

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503
PHONE 701-223-0441 FAX: 701-557-5336



May 1, 2015

Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 East Boulevard; Dept. 408
Bismarck, ND 58505-0480

Re: Basin Electric Power Cooperative
Pioneer Generation Station Phase III
PU-14-829

Dear Mr. Nitschke:

Enclosed for filing, please find a copy of the North Dakota Air Pollution Control Permit to Construct No. PTC15014 and Williams County Conditional Use Permit for Basin Electric Power Cooperative's Pioneer Generating Station Phase III Project in Case PU-14-829.

Electronic version of the permits have been submitted directly to the docket.

Should you have any questions concerning this filing, please contact me at your convenience.

Sincerely,

A handwritten signature in black ink that reads "Cris Miller".

Cris Miller
Senior Environmental Project Specialist

/ser
Enclosures

cc: Casey Jacobson
Josh Rossow



April 7, 2015

FILE

Mr. Jon Madison
Basin Electric Power Cooperative
1717 E Interstate Avenue
Bismarck, ND 58503

Re: Air Pollution Control
Permit to Construct

Dear Mr. Madison:

Pursuant to the Air Pollution Control Rules of the State of North Dakota, the Department of Health has completed final review of your application to obtain a Permit to Construct for installation of twelve natural gas-fired engines at the existing Pioneer Station in Williams County, North Dakota.

Based on the results of the documents reviewed, this Department hereby issues the enclosed North Dakota Air Pollution Control Permit to Construct No. PTC15014. A public comment period was held regarding this project from March 6, 2015 to April 6, 2015 and no comments were received by the Department.

Please advise the Department within 15 days after completing the project to allow for an inspection by the Department.

Note that the above-referenced permit addresses only air quality requirements applicable to your facility. Other divisions (Water Quality, Waste Management and Municipal Facilities) within the Environmental Health Section may have additional requirements. Contact information for the various divisions is listed at the bottom of this letter.

If you have any questions regarding air quality, please contact me at (701)328-5188.

Sincerely,

Craig D. Thorstenson
Environmental Engineer
Division of Air Quality

CDT:saj

Enc:

xc/enc: Mike Owens, EPA (email)



**AIR POLLUTION CONTROL
PERMIT TO CONSTRUCT**

Pursuant to Chapter 23-25 of the North Dakota Century Code, and the Air Pollution Control Rules of the State of North Dakota (Article 33-15 of the North Dakota Administrative Code), and in reliance on statements and representations heretofore made by the owner designated below, a Permit to Construct is hereby issued authorizing such owner to construct and initially operate the source unit(s) at the location designated below. This Permit to Construct is subject to all applicable rules and orders now or hereafter in effect of the North Dakota Department of Health and to any conditions specified below:

I. General Information:

A. **Permit to Construct Number:** PTC15014

B. **Source:**

1. Name: Basin Electric Power Cooperative
2. Location: Pioneer Generating Station
NE ¼, SE ¼, Sec. 20, T155N, R103W
Williams County, ND
3. Source Type: Stationary Reciprocating Internal Combustion Engines (RICE) and Combustion Turbines
4. Equipment at the Facility: Existing equipment at the facility consists of the following:

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Three General Electric Model LM6000 PC SPRINT natural gas-fired combustion turbines with a nominal heat input of 451 million Btu/hr each. Each turbine drives an electrical generator with a nominal maximum rating of 46.3 MWe.	1-3	1-3	Selective Catalytic Reduction & Catalytic Oxidation

New equipment consists of the following:

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Twelve Wartsila Model 20V34SG natural gas-fired engines with a maximum rating of 12,358 bhp each. Each engine drives an electrical generator; the generators have a combined capacity of 111 MWe.	4-15	4-5*	Selective Catalytic Reduction & Catalytic Oxidation
Natural gas-fired heater rated at approximately 2.5 million Btu/hr	16	16	None
Natural gas-fired LPG vaporizer rated at approximately 0.75 million Btu/hr	17	17	None
Emergency fire pump driven by a diesel-fired engine rated at approximately 197 bhp	18	18	None
Emergency generator driven by a diesel-fired engine rated at approximately 597 bhp	19	19	None
550 gallon diesel storage tank	20	20	None
200 gallon diesel storage tank	21	21	None
Two 148,294 gallon LPG storage tanks (pressurized)	22-23	22-23	None

* Six engines vent to EP 4 and six engines vent to EP 5.

C. Owner/Operator (Permit Applicant):

1. Name: Basin Electric Power Cooperative
2. Address: 1717 E Interstate Avenue
Bismarck, ND 58503
3. Application Date: August 6, 2014

II. Conditions: This Permit to Construct allows the construction and initial operation of the above-mentioned new or modified equipment at the source. The source may be operated under this Permit to Construct until a Permit to Operate is issued unless this permit is suspended or revoked. The source is subject to all applicable rules, regulations, and orders now or hereafter in effect of the North Dakota Department of Health and to the conditions specified below.

A. Emission Limits: Emission limits from the operation of the new source unit(s) identified in Item I.B of this Permit to Construct (hereafter referred to as "permit") are as follows. Source units not listed are subject to the applicable emission limits specified in the North Dakota Air Pollution Control Rules.

Emission Unit Description	EU	EP	Pollutant / Parameter	Emission Limit*
Twelve Wartsila Model 20V34SG natural gas-fired engines with a maximum rating of 12,358 bhp***	4-15	4-5	NO _x	1.38 lb/hr
			CO	2.10 lb/hr
			PM ₁₀ /PM _{2.5} (filterable and condensable)	1.68 lb/hr
			VOC	3.24 lb/hr
			Opacity	20%(40%**)
Natural gas-fired heater rated at approximately 2.5 million Btu/hr	16	16	Opacity	20%(40%**)
Natural gas-fired LPG vaporizer rated at approximately 0.75 million Btu/hr	17	17	Opacity	20%(40%**)
Emergency fire pump driven by a diesel-fired engine rated at approximately 197 bhp****	18	18	Opacity	20%(40%**)
Emergency generator driven by a diesel-fired engine rated at approximately 597 bhp****	19	19	Opacity	20%(40%**)

* The emission limits for EU 4-15 apply to each engine.

** Allowable for one six-minute period per hour.

*** The owner/operator shall also comply with the emission limits established by 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ.

**** The owner/operator shall also comply with the emission limits established by 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ.

Upon the issuance date of this permit, the emission limits established by Permit to Construct No. PTC13037 are rescinded entirely. Emission limits from the existing emission units at the facility are as follows:

Emission Unit Description	EU	EP	Pollutant / Parameter	Emission Limit
Combustion Turbines	1-3	1-3	NO _x *	5.0 ppmvd @ 15% O ₂ (4-hr rolling average)
			NO _x **	39.0 lb/hr (total) (1-hr block average)

Emission Unit Description	EU	EP	Pollutant / Parameter	Emission Limit
			CO*	6.0 ppmvd @ 15% O ₂ (8-hr rolling average)
			CO**	87.1 lb/hr (total) (1-hr block average)
			PM ₁₀ /PM _{2.5} (filterable and condensable)	5.4 lb/hr (each turbine)
			Opacity	20%***

* Does not apply during startup.

** Applies at all times including startup and shutdown. Total for three turbines calculated as the sum of the 1-hour block average emission rates for each unit.

*** Except that a maximum of 40% is permissible for not more than one six-minute period per hour.

- B. **Stack Height:** Emissions from EP 4 and EP 5 shall be vented from a stack height of at least 170 feet.
- C. **Fuel Restrictions:** EUs 1, 2, 3, 16 and 17 shall be operated using only pipeline quality natural gas with a sulfur content no greater than 2 grains per 100 standard cubic feet as defined in NDAC 33-15-01. EUs 4-15 shall be operated using only pipeline quality natural gas with a sulfur content no greater than 2 grains per 100 standard cubic feet or liquefied petroleum gas (LPG). EUs 18 and 19 shall be operated using only ultra low sulfur diesel fuel with a sulfur content no greater than 0.0015% by weight.
- D. **40 CFR 60, Subpart IIII:** The owner/operator shall comply with all applicable requirements of 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Combustion Ignition Internal Combustion Engines.
- E. **40 CFR 60, Subpart JJJJ:** The owner/operator shall comply with all applicable requirements of 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
- F. **40 CFR 63, Subpart ZZZZ:** The owner/operator shall comply with all applicable requirements of 40 CFR 60, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

- G. **Permit to Construct No. PTC13037:** Upon the issuance date of this permit, the following conditions of Permit to Construct No. PTC13037 are rescinded entirely (all BACT limits and associated conditions are rescinded in accordance with the U.S. Supreme Court decision, *Utility Air Regulatory Group v. Environmental Protection Agency, et. al.*): Conditions 5.C., 5.D., 6.A., 9.D. and 10.A.4.

Upon the issuance date of this permit, the following emission unit is removed from Permit to Construct No. PTC13037, Table 1:

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Fugitive – Methane Emissions	Fug.	Fug.	N.A.

- H. **Quarterly Excess Emission Reports:** Quarterly excess emission reports for EUs 1-3 shall be submitted by the 30th day following the end of each 3-month period. Excess emissions are defined as emission rates which exceed the emission limits established for EUs 1-3. Excess emissions shall be reported for the following:

<u>Emission Unit</u>	<u>Parameter</u>	<u>Averaging Period</u>
Combustion Turbine	NO _x (ppmvd)	4-hour rolling average
	NO _x (lb/hr)	1-hour block average
	CO (ppmvd)	8-hour rolling average
	CO (lb/hr)	1-hour block average

- I. **40 CFR 63, Subpart DDDDD:** The owner/operator shall comply with all applicable requirements of 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. This subpart is applicable if the source is a major source of hazardous air pollutants.
- J. **40 CFR 63, Subpart JJJJJJ:** The owner/operator shall comply with all applicable requirements of 40 CFR 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. This subpart is applicable if the source is an area source of hazardous air pollutants.
- K. **Acid Rain Program:** The owner/operator shall comply with all applicable requirements of 40 CFR 72.
- L. **Emissions Testing:**
- Initial Testing: Within 180 days after initial startup, the permittee shall conduct emissions tests at those emission points directed by the Department using an independent testing firm, to determine the emission rate of the

pollutants listed in the table. Emissions testing shall be conducted for the pollutant(s) listed below in accordance with EPA Reference Methods listed in 40 CFR 60, Appendix A.

Emission Unit Description	EP	Pollutant/ Parameter
Natural gas-fired engines	4-15	NO _x CO VOC PM ₁₀ /PM _{2.5} (filterable and condensable)

A signed copy of the test results shall be furnished to the Department within 60 days of the test date. The basis for this condition is NDAC 33-15-01-12 which is hereby incorporated into this permit by reference. To facilitate preparing for and conducting such tests, and to facilitate reporting the test results to the Department, the owner/operator shall follow the procedures and formats in the Department's Emission Testing Guideline.

2. Notification: The permittee shall notify the Department using the form in the Emission Testing Guideline, or its equivalent, at least 30 calendar days in advance of any tests of emissions of air contaminants required by the Department. If the permittee is unable to conduct the performance test on the scheduled date, the permittee shall notify the Department at least five days prior to the scheduled test date and coordinate a new test date with the Department.
3. Sampling Ports/Access: Sampling ports shall be provided downstream of all emission control devices and in a flue, conduit, duct, stack or chimney arranged to conduct emissions to the ambient air.

The ports shall be located to allow for reliable sampling and shall be adequate for test methods applicable to the facility. Safe sampling platforms and safe access to the platforms shall be provided. Plans and specifications showing the size and location of the ports, platform and utilities shall be submitted to the Department for review and approval.

4. Other Testing:
 - a) The Department may require the permittee to have tests conducted to determine the emission of air contaminants from any source, whenever the Department has reason to believe that an emission of a contaminant not addressed by the permit applicant is occurring, or the emission of a contaminant in excess of that allowed by this permit is occurring. The Department may specify testing methods to be used in accordance with good professional practice. The Department may observe the testing. All tests shall be conducted

by reputable, qualified personnel. A signed copy of the test results shall be furnished to the Department within 60 days of the test date.

All tests shall be made and the results calculated in accordance with test procedures approved by the Department. All tests shall be made under the direction of persons qualified by training or experience in the field of air pollution control as approved by the Department.

- b) The Department may conduct tests of emissions of air contaminants from any source. Upon request of the Department, the permittee shall provide necessary holes in 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.

- M. **Construction:** Construction of the above described facility shall be in accordance with information provided in the permit application as well as any plans, specifications and supporting data submitted to the Department. The Department shall be notified ten days in advance of any significant deviations from the specifications furnished. The issuance of this Permit to Construct may be suspended or revoked if the Department determines that a significant deviation from the plans and specifications furnished has been or is to be made.

Any violation of a condition issued as part of this permit to construct as well as any construction which proceeds in variance with any information submitted in the application, is regarded as a violation of construction authority and is subject to enforcement action.

- N. **Startup Notice:** A notification of the actual date of initial startup shall be submitted to the Department within 15 days after the date of initial startup.

- O. **Permit Invalidation:** This permit shall become invalid if construction is not commenced within eighteen months after issuance of such permit, if construction is discontinued for a period of eighteen months or more; or if construction is not completed within a reasonable time. The Department may extend the eighteen month period upon a satisfactory showing that an extension is justified.

- P. **Fugitive Emissions:** The release of fugitive emissions shall comply with the applicable requirements in NDAC 33-15-17.

- Q. **Annual Emission Inventory/Annual Production Reports:** The owner/operator shall submit an annual emission inventory report or an annual production report, upon request, on forms supplied or approved by the Department.

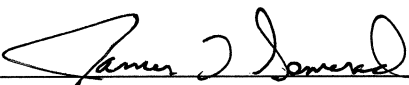
- R. **Source Operations:** Operations at the installation shall be in accordance with statements, representations, procedures and supporting data contained in the initial application, and any supplemental information or application(s) submitted thereafter. Any operations not listed in this permit are subject to all applicable North Dakota Air Pollution Control Rules.
- S. **Alterations, Modifications or Changes:** Any alteration, repairing, expansion, or change in the method of operation of the source which results in the emission of an additional type or greater amount of air contaminants or which results in an increase in the ambient concentration of any air contaminant, must be reviewed and approved by the Department prior to the start of such alteration, repairing, expansion or change in the method of operation.
- T. **Air Pollution from Internal Combustion Engines:** The permittee shall comply with all applicable requirements of NDAC 33-15-08-01 – Internal Combustion Engine Emissions Restricted.
- U. **Recordkeeping:** The owner/operator shall maintain any compliance monitoring records required by this permit or applicable requirements. The owner/operator 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 sample, measurement, report or application. Support information may include all calibration and maintenance records and all original strip-chart recordings/computer printouts for continuous monitoring instrumentation, and copies of all reports required by the permit.
- V. **Nuisance or Danger:** This permit shall in no way authorize the maintenance of a nuisance or a danger to public health or safety.
- W. **Malfunction Notification:** The owner/operator shall notify the Department of any malfunction which can be expected to last longer than twenty-four hours and can cause the emission of air contaminants in violation of applicable rules and regulations.
- X. **Operation of Air Pollution Control Equipment:** The owner/operator shall maintain and operate all air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.
- Y. **Transfer of Permit to Construct:** The holder of a permit to construct may not transfer such permit without prior approval from the Department.
- Z. **Right of Entry:** Any duly authorized officer, employee or agent of the North Dakota Department of Health may enter and inspect any property, premise or place at which the source listed in Item I.B of this permit is located at any time for the

purpose of ascertaining the state of compliance with 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.

- AA. **Other Regulations:** The owner/operator of the source unit(s) described in Item I.B of this permit shall comply with all State and Federal environmental laws and rules. In addition, the owner/operator shall comply with all local burning, fire, zoning, and other applicable ordinances, codes, rules and regulations.
- BB. **Permit Issuance:** This permit is issued in reliance upon the accuracy and completeness of the information set forth in the application. Notwithstanding the tentative nature of this information, the conditions of this permit herein become, upon the effective date of this permit, enforceable by the Department pursuant to any remedies it now has, or may in the future have, under the North Dakota Air Pollution Control Law, NDCC Chapter 23-25. Each and every condition of this permit is a material part thereof, and is not severable.
- CC. **Odor Restrictions:** The owner/operator shall not discharge into the ambient air any objectionable odorous air contaminant which is in excess of the limits established in NDAC 33-15-16.

FOR THE NORTH DAKOTA
DEPARTMENT OF HEALTH

Date 4/7/15

By 
Terry L. O'Clair, P.E.
for Director
Division of Air Quality



April 24, 2015

Chris Miller
Basin Electric Power Cooperative
1717 E Interstate Ave
Bismarck, ND 58503-0564

C-15-12; Basin Electric Power Cooperative is requesting a Conditional Use Permit to facilitate construction of their Pioneer Generation Station Phase III project. The property consists of 117.26 acres and is located as NE $\frac{1}{4}$ SE $\frac{1}{4}$; SE $\frac{1}{4}$ SE $\frac{1}{4}$; E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$, Sec 20, T155N R103W, off CR5. The property is zoned Industrial. Hebron Township

Dear Applicant:

On April 14, 2015, the Board of County Commissioners granted your Conditional Use Permit request, provided you comply with but not limited to the following special conditions and restrictions:

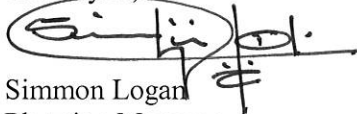
1. A security fence shall be installed around the perimeter of the facility,
2. The landscaping shall be maintained for the life of the project.
3. Site improvements will be regulated through the County Building Department; site improvements shall include grading and drainage plans.
4. Conform to Chapter 18.
5. Provide a plan to address the grading and drainage concerns of the Township and contiguous landowners.
6. Williams County building permits and inspections shall be required for all structures on site.

In addition to the above special conditions and restrictions, Conditional Use Permits must also comply with all requirements of Williams County ordinances, codes, rules, regulations, comprehensive plan, and policies, and amendments thereto, as well as all State of North Dakota and federal statutes, codes, regulations, and rules, and amendments thereto.

NOTE: WILLIAMS COUNTY RESERVES THE RIGHT TO REVOKE YOUR CONDITIONAL USE PERMIT IF IT IS FOUND THAT YOU HAVE NOT COMPLIED WITH THE ABOVE SPECIAL CONDITIONS AND RESTRICTIONS, OR HAVE NOT COMPLIED WITH APPLICABLE COUNTY, STATE, OR FEDERAL LAWS AFTER A PUBLIC HEARING.

Please contact Planning and Zoning Division should you have any questions or concerns.

Thank you,



Simmon Logan
Planning Manager

cc: Beth Innis, County Auditor
Darcy Anderson, County Assessor
GIS Info, County GIS Department
Taylor Corbett, Staff Planner
Yana Ness, Staff Planner
Kylene Murphy, Staff Planner
Hebron Township
Mike Sizemore, Director of Development Services