

September 28, 2020

Steve Kahl  
Executive Director  
North Dakota Public Service Commission  
600 East Boulevard; Department 408  
Bismarck, ND 58505-0480

RE: Case No. PU-14-852  
Basin Electric Power Cooperative  
Lonesome Creek Station Unit 6 Project

Dear Mr. Kahl:

In accordance with the North Dakota Public Service Commission Case No. PU-14-852 Findings of Fact, Conclusions of Law and Order for Basin Electric Power Cooperative's Lonesome Creek Station Unit 6 Project, enclosed please find the Construction Stormwater Permit Notice of Coverage and the Air Pollution Permit to Construct, both issued by the North Dakota Department of Environmental Quality. The Conditional Use Approval issued by McKenzie County is also enclosed.

If you have any questions or require additional information, please contact me at 701.557.5495 or [ksolie@bepc.com](mailto:ksolie@bepc.com).

Sincerely,

*Kevin L. Solie*

Kevin L. Solie, P.E.  
Senior Environmental Compliance Administrator

/gmj  
Enclosures

94 PU-14-852 Filed 09/28/2020 Pages: 13  
Permits  
Basin Electric Power Cooperative  
Kevin Solie

#0041-15 Admin Amend CUP



# Administrative Permit

- Amended Conditional Use Permit \$375.00
- Administrative Conditional Use Permit \$375.00
- Site Plan Permit \$375.00
- Utility/Communications Permit \$375.00
- Amended Administrative CUP \$375.00

Name of applicant: Basin Electric Power Cooperative Phone: 701.557.5495

Mailing address: 1717 East Interstate Ave. Bismarck ND 58503 Email: ksolie@becp.com

Property owner on record: Basin Electric Power Cooperative Phone: 701.557.5495

Mailing address: 1717 East Interstate Ave. Bismarck ND 58503 Email: ksolie@becp.com

Agent/Engineer /Surveyor: Kevin L. Solie Phone: 701.202.5096

Mailing address: 1717 East Interstate Ave. Bismarck ND 58503 Email: ksolie@becp.com

Existing Zoning : Industrial Proposed Zoning: No change

Existing Use: Electric Generation Proposed Conditional Use: No change

Surrounding land uses: Industrial, agricultural

**Legal description of property including parcel number(s):**

SW/4 of Section 23, Township 150 North, Range 101 West

#010010000

• Description of request and justification:

Basin Electric received a CUP for Lonesome Creek Station Phase III in May 2015, but only two of the three 45 MW combustion turbines were constructed due to downturn in oil and gas and electrical load forecasts. Significant infrastructure supporting LCS Unit 6 was installed during the construction of Units 4 and 5, and the Unit 6 location was preserved within the LCS plant site. Basin Electric is proposing to complete LCS Phase III as originally described in our 2015 CUP application. Basin Electric would comply with the original requirements of the 2015 CUP authorizing the project.

• Please provide documents as required on the Development Checklist.

Applicant Signature: [Signature] Date: 6-30-2020

Planning & Zoning Signature: [Signature] Date: 7/17/2020

McKenzie County Planning & Zoning Department  
201 5<sup>th</sup> St NW, Watford City, ND 58854  
[www.county.mckenziecounty.net](http://www.county.mckenziecounty.net) 701-444-6494

*Administratively approved based on section 5-8.5 2) of Zoning Ordinance.*  
*[Signature]*

April 14, 2020

Mr. John W. Jacobs  
Senior Vice President of Operations  
Basin Electric Power Cooperative  
1717 E Interstate Avenue  
Bismarck, ND 58503

Re: Air Pollution Control  
Permit to Construct (No. PTC20014)

Dear Mr. Jacobs:

Pursuant to the Air Pollution Control Rules of the State of North Dakota, the Department of Environmental Quality (Department) has completed final review of your application dated March 12, 2020 to obtain a Permit to Construct for the Lonesome Creek Station located in McKenzie County.

Based on the results of the documents reviewed, this Department hereby issues the enclosed North Dakota Air Pollution Control Permit to Construct No. PTC20014.

Within 12 months after permit issuance, a Title V Permit to Operate modification application must be submitted to the Department. Questions regarding the Title V permit application may be addressed to Kyla Schneider at (701)328-5218 or [kkschneider@nd.gov](mailto:kkschneider@nd.gov).

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 Department of Environmental Quality may have additional requirements. Contact information for the various divisions is listed at the bottom of this letter.

If you have any questions, please contact me at (701)328-5283 or at [cristy.jones@nd.gov](mailto:cristy.jones@nd.gov).

Sincerely,



*CJ*  
Cristy Jones  
Environmental Scientist  
Division of Air Quality

CMJ:saj

Enc:

**AIR POLLUTION CONTROL  
 PERMIT TO CONSTRUCT**

Pursuant to Chapter 23.1-06 of the North Dakota Century Code, and the Air Pollution Control Rules of the State of North Dakota (Article 33.1-15 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 Environmental Quality (Department) and to any conditions specified below:

**I. General Information:**

A. **Permit to Construct Number:** PTC20014

B. **Source:**

1. **Name:** Basin Electric Power Cooperative
2. **Location:** Lonesome Creek Station  
 2648 - 140<sup>th</sup> Avenue NW  
 Alexander, ND 58831
3. **Source Type:** Electrical Generating Unit; Turbine
4. **Equipment Existing at the Facility:**

<b>Emission Unit Description</b>	<b>Emission Unit (EU)</b>	<b>Emission Point (EP)</b>	<b>Air Pollution Control Equipment</b>
Five natural gas-fired combustion turbines. All five turbines are GE Model LM6000 PF Sprint turbines with a nominal maximum rating of 46.0 MWe and a nominal maximum heat input of 412 x 10 <sup>6</sup> Btu/hr each.	1 through 5	1 through 5	Selective Catalytic Reduction and Catalytic Oxidation

5. Equipment to be added the Facility:

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
One GE Model LM6000 PF Sprint simple-cycle combustion turbine rated at 46.0 MWe gross and 412 x 10 <sup>6</sup> Btu/hr maximum heat input (2020)	6	6	Selective Catalytic Reduction and Catalytic Oxidizer

C. **Owner/Operator (Permit Applicant):**

1. Name: Basin Electric Power Cooperative
2. Address: 1717 E Interstate Avenue  
Bismarck, ND 58501
3. Application Date: March 12, 2020

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 Environmental Quality and to the conditions specified below.

A. **Emission Limits:** Emission limits from the operation of the 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
Combustion Turbine	6	6	NO <sub>x</sub> <sup>A</sup>	7.8 lb/hr (30-day rolling average)
			NO <sub>x</sub> <sup>B</sup>	25 ppmvd at 15% O <sub>2</sub> or 1.2 lb/MWh of useful output
			NO <sub>x</sub> <sup>B</sup>	96 ppmvd at 15% O <sub>2</sub> or 4.7 lb/MWh of useful output <sup>E</sup>
			NO <sub>x</sub> <sup>C</sup>	37.0 lb/hr (maximum 1-hour average)
			CO <sup>A</sup>	6.0 lb/hr (30-day rolling average)
			PM <sub>10</sub> /PM <sub>2.5</sub> (filterable and condensable)	5.0 lb/hr (3-hour average)

Emission Unit Description	EU	EP	Pollutant / Parameter	Emission Limit
			Opacity	20% <sup>D</sup>

- A Does not apply during startup and shutdown periods.
- B Per 40 CFR 60, Subpart KKKK Table 1. Applies at all times including startup, shutdown and malfunction.
- C Applies only to periods of start-up and shutdown.
- D 40% permissible for not more than one six-minute period per hour.
- E Per 40 CFR 60, Subpart KKKK Table 1. Applicable when turbine is operating at less than 75% load and/or when turbine operating temperature is less than 0° F.

- B. **Stack Height:** Emissions from EP 6 shall be vented from a stack height of at least 80 feet.
- C. **Fuel Restriction:** The combustion turbine (EU 6) is restricted to combusting only natural gas containing no more than 2 grains of sulfur per 100 standard cubic feet.
- D. **Determination of Compliance with NO<sub>x</sub> and CO Emission Limits:** For purposes of determining compliance with the NO<sub>x</sub> emission limit on a ppm basis, the procedures specified in 40 CFR 60, Subpart KKKK shall be used. The permittee shall calculate a rolling average if a valid NO<sub>x</sub> emission rate is obtained for at least 3 of the 4 hours (excluding startup and shutdown).
- E. **Quarterly Excess Emission Reports:** Quarterly excess emission reports for EU 6 shall be submitted by the 30<sup>th</sup> day following the end of each 3-month period. Excess emissions are defined as emission rates which exceed the emission limits established for EU 6. Excess emissions shall be reported for the following:

<u>Emission Unit</u>	<u>Parameter</u>	<u>Averaging Period</u>
Combustion Turbine	NO <sub>x</sub> (lb/hr)	30-day rolling average
	CO (lb/hr)	30-day rolling average

- F. **Acid Rain Program:** The owner/operator shall comply with all applicable requirements of 40 CFR 72.
- G. **New Source Performance Standards (NSPS):** The owner/operator shall comply with all applicable requirements of the following NSPS subparts as referenced in Chapter 33.1-15-12 of the North Dakota Air Pollution Control Rules and 40 CFR 60.
  - 1. **40 CFR 60, Subpart KKKK:** For EU 6, the permittee shall comply with all the applicable requirements of 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines.
    - a) For demonstrating compliance with SO<sub>2</sub> emission limits, the facility may conduct SO<sub>2</sub> performance tests per §60.4415(a) or monitor

sulfur content of the fuel combusted in the turbine per §60.4360. A representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see §60.17) for natural gas or ASTM D4177 (incorporated by reference, see §60.17) for oil, per 60.4415.

2. **40 CFR 60, Subpart TTTT:** The owner/operator may be subject to the requirements of Subpart TTTT - Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units. The Department has not adopted this subpart. All required documentation must be submitted to EPA Region 8 at the following address:

U.S. EPA Region 8  
 1595 Wynkoop Street  
 Mail Code 8ENF – AT  
 Denver, CO 80202-1129

**H. Emissions Testing:**

1. Initial Testing: Within 180 days after initial startup, the permittee shall conduct emissions tests at the emission point as 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
Combustion turbine	6	NO <sub>x</sub> <sup>A</sup> CO <sup>A</sup> PM <sub>10</sub> /PM <sub>2.5</sub> (filterable and condensable)

<sup>A</sup> The CEMS shall be used to demonstrate compliance.

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 33.1-15-01-12 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.

**I. Monitoring Requirements and Conditions:**

1. Monitoring shall be in accordance with the requirements of all applicable regulations and directives including those in 40 CFR 60, Subpart KKKK and 40 CFR 75.
2. Carbon Monoxide CEMS: The permittee shall install, calibrate, operate and maintain equipment for continuously monitoring the carbon monoxide emission rate from the stack. The systems shall report carbon monoxide emissions in units of ppmvd. The monitoring systems shall comply with the requirements of 40 CFR 50, Appendix B, Performance Specification 4. Quality assurance shall be in accordance with 40 CFR 60, Appendix F.

3. Other CEMS: The permittee shall install, calibrate, operate and maintain continuous emission monitors for nitrogen oxides and oxygen in accordance with the requirements of 40 CFR 75 and 40 CFR 60, Subpart KKKK.
  4. The permittee shall install, calibrate, operate and maintain equipment for measuring and recording the gross energy output (MWe) on an hourly basis in accordance with 40 CFR 60, Subpart KKKK.
  5. The permittee shall install, calibrate, operate and maintain equipment to measure and record the ambient temperature at the site on an hourly basis in accordance with 40 CFR 60, Subpart KKKK.
  6. The permittee shall install, calibrate, operate and maintain equipment to measure and record the quantity of natural gas combusted in each combustion turbine in accordance with 40 CFR 60, Subpart KKKK.
  7. The permittee shall determine the gross calorific value of the fuel monthly using the procedures in 40 CFR 75, Appendix F, Section 5.5.2.
  8. The permittee shall determine the fuel sulfur content in accordance with 40 CFR 60, Subpart KKKK.
- J. **Like-Kind Turbine Replacement:** This permit allows the permittee to replace the turbine with a like-kind turbine. Replacement is subject to the following conditions.
1. The Department must be notified within 10 days after change-out of the turbine.
  2. The replacement turbine shall operate in the same manner, provide no increase in throughput and have equal or less emissions than the turbine it is replacing.
  3. The date of manufacture of the replacement turbine 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 turbine is subject to the same state emission limits as the existing turbine in addition to any NSPS or MACT emission limit that is applicable. Testing shall be conducted to confirm compliance with the emission limits within 180 days after start-up of the new turbine.
- K. **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.

- L. **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.
- M. **Title V Permit to Operate:** Within one year after startup of the units covered by this Permit to Construct, the owner/operator shall submit a permit application to modify the current Title V Permit to Operate for the facility.
- N. **Organic Compounds Emissions:** The permittee shall comply with all applicable requirements of NDAC 33.1-15-07 – Control of Organic Compounds Emissions.
- 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.
- P. **Fugitive Emissions:** The release of fugitive emissions shall comply with the applicable requirements in NDAC 33.1-15-17.
- Q. **Annual Emission Inventory/Annual Production Reports:** The owner/operator shall submit an annual emission inventory report and/or an annual production report upon Department 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. **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.

- U. **Nuisance or Danger:** This permit shall in no way authorize the maintenance of a nuisance or a danger to public health or safety.
- V. **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.
- W. **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.
- X. **Transfer of Permit to Construct:** The holder of a permit to construct may not transfer such permit without prior approval from the Department.
- Y. **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 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.
- Z. **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.
- AA. **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 23.1-06.
- BB. **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 33.1-15-16.
- CC. **Sampling and Testing:** The Department may require the owner/operator to conduct tests to determine the emission rate of air contaminants from the source. The Department may observe the testing and may specify testing methods to be used. 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 33.1-15-01-12

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.

FOR THE NORTH DAKOTA DEPARTMENT  
OF ENVIRONMENTAL QUALITY

Date: 4/14/2020

By:   
James L. Semerad  
Director  
Division of Air Quality

September 16, 2020

North Dakota Pollutant Discharge Elimination System (NDPDES)  
General Permit for Stormwater Discharges from Construction Activity  
NOTICE OF COVERAGE

Permittee(s)

Owner Contact: Darrell Slavick  
Basin Electric Power Cooperative  
1717 E Interstate Ave  
Bismarck, ND 58503

Operator Contact: John Reck  
Casey Industrial  
890 West Cherry St.  
Louisville, CO 80027

Coverage under the 2020 reissued construction general permit (NDR11-0000) is identified as follows:

Permit ID:                      Site Name:  
**NDR110988**                      **Lonesome Creek Unit 6 Expansion**

Please remember to update the Stormwater Pollution Prevention Plan (SWPPP) as appropriate for site conditions. The best management practices (BMPs) and temporary structures must be inspected, maintained and adjusted until the site is stabilized following construction activities. Once the site is stabilized as outlined in the general permit, you may end permit coverage by filing a termination notice. Cities or counties may impose additional requirements and/or specific BMPs for construction affecting their storm drainage system. Please check with the local officials to be sure all local stormwater management considerations are addressed.

Additional Information

The permit will expire on March 31, 2025. The permit conditions, forms and related information may be found on our web site at:

[https://deq.nd.gov/WQ/2\\_NDPDES\\_Permits/7\\_Stormwater/StW.aspx](https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/StW.aspx)

Should you have any questions on the permit, please contact a stormwater staff person listed below.

Dallas Grossman 701.328.5242 <a href="mailto:dgrossma@nd.gov">dgrossma@nd.gov</a>	Sam DeVries 701.328.5215 <a href="mailto:sgDeVries@nd.gov">sgDeVries@nd.gov</a>	Allison Lightfoot 701.328.5285 <a href="mailto:alightfoot@nd.gov">alightfoot@nd.gov</a>	Emily Joynt 701.328.5239 <a href="mailto:ejoynt@nd.gov">ejoynt@nd.gov</a>	Brian O’Gorman 701.328.4711 <a href="mailto:bogorman@nd.gov">bogorman@nd.gov</a>
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