitted across a particulate-laden fluid flow. A receiver at some distance from the transmitter measures the amount of light that is received. Due to reflection and refraction of the light beam by the particles within the fluid, the amount of light reaching the receiver will be less than the beam's initial intensity. This property is referred to as transmittance and is represented by the following equation:

$$T = \frac{I}{I_o}$$

Opacity is related to transmittance by the following equation:

$$O = 1 - T$$

The physics of the opacity meter are based on Lambert's Law, which can be expressed mathematically by the following equation:

$$O = 1 - e^{\frac{-S_{avg} m_{avg} x}{4}}$$

Where:
O = opacity of flue gas
S_{avg} = specific surface area of the particles (m^2/g)
m_{avg} = particulate mass concentration (g/Nm^3)
x = optical path length (m)

For a coal-fired boiler equipped with an ESP operating under normal load, the particle size distribution and specific surface area of the particles will remain relatively similar. This means that any change in opacity, as a first-order approximation, will be directly proportional to the mass concentration.[3] Therefore, while opacity is not a direct measurement of particulate mass, it can be used as a surrogate. If opacity is increasing, it can be reasonably expected that the particulate mass concentration is also increasing.

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Developing an accurate correlation between opacity and particulate mass is difficult, if not impossible, because of the variability in the process factors that affect the particle properties and size distribution. For CAM, however, it is sufficient that the indicator and emission rate are related so as to provide a reasonable assurance of compliance. The previous section on opacity measurement principles demonstrates this relationship. Furthermore, the use of opacity as a CAM indicator for particulate mass, with the existing opacity limit as the indicator range, is considered presumptively acceptable under §64.3(d), provided there are sufficient data to show that this indicator range is appropriate.

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For each test, boilers were operated at normal full load. This represents the highest level of particulate mass emissions and will produce conservative indicator ranges under the proposed CAM monitoring approach. Each test consisted of three runs using EPA Reference Method 17. Boiler, scrubber and ESP operating data were also taken to demonstrate stable, normal load operation during each test.

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Unit 1 Results

Table 1 shows a summary of the test results for Unit 1. For the baseline condition, the data show an opacity of two percent and particulate emissions rates of 0.003 lb/mmBtu and 18 lb/hr. This suggests that Unit 1 operates at less than five percent of its mass limit during normal operation.

Test Condition	Stack Opacity	Particulate Mass Emissions [lb/mmbtu]	Particulate Mass Emissions [lb/hr]
Baseline	2	0.003	18
ESP "De-tuned" (Mid)	12	0.032	196
ESP "De-tuned" (High)	17	0.038	229

Table 3. Unit 1 CAM Test Results

For the "de-tuned" tests, Unit 1 boiler was operating under steady, normal load and the ESP power levels where reduced to simulate control device failure. For the "mid-level" condition, the data show an opacity of 12 percent and particulate mass emissions rates of 0.032 lb/mmBtu and 196 lb/hr. For the "high-level" condition, the data show an opacity of 17 percent and particulate mass emissions rates of 0.038 lb/mmBtu and 229 lb/hr.

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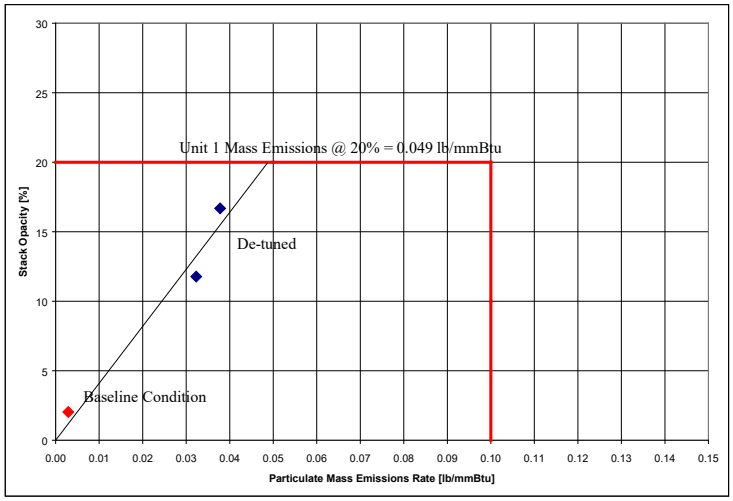

Figure 2. Unit 1 Opacity/Mass Relationship [lb/mmBtu]

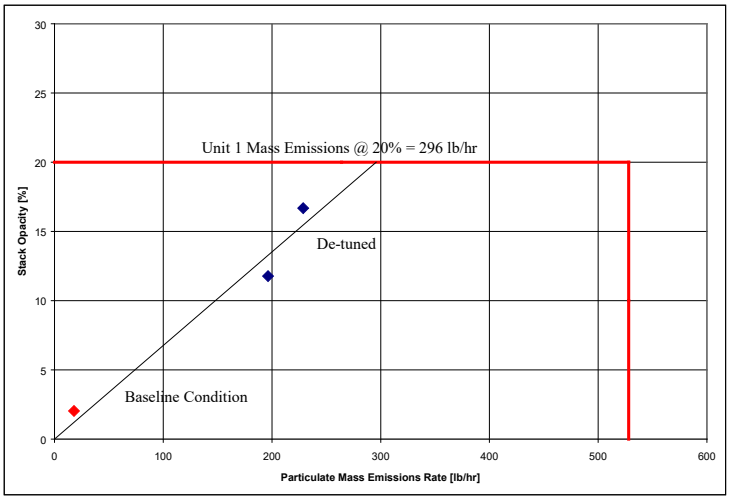

Figure 3. Unit 1 Opacity/Mass Relationship [lb/hr]

Unit 2 Results

Table 4 shows a summary of the test results for Unit 2. For the baseline condition, the data show an opacity of five percent and particulate emissions rates of 0.004 lb/mmBtu and 18 lb/hr. This suggests that Unit 2 also operates at less than five percent of its mass limit during normal operation.

Test Condition	Stack Opacity	Particulate Mass Emissions [lb/mmbtu]	Particulate Mass Emissions [lb/hr]
Baseline	5	0.004	28
ESP "De-tuned" (Mid)	14	0.023	151
ESP "De-tuned" (High)	18	0.040	354

Table 4. Unit 2 CAM Test Results

For the "de-tuned" tests, Unit 2 boiler was operating under steady, normal load and the ESP power levels where reduced to simulate control device failure. For the "mid-level" condition, the data show an opacity of 14 percent and particulate mass emissions rates of 0.023 lb/mmBtu and 151 lb/hr. For the "high-level" condition, the data show an opacity of 18 percent and particulate mass emissions rates of 0.040 lb/mmBtu and 354 lb/hr.

Figures 4 and 5 show graphs of the opacity/unit mass relationships for Unit 2 including the baseline and de-tuned operating conditions. Based on a four-point linear regression, the predicted mass emissions rates at 20 percent opacity are 0.040 lb/mmBtu and 341 lb/hr. The data suggest that, under this "worst-case" scenario, the particulate mass emissions are less than 50 percent of the "lb/mmbtu" mass emissions limit and less than 65 percent of the "lb/hr" emissions limit.

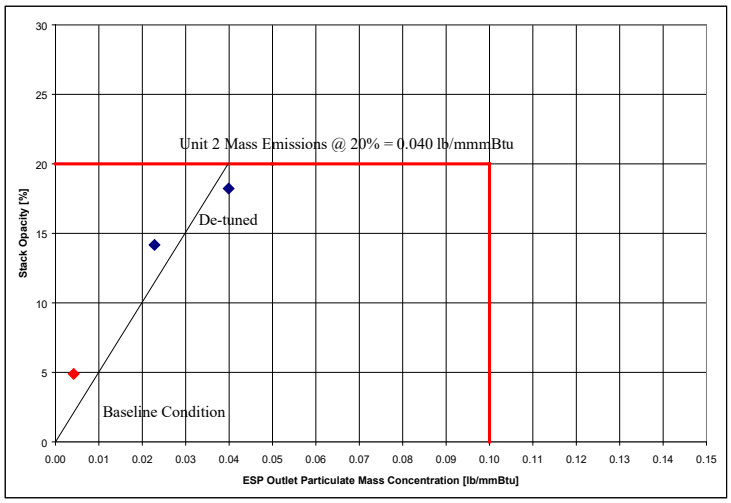

Figure 4. Unit 2 Opacity/Mass Relationship [lb/mmBtu]

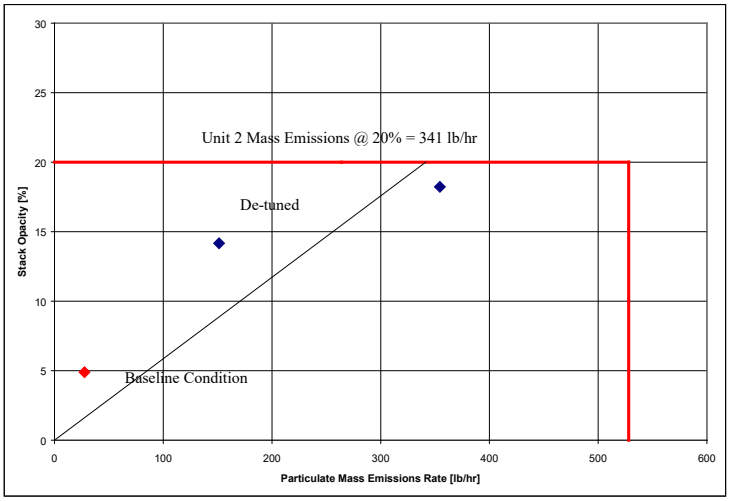

Figure 5. Unit 2 Opacity/Mass Relationship [lb/hr]

Monitoring Approach Validity

The test data show that the opacity/mass relationships support the proposed test and cap approach using the COMS as the primary indicator with a trigger level of 20 percent for both corrective action and excursions. In all cases, the opacity/mass relationships predicted mass emissions that were below the mass limits of each unit at 20 percent opacity. This suggests that the selected indicator and indicator range meet the general design criteria outlined in §64.3(a) of the CAM Rule and will be sufficient to demonstrate a reasonable assurance of compliance during normal operation of each unit.

RAINBOW ENERGY CENTER

2875 Third Street SW
Underwood, North Dakota 58576
701.207.9988
rainbowenergycenter.com

January 29, 2024

U.S. Environmental Protection Agency
Clean Air Markets Division (6204J)
Attn: Phase II NOx
1200 Pennsylvania Ave. NW
Washington, DC 20460

Re: Rainbow Energy Center (REC) - Coal Creek Station
ORIS Code: 06030
Title IV Acid Rain Permit and NO_x Compliance Plan Renewal

Enclosed is the Title IV permit renewal application for Rainbow Energy Center's Coal Creek Station. Duplicate signed originals were also sent to U.S. EPA Region VIII and the North Dakota Department of Environmental Quality.

If you have any questions regarding this submittal, please contact Benjamin Gress at (701) 207-8979.

Sincerely,

RAINBOW ENERGY CENTER

Jennifer Charles
Leader, Environmental & Regulatory

c: Benjamin Gress, REC-CCS
Todd Peterson, REC-CCS
John Bauer, REC-CCS

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 05/31/2025

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72 30 and 72 31

This submission is. ☐ new ☐ revised ☒ for ARP permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
Coal Creek Station	ND	06030

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72 9(c)(1)
1	Yes
2	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

Facility (Source) Name (from STEP 1) Coal Creek Station

STEP 3

Read the standard requirements.

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall
   (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72 30, and
   (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit,

(2) The owners and operators of each affected source and each affected unit at the source shall
   (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority, and
   (ii) Have an Acid Rain Permit

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the sourceshall
   (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73 34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source, and
   (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows
   (i) Starting January 1, 2000, an affected unit under 40 CFR 72 6(a)(2), or
   (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72 6(a)(3)

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program

(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated

(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72 7 or 72 8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization

(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides

Facility (Source) Name (from STEP 1) Coal Creek Station

STEP 3, Cont'd.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77

(2) The owners and operators of an affected source that has excess emissions in any calendar year shall

(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77, and

(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority

(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72 24, provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative,

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program, and,

(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72 7 or 72 8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act

(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U S C 1001

(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect

(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program

(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source

(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit

(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act

Facility (Source) Name (from STEP 1) Coal Creek Station

STEP 3, Cont'd.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72 7 or 72 8 shall be construed as

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans,

(2) Limiting the number of allowances a source can hold, provided, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act,

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law,

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act, or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established

STEP 4

Certification

Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment

Name John Bauer	
Signature John Bauer	Date 01/29/2024

Instructions for the Acid Rain Program Permit Application

The Acid Rain Program requires the designated representative to submit an Acid Rain permit application for each source with an affected unit A complete Certificate of Representation must be received by EPA before the permit application is submitted to the Title V permitting authority A complete Acid Rain permit application, once submitted, is binding on the owners and operators of the affected source and is enforceable in the absence of a permit until the Title V permitting authority either issues a permit to the source or disapproves the application

Please type or print If assistance is needed, contact the Title V permitting authority

STEP 1 A Plant Code is a 4- or 5-digit number assigned by the Department of Energy's (DOE) Energy Information Administration (EIA) to facilities that generate electricity For older facilities, "Plant Code" is synonymous with "ORISPL" and "Facility" codes If the facility generates electricity but no Plant Code has been assigned, or if there is uncertainty regarding what the Plant Code is, send an email to the EIA The email address is EIA-860@eia gov

STEP 2 In column "a," identify each unit at the facility by providing the appropriate unit identification number, consistent with the identifiers used in the Certificate of Representation and with submissions made to DOE and/or EIA Do not list duct burners For new units without identification numbers, owners and operators must assign identifiers consistent with EIA and DOE requirements Each Acid Rain Program submission that includes the unit identification number(s) (e g , Acid Rain permit applications, monitoring plans, quarterly reports, etc) should reference those unit identification numbers in exactly the same way that they are referenced on the Certificate of Representation

Submission Deadlines

For new units, an initial Acid Rain permit application must be submitted to the Title V permitting authority 24 months before the date the unit commences operation Acid Rain permit renewal applications must be submitted at least 6 months in advance of the expiration of the acid rain portion of a Title V permit, or such longer time as provided for under the Title V permitting authority's operating permits regulation

Submission Instructions

Submit this form to the appropriate Title V permitting authority If you have questions regarding this form, contact your local, State, or EPA Regional Acid Rain contact, or call EPA's Clean Air Markets Hotline at (202) 343-9620

Paperwork Burden Estimate

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U S C 3501 et seq (OMB Control No 2060-0258) Responses to this collection of information are mandatory (40 CFR 72 30 and 72 31) An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number The public reporting and recordkeeping burden for this collection of information is estimated to be 8 hours per response Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U S Environmental Protection Agency (2821T), 1200 Pennsylvania Ave , NW, Washington, D C 20460 Include the OMB control number in any correspondence Do not send the completed form to this address

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 05/31/2025

Acid Rain NO_x Compliance Plan

For more information, see instructions and refer to 40 CFR 76 9
This submission is ☐ New ☑ Revised

STEP 1
Indicate plant name, State, and Plant code from the current Certificate of Representation covering the facility.

Plant Name	State	Plant Code
Rainbow Energy Center - Coal Creek Station	ND	06030

STEP 2

Identify each affected Group 1 and Group 2 boiler using the unit IDs from the current Certificate of Representation covering the facility. Also indicate the boiler type "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom, and select the compliance option for each unit by making an 'X' in the appropriate row and column

	ID# 1	ID# 2	ID#	ID#	ID#	ID#
	Type T	Type T	Type	Type	Type	Type
(a) Standard annual average emission limitation of 0 50 lb/mmBtu (for Phase I dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0 45 lb/mmBtu (for Phase I tangentially fired boilers)						
(c) Standard annual average emission limitation of 0 46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)						
(d) Standard annual average emission limitation of 0 40 lb/mmBtu (for Phase II tangentially fired boilers)	X	X				
(e) Standard annual average emission limitation of 0 68 lb/mmBtu (for cell burner boilers)						
(f) Standard annual average emission limitation of 0 86 lb/mmBtu (for cyclone boilers)						
(g) Standard annual average emission limitation of 0 80 lb/mmBtu (for vertically fired boilers)						
(h) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						
(i) NO_x Averaging Plan (include NO_x Averaging form)						
(j) Common stack pursuant to 40 CFR 75 17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack)						
(k) Common stack pursuant to 40 CFR 75 17(a)(2)(i)(B) with NO_x Averaging (check the NO_x Averaging Plan box and include NO_x Averaging form)						
(l) EPA-approved common stack apportionment method pursuant to 40 CFR 75 17(a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)						

Rainbow Energy Center - Coal Creek Station

Plant Name (from Step 1)

STEP 3
Identify the first calendar year in which this plan will apply

January 1, _____

STEP 4
Read the special provisions and certification, enter the name of the designated representative, sign and date

Special Provisions

General

This source is subject to the standard requirements in 40 CFR 72 9 These requirements are listed in this source's Acid Rain Permit

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment

Name John Bauer	
Signature John Bauer	Date 01/29/2024

Acid Rain Program
Instructions for Acid Rain NO_X Compliance Plan and Averaging Plan (40 CFR 76.9)

The Acid Rain Program NO_X regulations are found at 40 CFR part 76 and apply to each existing coal-fired utility unit that is subject to sulfur dioxide (SO_2) emission reduction requirements under Sections 404, 405, or 409 of the Clean Air Act Under 40 CFR 76 9, the owner or operator of each affected unit subject to 40 CFR part 76 must include a NO_X compliance plan in the Acid Rain permit application that covers that unit For assistance, please call the Clean Air Markets Hotline at (202) 343-9620

Acid Rain NO_X Compliance Plan Instructions

STEP 1

Enter the plant name and plant code used in the Certificate of Representation covering the facility

STEP 2

For each boiler subject to an Acid Rain NO limit, enter the boiler (unit) ID #, (consistent with the unit ID # listed for the unit on the Certificate of Representation covering the facility) and check either (1) the appropriate box denoting the standard limit that the unit is subject to in row (a) through (h) or (2) the NO_X averaging plan box in row (i) (if a box in row "i" is checked, a NO_X Averaging Plan form must also be submitted with the NO_X compliance plan) If applicable, one of the boxes in rows (j) through (l) may also be checked See the "Common Stacks" paragraph immediately below

Common Stacks

A unit that utilizes a common stack and is separately monitored for NO_X (i e, has its own NO_X monitor and diluent monitor) is treated as the same as a unit that emits only through its own separate stack

A unit that utilizes a common stack and is not monitored separately must select one of the applicable common stack options If the unit shares a common stack with other affected units and no non-affected units and if each of the units has a NO_X emission limitation, three options are available comply with the most stringent NO_X emission limitation applicable to any unit utilizing the common stack (option (i)), include the units in a NO_X averaging plan (option (k)), or use an approved method for apportioning the combined NO_X emission rate in the common stack (option (l)) If the unit shares a common stack with at least one other unit that does not have a NO_X emission limitation or with at least one non-affected unit, you must use an approved method for apportioning the combined NO_X emission rate (option (l)), unless, of course, the unit is separately monitored

If an apportionment option is chosen, check, in addition to option (l), the box at Step 2 that indicates the applicable emission limitation and submit to U S EPA the documentation supporting apportionment with the monitoring plan submission

STEP 3

Identify the first calendar year in which the Acid Rain NOX compliance plan will apply Beginning with the calendar year denoted at Step 3, this Acid Rain NO_X compliance plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_X compliance plan is submitted

Acid Rain NO_X Averaging Plan Instructions

Under 40 CFR 76 11 any affected units under control of the same owner or operator and with the same designated representative may average their NO_X emission rate, rather than each unit complying on an individual-unit basis with the applicable emission limitation in 40 CFR 76 5, 76 6, or 76 7 Units with no common owner or operator may not average their emissions You may submit an averaging plan (or a revision to an approved averaging plan) with the appropriate Title V permitting authority(s) at any time up to and including January 1 of the calendar year for which the averaging plan will become effective If the plan is restricted to units located within a single permitting authority's jurisdiction, you may submit the plan at any time up to and including July 1 of the calendar year for which the plan will become effective

STEP 1

Each unit in the averaging plan must be a Group 1 or Group 2 boiler subject to an emission limitation under 40 CFR 76 5, 76 6, or 76 7 Enter each unit's applicable emission limitation from 40 CFR 76 5, 76 6, or 76 7 in column (a)

For units utilizing a common stack that are averaging pursuant to 40 CFR 75 17(a)(2)(i)(B), the same alternative contemporaneous emission limitation must be entered in column (b) for each unit utilizing the common stack Different annual heat input limits may be entered for these units in column (c) Units not utilizing the common stack may also be included in the averaging plan with the common stack units

The annual heat input limit entered at column (c) will be a minimum limit if the value in column (b) is less than the value in column (a) for that unit It will be a maximum limit if the value in column (b) is greater than the value in column (a) The values entered for each unit at columns (b) and (c) must satisfy the formula at Step 2

STEP 2

The entries in Step 2 must demonstrate that the Btu-weighted annual emission rate averaged over the units in the plan is less than or equal to the Btu-weighted annual average emission rate for the same units if they are each operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76 5, 76 6, or 76 7 Use the equation that appears in Step 2 to demonstrate that the alternative contemporaneous annual emission limitations and annual heat input values assigned to the units in Step 1 satisfy this criterion

STEP 3

Identify the first calendar year in which the Acid Rain NO_x averaging plan will apply Beginning with the calendar year denoted at Step 3, this Acid Rain NO_x averaging plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_x compliance plan or averaging plan is submitted

General Instructions

Submit one complete set of all forms with **original** signatures to the appropriate Title V permitting authority (for NO_x Averaging Plans, a copy of the plan must be submitted to each Title V permitting authority with jurisdiction over any of the units in the plan) and one copy to U S EPA **Please note the different zip codes below**

Regular or Certified Mail:

U S EPA
CAMD – Market Operations Branch
Attn Acid Rain NOx
1200 Pennsylvania Avenue, NW
Mail Code 6204A
Washington, DC **20460**

Overnight Mail:

U S EPA
CAMD – Market Operations Branch
Attn Acid Rain NOx
1200 Pennsylvania Avenue, NW
WJC South, 4th Floor, Room # 4153C
Washington, DC **20004**
(202) 564-8717

Paperwork Burden Estimate

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U S C 3501 et seq (OMB Control No 2060-0258) Responses to this collection of information are mandatory (40 CFR 76 9) An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number The public reporting and recordkeeping burden for this collection of information is estimated to be 10 hours per response Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U S Environmental Protection Agency (2821T), 1200 Pennsylvania Ave , NW, Washington, D C 20460 Include the OMB control number in any correspondence Do not send the completed form to this address