BASIN ELECTRIC
POWER COOPERATIVE
A Touchstone Energy® Cooperative

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NORTH DAKOTA
PUBLIC SERVICE COMMISSION

June 30, 2022

Ms. Julie Fedorchak, Commissioner
North Dakota Public Service Commission
Capitol Building
600 E. Boulevard Ave. - Dept. 408
Bismarck, ND 58505

Dear Commissioner Fedorchak:

Pursuant to the requirements of the North Dakota Energy Conversion and Transmission Facility Sitting Act, Basin Electric Power Cooperative hereby submits its Ten Year Plan.

Enclosed is an original and 9 copies of the plan.

Sincerely,

Todd E. Telesz
Todd E. Telesz (Jun 30, 2022 09:46 CDT)

Todd E. Telesz
CEO & General Manager

/lc

Enclosure

1 PU-22-283 Filed 07/01/2022 Pages: 82
2022 Ten Year Plan
Basin Electric Power Cooperative
Todd Telesz

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NORTH DAKOTA TEN YEAR PLAN

2022

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INTRODUCTION

Basin Electric Power Cooperative is a regional rural electric wholesale power supplier headquartered at 1717 East Interstate Avenue, Bismarck, North Dakota. The region served by Basin Electric includes all or portions of nine states encompassing Montana, Wyoming, Colorado, North Dakota, South Dakota, Nebraska, Minnesota, Iowa and New Mexico. Basin Electric owns and operates or otherwise jointly shares energy conversion and transmission facilities throughout this region. Basin Electric is the parent company to six subsidiaries: Dakota Gasification Company, Dakota Coal Company, Montana Limestone Company, Wyoming Lime Producers, Souris Valley Pipeline LTD, and Nemadji River Generation LLC. A ten-year plan for Dakota Gasification Company will be submitted under separate cover by Dakota Gasification Company.

SECTION A: EXISTING ENERGY CONVERSION FACILITIES

Basin Electric owns all or portions of sixteen existing energy conversion facilities. Six of these facilities are in North Dakota; the Antelope Valley Station near Beulah; the Leland Olds Station near Stanton; Prairie Winds 1 near Minot; the Minot Wind Project near Minot; the Pioneer Generation Station near Williston; and the Lonesome Creek Station near Watford City. Other existing energy conversion facilities outside of North Dakota are the Laramie River Station at Wheatland, Wyoming; the Wyoming Distributed Generation in Wyoming; the Dry Fork Station near Gillette, Wyoming; the Spirit Mound Station at Vermillion, South Dakota; the Chamberlain Wind Project at Chamberlain, South Dakota; the Groton Generation Station near Groton, South Dakota; Crow Lake Wind Project near White Lake, South Dakota; Deer Creek Station near Brookings, South Dakota; Wisdom Unit 2 at Spencer, Iowa; and the Culbertson Generation Station near Culbertson, Montana. The oldest two of the five wind turbines in total at the Minot Wind Project were decommissioned in March of 2022, and one of the nine combustion turbines at one of the three Wyoming Distributed Generation facilities was decommissioned in December of 2021.

Basin Electric purchases all of the output from waste heat recovery units located near St. Anthony, North Dakota; Zeeland, North Dakota; Killdeer, North Dakota and three other Heat Recovery Units located in South Dakota; one in Montana; one in Minnesota; and a new one located at an ethanol plant in Iowa. Basin Electric also purchases all the output from the North Dakota 1Wind Energy Center near Edgeley and Kulm, North Dakota; the Wilton Wind Energy Center near Wilton, North Dakota; the Baldwin wind project near Baldwin, North Dakota; the Sunflower wind project near Hebron, North Dakota; the Brady 1 and Brady 2 wind projects near New England, North Dakota; the Lindahl wind project near Tioga, North Dakota; the Northern Divide wind project near Columbus, North Dakota; the South Dakota Wind Energy Center near Highmore, South Dakota; the Day County wind project near Groton, South Dakota; the Campbell County wind project near Pollock, South Dakota; and the Prevailing Winds wind project near Avon, South Dakota. Basin Electric purchases a portion of Unit #4 of the George Neal Station near Salix, Iowa; the City of Madison, South Dakota Diesel Generators; Walter Scott Junior Energy Center Units 3&4 near Council Bluffs, Iowa; Wisdom Station

Units 1 & 2 near Spencer, Iowa; Spencer Combustion Turbine, Spencer, Iowa; Estherville, Iowa Diesel Generation; Webster City, Iowa Combustion Turbine; and various wind facilities near Ayrshire, Iowa; Duncan/Klemme County, Iowa; Lakota, Iowa; and Superior, Iowa.

The most recent Energy Information Administration (EIA) Form No. 923 for the Antelope Valley Station and the Leland Olds Station are included as Exhibit 1.

SECTION B: ENERGY CONVERSION FACILITIES UNDER CONSTRUCTION

Basin Electric does not have any energy conversion facilities under construction.

SECTION C: PROPOSED ENERGY CONVERSION FACILITIES ON WHICH CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS

Basin Electric does not have any approved plans by the Board of Directors at this time for construction of a new generating facility, but is evaluating new resource options (gas, wind, solar, etc.) to meet Basin Electric's forecasted load growth as it materializes and continue to meet the needs of our membership. Because of load growth that is forecasted in the Bakken, Basin Electric intends to move forward with some new natural gas fired units in northwestern North Dakota with an anticipated commercial operation date in 2025 and 2026, but is still analyzing which technology type(s) to proceed with. We have land at an existing facility and an adjacent land option has been purchased for the additional generation, and it is anticipated that staff will ask for Board authorization for these new resources later in 2022.

Basin Electric, Dairyland, and ALLETE, Inc. are working together on the development of a natural gas combined cycle facility in Superior, Wisconsin. The proposed plant is estimated to have an installed capacity of 550-625 MW. Basin Electric announced ownership of 30% share of the project in September of 2021. The facility is intended to enable further development of intermittent renewable resources while ensuring continued reliability on each of the utility systems as well as in the upper Midwest. In January of 2020, the project received a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin (WI). The WI Department of Natural Resources is currently reviewing several permit applications for the project. The permit review process is expected to conclude, with the issuance of needed permits in the second half of 2022. The WI CPCN decision is currently under legal review in the Dane County Circuit Court. The project entered an application with MISO in June 2017 to include the plant in the August 2017 generator interconnection study group. The Generation Interconnection Agreement was executed by all parties in 2020. The in service date is currently estimated to be in 2027, but is subject to change until the necessary permits have been granted to the project.

SECTION D: PROPOSED ENERGY CONVERSION FACILITIES DURING THE NEXT TEN-YEAR TIME PERIOD

Basin Electric is evaluating the development of new generating resources (primarily gas, wind, and solar) in the Dakotas to meet Basin Electric's forecasted load growth.

SECTION E: EXISTING TRANSMISSION FACILITIES (ELECTRIC)

Basin Electric's transmission and related substation facilities in North Dakota and their associated commercial dates are listed in the following table:

a. **TRANSMISSION LINES**

LINES - BY VOLTAGE	COMMERCIAL IN-SERVICE DATE
69 kV Lines	
Leland Olds - Basin Electric Sub	01/09/66
115 kV Lines	
Basin Electric Sub - Stanton Tap	01/09/66
Logan-Kenmare Line	04/01/79
Logan-Mallard Line	04/01/79
Charlie Creek-Squaw Gap	12/31/82
Squaw Gap-Richland	12/31/82
Blaisdell-Berthold	12/21/13
Blaisdell-Plaza	02/01/18
230 kV Lines	
Leland Olds #1-Washbum Double Circuit	01/09/66
Leland Olds-Logan Line	03/31/80
Leland Olds #2 - Basin Electric Sub	12/15/75
Logan- Blaisdell -Tioga	05/01/82
Tioga-Canadian Border (Estevan)	05/01/82
Belfield-Daglum-Rhame	04/07/10
Williston- Wheelock - Tioga	01/10/11
Judson-Williston	12/22/15
Tande-Neset	10/31/17
345 kV Lines	
Leland Olds-Groton-Watertown	12/15/75
Leland Olds-Chappelle Creek Line	12/15/75
Chapelle Creek -Ft. Thompson Line	12/15/75
Leland Olds-AVS North Line	11/30/83
Leland Olds-AVS South Line	07/01/84
Antelope Valley Station-Charlie Creek #1	11/30/83
Antelope Valley Station-Roundup	09/18/15
Roundup-Charlie Creek	09/18/15

Charlie Creek-Patent Gate	12/22/15
Patent Gate -Judson	12/22/15
Patent Gate-Kummer Ridge	09/27/16
Judson-Tande	10/31/17
<u>500 kV Lines</u>	
Antelope Valley Station-Huron, SD (345 kV operation)	07/01/84

b. **<u>SUBSTATIONS</u>**

115 kV Wm. J. Neal Station Switchyard	04/01/52
230 kV Leland Olds Switchyard	01/09/66
230 kV Washburn, ND Switchyard	01/09/66
115 kV Stanton Tap Structure	01/09/66
230/115/69 kV BEPC Substation	01/09/66
345/230 kV Leland Olds Switchyard Addition	12/15/75
230/115 kV Dickinson, ND Substation	12/15/75
230/115 kV Logan Substation	04/01/79
345/115 kV Charlie Creek Substation	11/30/83
345 kV Antelope Valley Station Switchyard	11/30/83
230/115 kV Neset Substation	10/07/09
230 kV Rhame Substation	04/07/10
230/115 kV Blaisdell Substation	05/24/12
230/115 kV Wheelock Substation	10/16/12
345/230 kV Judson Substation	12/22/15
345/115 kV Roundup Substation	09/18/15
345/115 kV Patent Gate Substation	12/22/15
345/115 kV Kummer Ridge Substation	09/27/16
345/230 kV Tande Substation	10/31/17

c. Basin Electric does not anticipate retiring any of its existing transmission facilities within the next ten (10) years.

<u>SECTION F: EXISTING TRANSMISSION FACILITIES (PIPELINES)</u>

Pipeline transmission facilities utilized by Basin Electric are water supply lines to the Leland Olds Station, Antelope Valley Station, a 12 mile long natural gas fuel supply pipeline associated with the Groton Generation Station, and a 13 mile long natural gas fuel supply pipeline associated with the Deer Creek Station. The Leland Olds water line is approximately one-quarter mile in length and is located on plant site property owned by Basin Electric.

The water supply line for Antelope Valley is a forty-two inch diameter steel- lined concrete pipe of approximately nine miles in length. The line runs directly north from the plant site to an intake structure and pumping station located on Lake Sakakawea. This line was designed and constructed as a joint use facility for Basin Electric and the adjacent Great Plains Synfuels Plant. The State of North Dakota's southwest water pipeline uses the same intake structure and pumping station as the Antelope Valley Station pipeline. The Basin Electric line was designed to have a maximum operating pressure of 160 PSI gauge and a flow rate of 30,000 GPM. The pipeline was constructed, with a minimum earth cover of 84 inches. The pipeline was placed in-service in 1984. A new parallel pipeline was installed in 2006, because of recurring failures of the existing line. The new line is steel pipe with the same design parameters. The old line will be maintained as a back-up facility. None of Basin Electric's pipeline facilities are projected for retirement within the next ten-year period.

Dakota Gasification Company constructed a 3.5 mile, 10" diameter natural gas pipeline, in late 2013, with the sole purpose to provide Antelope Valley with access to natural gas for use only during startup activities.

The Deer Creek Station water supply line is a 6" diameter PVC pipe approximately one mile in length. The line runs directly from the water supply wells north to the plant site.

SECTION G: PROPOSED TRANSMISSION FACILITIES ON WHICH CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS (ELECTRIC)

Transmission studies are underway to analyze any other required transmission improvements to accommodate network load growth. Results of these studies may indicate the need for additional load serving transmission facilities. These studies have resulted in the need to construct a 230 kV transmission line from our Neset 230 kV station down to a new 230/115 kV substation near Ross, North Dakota, called Northshore. This project is likely to be in service by the end of 2022. SPP undertakes a yearly Integrated Transmission Planning Process (ITP) that holistically looks at reliability, economic, and policy needs of the transmission system. The results of 2021 ITP study completed in January of 2022 indicated the need for additional transmission facilities in North Dakota. This includes the following to be completed by Basin Electric:

- Roundup - Kummer Ridge 345 kV line (~35 miles)
- Leland Olds - Finstad - Tande 345 kV line (~170 miles)
- Proposed 345/115 kV substation (TBD) near the Mountrail Williams East Fork 115 kV substation.

There are additional projects slated for completion by Mountrail Williams Electric Cooperative as component of the 2021 ITP portfolio.

SECTION H: PROPOSED TRANSMISSION FACILITIES ON WHICH CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS (PIPELINE)

Results of the resource development of new generating resources (refer to section D) will identify pipeline improvements necessary to support the supply required by the new resources. Generation studies are underway to analyze the required improvements to accommodate member load growth. Results of these studies may indicate the need for additional load serving generation facilities.

SECTION I: PROPOSED TRANSMISSION FACILITIES DURING THE NEXT TEN-YEAR TIME PERIOD (ELECTRIC AND PIPELINE)

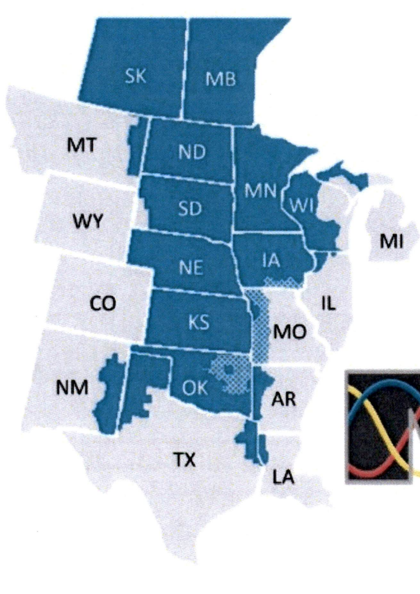
Results of the development of new generating resources (refer to section D) will identify transmission improvements necessary required by the new resources. Transmission studies are continuously ongoing to analyze any required transmission improvements to accommodate network load growth and economic dispatch. There are no additional projects planned in the ten year time frame other than those listed in section G of this report.

SECTION J: REGIONAL COORDINATION

Midwest Reliability Organization

Midwest Reliability Organization (MRO) is a non-profit organization dedicated to ensuring the reliability and security of the bulk power system (BPS) in the north central region of North America, including parts of both the United States and Canada. MRO is one of seven regional entities in North America operating under authority from regulators in the United States through a delegation agreement with the North American Electric Reliability Corporation (NERC) and in Canada through arrangements with provincial regulators. The region includes more than 200 organizations that are involved in the production and delivery of electricity including municipal utilities, cooperatives, investor-owned utilities, transmission system operators, federal power marketing agencies, Canadian Crown Corporations, and independent power producers.

The primary responsibilities of MRO are to ensure compliance with mandatory Reliability Standards by entities who own, operate, or use the interconnected, international BPS, to conduct regional assessments of the grid's ability to meet the demand for electricity, and to analyze regional system events.



Mid-West Electric Consumers Association

Basin Electric Power Cooperative is a member of the Mid-West Electric Consumers Association (Mid-West). Mid-West, which was founded in 1958, is a regional coalition of consumer-owned electric utilities that purchase power from the federal multi-purpose projects in the Pick-Sloan Missouri Basin Program. The Association is governed by a board comprised of four directors from each state, with representation balanced between types of consumer-owned systems, and they meet four times a year. Mid-West's Water & Power Planning Committee meets throughout the year to assure timely consideration of issues and develops technical information and policy recommendations for consideration by the board of directors.

Southwest Power Pool

Basin Electric joined the Southwest Power Pool (SPP) in October of 2015. SPP oversees the bulk electric grid and wholesale power market in the central United States on behalf of a diverse group of utilities and transmission companies in 14 states including North Dakota. SPP establishes practices for system design, planning, adequacy, regional transmission service tariff, interconnections, operation, reliability, market designs and efficiency, and market power mitigation that will help to assure efficient and reliable power supply among the systems in SPP and SPP transmission customers. Basin Electric participates on various committees and work groups as a function of SPP. The SPP planning and interconnection processes are the main avenue for transmission project development in North Dakota.

Midcontinent Independent System Operator

MISO is a not-for-profit member-based organization that ensures reliable, least-cost delivery of electricity across all or parts of 15 U.S. states and one Canadian province. In cooperation with stakeholders, MISO manages more than 65,000 miles of high-voltage transmission and 200,000 megawatts of power-generating resources across its footprint.

Coordination with Area Utilities

Western Area Power Administration

Basin Electric coordinates regional power supplies with the Western Area Power Administration Upper Great Plains Region (WAPA UGPR). An example is the Miles City, Montana DC converter station. The station was built by the Western Area Power Administration (WAPA) to transfer electric power across the east/west transmission separation. Basin Electric has financed 40% of the cost of the station and contracted with WAPA for 40% of the capacity of the 200 MW station. This station enables Basin Electric to serve Central Montana Electric Power Cooperative and Members 1st Power Cooperative, Class A members with electrical loads primarily located west of the east-west separation. WAPA is also Basin Electric's transmission operator (TOP) for its transmission facilities in the eastern interconnection.

Montana-Dakota Utilities Co.

Member cooperatives of Basin Electric have a common service area in the western half of North Dakota with Montana-Dakota Utilities Co. (MDU).

The Tioga-Saskatchewan 230 kV line constructed by Basin Electric and Saskatchewan Power Corporation allows the purchase and sale of power among regional utilities. This line was reviewed with MDU and routed so that it could be tapped for future use by MDU and the member systems of Basin Electric. A result of this review was the Tioga 230/115 kV substation constructed by MDU and shared by Basin Electric.

The Miles City-Hettinger-New Underwood, South Dakota, 230 kV line is another example of joint planning. This line was jointly planned and constructed with WAPA, MDU and Basin Electric. Basin Electric and MDU each have 25% capacity rights and WAPA owns and has capacity rights to 50% of the line.

SECTION K: ENVIRONMENTAL INFORMATION

The primary obligation of Basin Electric is to provide an adequate wholesale supply of dependable, low-cost electric power to its member systems, consistent with the public interest. In conjunction with this, Basin Electric endeavors to maximize the socio-economic benefits associated with electrical generation and transmission projects and to minimize negative impacts associated with these projects. This is particularly true with respect to protecting the agricultural lifestyle and productivity of this region.

The Cooperative remains committed to preserving and enhancing the ecological balance of this region for the benefit of future generations. It is the policy of Basin Electric that environmental impacts be monitored and steps taken to mitigate and alleviate adverse effects to the extent possible. Basin Electric has instituted a variety of programs designed to maximize the most efficient use of energy and to benefit the human, agricultural, and biological environments.

Projects proposed by Basin Electric that have a federal nexus adhere to the requirements of the associated Federal Agency Environmental Policies and Procedures which describe the procedures for compliance with the provisions of the National Environmental Policy Act (NEPA). Through the NEPA process, Basin Electric encourages state, federal and public participation in proposed projects so that once potential impact issues are identified appropriate mitigation measures can be formulated with the assistance of the participants to minimize potential impacts. An Environmental Assessment is developed which includes a comprehensive discussion and evaluation of environmental issues and serves as a baseline document for subsequent environmental regulatory permits and a federal Environmental Impact Statement when required. The goal of this process is to select a facility location that best minimizes environmental, cultural and socio-economic impacts and engineering and construction costs.

Basin Electric adheres to the appropriate North Dakota statutes regulating industrial development projects such as electrical generating facilities and high voltage transmission lines and substations. In addition, it is Basin Electric's practice to inform affected state and federal agencies when prospective projects are identified to solicit their input early in the planning process.

Clean air and clean water are important to our environment and future generations. Our region continues to rank as one of the areas with the cleanest air in the nation, and almost all of our generation resources were built with best available pollution control technologies at the time of their construction. Our generation resources have long histories of compliance with environmental standards. As this history demonstrates, our commitment to the environment and environmental compliance remains strong and is a core value of our cooperative.

Recent environmental projects at our main baseload generation facilities are discussed below followed by details of recent EPA rulemakings affecting integrated resource planning. The recent projects at our baseload generation facilities were initiated in response to EPA rulemakings. Basin Electric and subsidiaries have been proactive in meeting these new federal emissions standards ahead of schedule. Through year-end 2021, Basin Electric had invested $1.98 billion in environmental control technology. Approximately $177 million was invested in the operation and maintenance of those controls in 2021.

The following projects have been undertaken at our majority-owned coal-based facilities to ensure compliance with federal standards. It is important to note that all of Basin Electric facilities are in full compliance with all federal and state environmental standards and permits.

- Leland Olds Station: The first round of EPA's Regional Haze Rule required greater emission control through the installation of Best Available Retrofit Technology, or BART at Leland Olds. To achieve this, Basin Electric has installed wet limestone scrubbers in both units to control sulfur dioxide (SO_2) emissions. Unit 2's scrubber was commissioned in 2012; Unit 1's was commissioned in 2013. For nitrogen oxide (NO_x) control, BART required the installation of Selective Non-Catalytic Reduction (SNCR) technology on both units that were put into service in April of 2017. The BART compliance requirements were effective April 2017. Over-fire air combustion control has also been incorporated into both units at the Leland Olds. This technology introduces air high in the boiler, which reduces combustion temperatures. Since formation of NO_x is in large part a function of temperature and oxygen availability, over-fire air technology reduces these emissions. A refined coal process had also been installed on both units to help with mercury and NO_x reduction. However, this system has since been removed. A post-combustion sorbent injection system to provide additional mercury control was put in place in 2015. EPA finalized the Effluent Limitations Guidelines (ELG) rule on September 30, 2015. The ELG rule sets limits for seven types of wastewater generated from power plants including a zero-discharge limit on bottoms ash transport water (BATW). As a result of this rule, a submerged flight conveyor system that will recycle BATW has been installed at Leland Olds. The 2015 Coal Combustion Residual Rule (CCR Rule) mandated the closure of unlined surface impoundments upon a specified triggering event. An update to this rule was finalized in 2020. The actions Leland Olds took to comply with the ELG rule also brought the facility into compliance with the CCR Rule.

• Laramie River Station: Over-fire air combustion control technology was incorporated into all three units at the Laramie River Station in 2009, 2010, and 2011 to aid in the reduction of NO_x emissions. Low-NO_x burners were incorporated into all three units at the Laramie River Station between 2012, 2013, and 2014. Laramie River is also an affected BART facility which required additional NO_x controls to be installed at the Laramie River. A Selective Catalytic Reduction (SCR) system was installed on Unit 1 in 2019 and SNCRs on Units 2 and 3 in 2018. A refined coal process had also been installed in all three units at Laramie River to help with mercury and NO_x reduction. However, this system has since been removed. A post-combustion mercury emission control system which injects activated carbon or another reagent was also installed on all units in 2015. Basin Electric is in the process of implementing a long-term compliance plan to comply with the CCR Rule at Laramie River. Compliance will consist of closing two and retrofitting three surface impoundments in accordance with deadlines promulgated by EPA.

• Antelope Valley Station: Designed to be environmentally sound, over $400 million have been invested in capital pollution control asset investments for Antelope Valley to date. The startup fuel has been switched from fuel oil to natural gas for both units. Under Further Reasonable Progress in the State of North Dakota's Regional Haze State Implementation Plan, Antelope Valley was required to install advanced overfire air technology and low-NO_x burners for enhanced control of NO_x. Unit 1 was retrofitted in the spring of 2014 and Unit 2 in the spring of 2016. For SO_2 removal, the capacity of the lime slaking system for the Antelope Valley Station's dry scrubbers was enhanced. The dry scrubber utilizes a lime based slurry to remove up to 90% SO_2 emissions from flue gas as it passes through the dry scrubbers. The additional slaking capacity allows for more lime to be available should high sulfur lignite coal be burned. A refined coal process had also been installed in both units to help with mercury and NO_x reduction. However, this system has since been removed. A post-combustion mercury emission control system has been installed at both units. Fabric filter bag houses capture and remove up to 99% of particulate matter. Each bag house contains more than 8,000, 35-foot tall bags. Antelope Valley is a "zero-discharge" facility; even water is used efficiently only leaving the plant site through evaporation.

SECTION L: PROJECTED DEMAND FOR SERVICES

Exhibit 2 represents Basin Electric's sales to its Class A and D members. This exhibit represents Basin Electric's supplemental power supply responsibilities to its members. As a supplemental power supplier, Basin Electric is responsible for providing the members requirements in excess of the fixed amount of power they receive from WAPA and other sources.

An econometric based load forecast was completed in early 2022. The econometric forecasting system in the load forecast is a bottom up process that begins by developing econometric equations and forecasts for each distribution cooperative. The total system consists of approximately 350 forecasting equations and over 700 explanatory variables. Annual and monthly forecasts of energy and demand are conducted for a 30-plus year period. The distribution cooperative forecasts are combined to obtain the generation and transmission cooperative forecasts (G&T's). The G&T's power requirements are then separated into various power supply responsibilities. The Basin Electric components are combined to obtain the Basin Electric total power supply responsibility.

The modeling and forecasting is performed at Basin Electric. Throughout the modeling and forecasting process there is constant communication and review by our member systems. Historical energy data is combined with external data obtained from government and private sector sources as well as membership consultation to form econometric forecasting equations. External projections of explanatory economic and demographic variables used in the forecasting process are obtained from the Food and Agricultural Policy Research Institute at the University of Missouri-Columbia, Missouri.; Woods & Poole Economics, Inc.; IHS Markit, the US Department of Energy, Washington, D.C.; along with various other sources.

Basin Electric's service area is electrically divided into four assessment areas across two electrical interconnections. The majority of Basin Electric's system resides in the eastern interconnection consisting of the Southwest Power Pool (SPP) and Midcontinent Independent System Operator (MISO) assessment areas. In the western interconnection Basin Electric's system resides in the Northwest Power Pool (NWPP) and the Rocky Mountain Power Area (RMPA) assessment areas, which can be further broken down into the WAPA Upper Great Plains West (WAUW) and NorthWestern Energy (NWMT) Balancing Authority Area's (BAA) in the NWPP area and the WAPA Colorado-Missouri (WACM) and Pacificorp East (PACE) BAA's in the RMPA. These interconnections are separated by the east-west ties, which are boundaries that separate two major electrical regions of the United States. This boundary essentially runs south from Fort Peck, Montana, approximately following the South Dakota-Wyoming, Nebraska- Wyoming, and Colorado-Kansas borders. As a result of this, Basin Electric must supply generating capacity and energy on both sides of the ties to serve its member-load requirements across all four assessment areas.

The resources available to Basin Electric to serve its members' east-side requirements in SPP and MISO are as follows:

<u>Leland Olds Station</u>: Leland Olds Unit 1 was placed in-service on January 9, 1966 and is a base-load coal fueled unit located near Stanton, North Dakota with a net capacity of 220 MW. Leland Olds Unit 2 is a coal fueled unit that was placed in-service on December 15, 1975 and its net capacity is rated at 440 MW.

<u>Antelope Valley Station</u>: Basin Electric operates two 450 MW (net) thermal-generating base-load coal fired units near Beulah, North Dakota. Unit 1 began commercial operation on July 1, 1984 and Unit 2 began partial commercial operation on June 1, 1986.

<u>Laramie River Station</u>: Basin Electric, together with five other consumer-owned power supply entities, began construction of the Laramie River Station near Wheatland in southeast Wyoming in July, 1976. The station's three units became fully operational on November 1, 1982, with each unit at a net capacity of 570 MW until the Selective Catalytic Reduction (SCR) pollution control equipment was commissioned on unit 1 in 2019 causing additional parasitic load to reduce unit 1's net capacity down to 560 MW. Basin Electric, as Project Manager and Operating

Agent for the Missouri Basin Power Project, was assigned overall responsibility for the design, construction and operation of the power plant and related transmission. Units 2 and 3 of the Laramie River Station are electrically connected to the western system; Unit 1 is electrically connected to the eastern system. In 2018, Heartland Consumer Power District sold their share of the Laramie River Station to Tri-State G&T, and in 2021 Wyoming Municipal Power Agency sold their share to Basin Electric because they became an All-Requirements member of Basin Electric. So today there are only 3 other owners of the Laramie River Station besides Basin Electric. The amount of power Basin Electric receives from the eastern unit is 92 MW (net).

Spirit Mound Station: Basin Electric placed in service two fuel oil-fired combustion turbines on June 30, 1978. The combined net winter rating of the two units is 120 MW and the net summer rating is 95 MW. The capacity is intended to be used primarily as reserves or replacement during initial outages of base-load units or during peak load periods when existing base-load units cannot meet the demand. The Spirit Mound Station is located near Vermillion, South Dakota.

Earl F. Wisdom Unit 1: Basin Electric and Corn Belt Power Cooperative (Corn Belt), one of Basin Electric's member cooperatives, negotiated a power supply contract which provides that Corn Belt will sell to Basin Electric Corn Belt's 38 MW of uncommitted capacity and associated energy from the Earl F. Wisdom Unit 1. In return, Corn Belt entered into a wholesale power contract with Basin Electric whereby Basin Electric will sell and deliver to Corn Belt all of Corn Belt's capacity and energy requirements in excess of the power and energy available to Corn Belt from the Western Area Power Administration. In accordance with the Utility Mercury and Air Toxics Standards (MATS), Unit 1 stopped burning coal in January of 2014. Corn Belt and Basin Electric completed a retrofit of Unit 1 to switch from coal to natural gas for fuel. This retrofit was completed in June of 2014.

Earl F. Wisdom Unit 2: Basin Electric partnered with Corn Belt Power Cooperative to build the 80 MW natural gas peaking unit near Spencer, Iowa. Basin Electric owns one half of the unit, which was placed in service in April 2004. Basin Electric purchases 87.5 % of Corn Belt's owned half in response to Corn Belt entering into a Wholesale Power Contract; therefore, Basin Electric has 93.75% or 75 MW from the 80 MW combustion turbine.

Groton Generation Station: The Groton Station is located near Groton, South Dakota. Basin Electric commissioned Groton Unit 1 in 2006 and Unit 2 in 2008. These LMS 100 natural gas units provide peaking power. Unit 1 has a net winter rating of 96 MW and Unit 2 has a net winter rating of 94 MW.

Culbertson Generation Station: The Culbertson Station is located near Culbertson, Montana. Basin Electric commissioned Culbertson Unit 1in 2010. The LMS 100 natural gas unit provides peaking power. The unit has a net winter rating of 98 MW.

Deer Creek Station: The Deer Creek Station is located near Brookings, South Dakota. Basin Electric commissioned the Deer Creek Station in August of 2012. The unit is a combined cycle natural gas facility that provides intermediate power.

The unit has a net winter rating of 297 MW.

Pioneer Generation Station: The Pioneer Station northwest of Williston, North Dakota was built to serve the increasing demand for electricity by member cooperatives in northwest North Dakota. Unit 1 started commercial operation in 2013, Unit 2 and Unit 3 started commercial operation in 2014, and the twelve natural gas reciprocating internal combustion engines (RICE) referred to as units 11 through 22 started commercial operation in 2017. Each of the first three units have 45 MW of net generating capability and the twelve RICE units have a net generating capability of 8.9 MW each giving the station a total rating of approximately 242 MW. Unit 1 of Pioneer Generation Station features a clutch that allows the turbine to uncouple from the generator, allowing the generator to provide transmission system voltage support. This feature, if needed, is used to provide fast-acting reactive power which will stabilize the transmission system in the area.

Lonesome Creek Generation Station: The Lonesome Creek Station is located near Watford City, North Dakota. Commercial operation for Lonesome Creek Unit 1 began in December 2013, Units 2 and 3 in January 2015, Units 4 and 5 in March 2017, and Unit 6 in October 2021. Each unit consists of a LM 6000 natural gas combustion turbine and provides peaking power. Each unit has a net winter rating of 45 MW for a total station generating capability of 270MW. Unit 1 has a synchronous clutch located between the combustion turbine and generator allowing the generator rotor to spin independent of the turbine providing voltage stability to the electric grid.

Chamberlain Wind Project: Basin Electric, in partnership with East River Electric Power Cooperative, has constructed a wind energy project near Chamberlain, South Dakota. The 2.6 megawatt capacity project was placed into commercial service in January 2002. The energy is delivered to members as part of Basin Electric's overall power supply.

Minot Wind Project: Basin Electric, in partnership with Central Power Electric Cooperative, has constructed a wind energy project 14 miles south of Minot, North Dakota. The first two turbines totaling 2.6 MW of generating capability were placed into commercial service in February 2002, and were recently decommissioned in March of 2022. Three additional turbines totaling 4.5 MW of generating capability were added in December 2009. The energy is delivered to members as part of Basin Electric's overall power supply.

PrairieWinds 1: Basin Electric has constructed a wind energy project of 77 turbines near Minot, North Dakota. The project has a generating capability of 115.5 MW and was placed into commercial service in December 2009.

Crow Lake Wind Project: Basin Electric has constructed a wind energy project of 108 turbines near White Lake, South Dakota. The project has a generating capability of 172 MW and was placed into commercial service in 2011. Basin Electric owns 107 turbines or approximately 170.4 MW. Basin Electric has a purchase power contract with Mitchell Technical Institute for the power out of the last turbine.

WAPA Peaking Capacity: In 1968 Basin Electric executed a long-term contract with the federal government for USBR (now WAPA) hydro peaking from the dams in the Missouri River Basin. This contract currently provides Basin Electric with 268.2 MW of winter peaking capacity at load and for Basin Electric to return a like amount of energy to Western during off-peak periods.

George Neal IV: Basin Electric and Northwest Iowa Power Cooperative (NIPCO), one of Basin Electric's member cooperatives, negotiated a power supply contract which provides that NIPCO will sell to Basin Electric NIPCO's 31 MW of uncommitted capacity and associated energy from Unit No. 4 of the George Neal Generating Station (Neal IV). In return NIPCO entered into a wholesale power contract with Basin Electric whereby Basin Electric will sell and deliver to NIPCO all of NIPCO's capacity and energy requirements in excess of the power and energy available to NIPCO from the Western Area Power Administration.

Basin Electric and Corn Belt Power Cooperative, one of Basin Electric's member cooperatives, negotiated a power supply contract which provides that Corn Belt Power will sell to Basin Electric Corn Belt Power's 73 MW of uncommitted capacity and associated energy from Unit No. 4 of the George Neal Generating Station (Neal IV). In return, Corn Belt Power entered into a wholesale power contract with Basin Electric whereby Basin Electric will sell and deliver to Corn Belt Power all of Corn Belt Power's capacity and energy requirements in excess of the power and energy available to Corn Belt Power from the Western Area Power Administration.

Walter Scott 3 and 4: Basin Electric and Corn Belt Power, one of Basin Electric's member cooperatives, negotiated a power supply contract which provides that Corn Belt Power will sell to Basin Electric Corn Belt Power's 26 MW of uncommitted capacity and associated energy from Unit No. 3 and 45 MW of uncommitted capacity and associated energy from Unit No. 4 of the Walter Scott Energy Center. In return, Corn Belt Power entered into a wholesale power contract with Basin Electric whereby Basin Electric will sell and deliver to Corn Belt Power all of Corn Belt Power's capacity and energy requirements in excess of the power and energy available to Corn Belt Power from the Western Area Power Administration.

Western Native American Purchase: Basin Electric receives a Native American Allocation of 39.9 MW in the winter and 41.1 MW in the summer season. This allocation is a result of congressional action that made federal power available to the Native Americans.

Rapid City DC Tie: Basin Electric and Black Hills Power, Inc. have jointly constructed a 200 MW asynchronous tie at Rapid City, South Dakota. This tie enables Basin Electric to serve load located on eastern system using capacity and/or energy from west side resources and vice versa. The Basin Electric ownership percentage is 65% and the Black Hills Power, Inc. ownership percentage is 35%. Currently, Basin Electric has rights to 130 MW of the tie.

Stegall (David Hamil) DC Tie: Tri-State G&T Association constructed a 110 MW asynchronous tie at Stegall, Nebraska. Basin Electric has acquired all rights to this tie. This enables Basin Electric to serve load located on the eastern system using capacity and/or energy from west side resources and vice versa.

Sidney DC Tie: Western Area Power Administration constructed a 200 MW asynchronous tie at Sidney, Nebraska. Basin Electric has acquired 50 MW of west to east rights to this tie. This enables Basin Electric to serve load located on the eastern system using capacity and/or energy from west side resources.

Other Short-Term Resources: Basin Electric has also entered into a number of short- term purchase agreements to meet contractual power supply obligations. Due to the relatively short duration of these arrangements no specifics are provided.

Long-Term Resource:

- Wind Purchases:
  - 40 MW west of Edgeley, North Dakota
  - Two 49.5 MW projects near Wilton, North Dakota
  - 100 MW near Baldwin, North Dakota
  - 40 MW near Highmore, South Dakota
  - 94 MW near Pollock, South Dakota
  - 99 MW near Groton, South Dakota
  - 104 MW near Hebron, North Dakota
  - 150 MW near Tioga, North Dakota
  - Two 150 MW projects near New England, North Dakota
  - 197.9 MW near Columbus, North Dakota
  - 208 MW near Avon, South Dakota
  - 142 MW near Tioga, North Dakota (term starting 1/2023)

- Solar Purchases:
  - 128 MW near Rapid City, South Dakota (COD milestone: 12/31/2022)
  - Two 75 MW near Baker, Montana (COD milestone: 12/20/2023)
  - 20 MW near Custer, Montana (COD milestone: 12/31/2023)
  - 20 MW near Rapid City, South Dakota (COD milestone: 12/31/2022)

- Peaking Purchases:
  - 10 MW City of Madison, South Dakota diesel generators
  - Eight 5.5 MW waste heat recovery units from Ormat Technologies Inc. (3 sites in North Dakota near St. Anthony, Killdeer, and Zeeland; 3 in South Dakota; 1 in Montana; 1 in Minnesota)
  - One 1.1 MW waste heat/steam letdown generator from Siouxland Energy Cooperative near Sioux Center, Iowa
  - 94.2 MW in purchases from Corn Belt Power
    - 23.8 MW from Webster City, Iowa
    - 11.1 MW from Estherville, Iowa
    - 10 MW from Spencer, Iowa
    - 49.3 MW from their share of the Superior, Lakota, Hancock, and Crosswinds wind projects in Iowa
  - ~70 MW from North Iowa Municipal Electric Cooperative Association's (NIMECA's) surplus capacity resources in Iowa

- Other Long Term PPAs:
  - Capacity Only
    - 75-125 MW from Minnesota Power (6/2022-5/2025)
    - 100 MW from Minnesota Power (6/2025-5/2028)
    - 75 MW from Great River Energy (6/2020-5/2023)
    - 50-80 MW from Manitoba Hydro (6/2023-5/2028)
    - 75-175 MW from Dairyland Power Cooperative (6/2019-5/2023)
    - 75 MW from Dairyland Power Cooperative (6/2023-5/2033)
    - 150 MW from Missouri River Energy Services (ending 9/2023)
    - 35-185 MW from Missouri River Energy Services (10/2020-9/2035)
    - 75 MW from NRG Power Marketing (6/2023-5/2025)
    - 101-151 MW from Evergy/Dogwood Energy Facility (6/2021-5/2024)
    - 125 MW from The Energy Authority/Sheldon & Hallam Stations (6/2023-5/2026)

Future Power Supply: For discussion of future power supply, please refer to Section B (Energy Conversion Facilities Under Construction) and Section D (Proposed Energy Conversion Facilities During the Next Ten-Year Time Period).

The resources available to Basin Electric to serve its members' west-side requirements are as follows:

Laramie River Station: The Laramie River Station capacity that Basin Electric receives from Units 2 and 3 on the west is 627 MW (net).

Miles City DC Tie: Basin Electric and the Western Area Power Administration have jointly constructed a 200 MW back-to-back, AC-DC-AC tie built at Miles City, Montana. This tie, which provides a 40% capacity entitlement, enables Basin Electric to serve Central Montana Electric Power Cooperative Inc., a Class A member with electrical loads located primarily west of the east-west ties, using capacity from east-side resources such as the Antelope Valley Station.

Wyoming Distributed Generation: The Wyoming Distributed Generation originally consisted of 9 peaking units located at three sites; Arvada, Hartzog and Barber Creek. One of the units at the Arvada site was retired in late 2021, so now there are 8 units across the three sites. These units are natural gas fired combustion turbines each with a net generating capability of 5 MW in the summer and 6 MW in the winter, for a total net generating capability of 40 MW summer and 48 MW winter. These units were released for commercial operation in 2002. These units currently are utilized for meeting our operating reserves for Basin Electric's west side electrical requirements.

Dry Fork Station: Basin Electric, together with the Wyoming Municipal Power Agency (WMPA) began construction of the Dry Fork Station near Gillette in northeast Wyoming in 2007. The station's single unit has a total net generating capability of 405 MW and became fully operational in November of 2011. Basin Electric owned 92.9% of the station until WMPA became a member of Basin Electric in late 2020 and sold their share of Dry Fork in early 2021 so that Basin Electric now owns 100% of the station.

Long Term PPAs: Basin Electric has secured the following purchases for Firm Capacity and/or Firm Energy in the NWPP region.

- 50-75 MW from MacQuarie Energy (formerly "Cargill"; 5/2020-12/2025)
- 100-150 MW from Morgan Stanley Capital Group (1/2019-12/2027)

The load values contained in Exhibit 2 were obtained from the econometric based load forecast. Loads in North Dakota are located in SPP and MISO Local Resource Zone 1 assessment areas so Basin Electric's loads in each of these areas have been adjusted to an at-generator system coincident basis by allowing for reserves, on-peak losses and system diversity as outlined in Exhibit 3.

1. Basin Electric has no concentrated load centers due to the regional and rural nature of the total load. The fuel sources and transportation facilities for existing and future plants are as follows:

Plant	Fuel Source	Transportation
Leland Olds Station	Lignite Coal	Rail
Spirit Mound Station	Oil	Pipeline
Laramie River Station	Sub-Bituminous Coal	Rail
Antelope Valley Station	Lignite Coal	Mine Mouth
Minot Wind Project	Wind	N/A
WY Distributed Generation	Natural Gas	Pipeline
Wisdom Unit 2	Natural Gas/Fuel Oil	Pipeline
Chamberlain Wind Project	Wind	N/A
Groton Generation Station	Natural Gas	Pipeline
PrairieWinds 1	Wind	N/A
Crow Lake Wind Project	Wind	N/A
Culbertson Gen Station	Natural Gas	Pipeline
Deer Creek Station	Natural Gas	Pipeline
Dry Fork Station	Sub-Bituminous Coal	Mine Mouth
Pioneer Gen Station	Natural Gas	Pipeline
Lonesome Creek Station	Natural Gas	Pipeline

2. Pursuant to federal and state laws, Basin Electric will examine all alternatives capable of producing an adequate and reliable source of energy for its cooperative. Specific alternatives selected will be evaluated considering environmental, engineering and economic factors. Additional facilities, transmission and generation will be designed and operated in accordance with state and federal standards.

EXHIBIT 1 - US DEPARTMENT OF ENERGY FORM EIA-923

(distributed only to the Public Service Commission)

U.S. Department of Energy
Energy Information Administration
Form EIA-923

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NOTICE: This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning confidentiality of information in the instructions. **Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

SCHEDULE 1. IDENTIFICATION

Is this a regulated utility plant [X] Yes [ ] No

Is this a combined heat and power pla [ ] Yes [X] No

Enter the total plant efficiency of the combined heat and power p [ ] %

Survey Contact

Contact	Erin Dukart	Submit Date	14-MAR-22
Title	Environmental Compliance Coordinator		
Address	1717 E. Interstate Avenue		
City/State/Zip	Bismarck	ND 58503	
Email	edukart@bepc.com	Phone (701) 557-5557	Fax

Supervisor of Contact Person for Survey

Contact	Colleen Peterson		
Title			
Address			
City/State/Zip			
Email	cpeterson@bepc.com	Phone (701) 516-2719	Fax

Report For

Company Name	Basin Electric Power Coop		
Plant Name	Leland Olds		
Plant ID	2817	Plant County	Mercer
Plant Address	Hwy 200		
Plant City	Stanton	Plant State	ND

For contact detail go to http://www.eia.doe.gov/oss/forms.html#eia-923

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SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY

(Instructions for SCHEDULE 6 are on page 13)

SCHEDULE 6 collects calendar year data (no monthly detail).
Report all generation in **megawatthours (MWh)** rounded to a whole number.

(1) Gross Generation (Annual)	(4) Station Use
(2) Other Incoming Electricity	(5) Direct Use
	(6) Total Facility Use (4 + 5)
	(7) Retail Sales to Ultimate Customers
	(8) Sales for Resale (MWh)
	(9) Provided Tolling Agreement (MWh)
	(10) Other Outgoing Electricity
(3) Total Sources (1 + 2)	(11) Total Disposition (6 + 7 + 8+ 9+ 10)

Total Sources must equal Total Disposition (3 = 11)

Plants that cannot separate Station Use and Direct Use may enter zero in Station Use and the sum of Station Use and Direct Use in the Direct Use field.

Types of Other Incoming Electricity
List all of the types of incoming electricity included in (2)
Other Incoming Electricity

Types of Other Outgoing Electricity
List all of the types of outgoing electricity in item (10)
Other Outgoing Electricity

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SCHEDULE 7. PART A. ANNUAL REVENUES FROM SALES FOR RESALE TOAL

Complete Schedule 7, Part A, only if a positive value was entered on Schedule 6, Item (8): "Sales for Resale."

Sales for Resale are energy supplied to electric utilities, cooperatives, municipalities, federal and state elecytic agencies, power marketers, or other entities, for resale to end-use consumers.

Report in thousand dollars. For example $1,987,234 should be entered as 1,987

Annual Revenues from Sales for Resale (in thousand dollars) [ ]

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SCHEDULE 7. PART B. ANNUAL RETAIL SALES, REVENUES AND NUMBER OF CUSTOMERS FROM RETAIL SALES

Report by state and end-use customer sectors (Residential, Commercial, industrial and Transportation).
Complete an individual Schedule 7, Part B, for each state where customers are located, only if a positive value was entered on Schedule 6, Item (7), "Retail Sales to Ultimate Customers."

Annual Retail Sales, Revenue, and Number of Customers:

- Retail sales are sold directly to an end-use customer (i.e., the energy is consumed by the customer, onsite, and is not resold to other customers).
- Enter annual retail sales, revenue, and number of customers for each state where customer(s) are located.
  - Report Annual Retail Sales in megawatthours (Mwh), by sector.
  - Report Annual Revenue in thousand dollars, by sector.
  - Report Number of Customers, by sector.

State

Items	Residential	Commercial	Industrial	Transportation	Total
Retail Sales (Mwh)					
Revenue ($ 000's)					
Number of Customers					

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SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION

SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION

Complete an individual Schedule 8. Part A annually for each organic-fueled thermoelectric power plant (i.e., steam-electric plants, including nuclear and combined cycle plants with a total steam turbine capacity of greater than, or equal to 100 megawatts.
- Enter the quantity of combustion by-products for the year, by type of disposal.
- If actual data are not available, provide an estimate value.
- Report the quantity of combustion by-products rounded to the nearest 0.1 thousand tons.
- Report sales of steam in million BTU (MMBtu)
- If no by-product was produced, place a check in the checkbox labeled "Select if no combustion by-product were produced"

NOTE: PCD = Particulate Control Device; FGD = Flue Gas Desulfurization; FBC = Fluidized Bed combustion; IGCC = Integrated Gasification Combined Cycle

☐ No Byproducts

Combustion Byproduct	Disposal			Beneficial Use			Storage		
	On-site Landfill	Disposal On-site Ponds	Disposal Off-site	Sold	Used On-site	Used Off-site	Storage Stored On-site	Stored Off-site	Total
Fly ash from standard boiler/PCD units			83.6	4.2					87.8
Fly ash from units with dry FGD									
Fly ash from FBC units									
Bottom ash from standard boiler units			48.6	10.7					59.3
Bottom (bed) ash from FBC units									
FGD Gypsum			130.9	9.6					140.5
Other FGD byproducts									
Ash from coal gasification (IGCC) units									
Other (specify via footnote on Schedule 9)									
Steam Sales (MMBtu)									

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SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BY-PRODUCTS

Complete an individual Schedule 8, Part B, annually, for each organically fueled thermolectric power plant with a total steam turbine capacity greater than, or equal to, 100 megawatts.

- Data reported in Schedule 8, Part B must correspond to the combustion by-product data reported on Schedule 8, Part A.
- If actual data are not available, provide an estimate value.
- Report all values in thousand dollars, to the nearest thousand.

Operation and Maintenance (O&M) Expenditures During Year (Thousand Dollars)

Type	(1) Fly Ash	(2) Bottom Ash	(3) Flue Gas Desulfurization	(4) Water Pollution Abatement	(5) Other Pollution Abatement	(6) Total (1 + 2 + 3 + 4 + 5)
Collection	356	1,673	1,700			3,729
Disposal						
Other						

Capital Expenditures for New Structures and Equipment During Year, Excluding Land and Interest Expense (Thousand Dollars)

Type	(7) Air Pollution Abatement	(8) Water Pollution Abatement	(9) Solid/Contained Waste	(10) Other Pollution Abatement
Amount	154	0	0	0

Byproduct Sales Revenue During Year (Thousand Dollars)

Type	(11) Fly Ash	(12) Bottom Ash	(13) Fly and Bottom Ash Sold Intermingled	(14) Flue Gas Desulfurization	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount	223	42		1		266

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Report electricity generation related operational emissions data for sulfur dioxide (SO2), nitrogen oxides (NO2), particulate matter, mercury, and acid gas.

Annual Operations

Environmental Equipment and/or Technology Type							**NOx Emission Rate (lbs/MMBtu)**		**Particulate Matter Control**				**Sulfur Dioxide Control**					**Mercury Control**		**Acid Gas Control**
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
ACI				1	OP	6642												.9	1.91	
LN			1		OP	6642	.1342	.131												
OV			1		OP	6642	.1342	.131												
ACI				2	OP	5348												.9	1.81	
OV			2		OP	5348	.31	.326												
EK	1			1B	OP	6642			.0062	79.8	99.8	12-1974						.9	1.91	
EK	2			2B	OP	5348			.0054	80.6	99.5	12-1976						.9	1.81	
SN			1		OP	6642	.1342	.131												
SN			2		OP	5348	.31	.326												
SP		1		1C	OP	6642							78.2	97.7	08-2013	23.2	34173	.9	1.91	

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Annual Operations

Environmental Equipment and/or Technology Type							NOx Emission Rate (lbs/MMBtu)		Particulate Matter Control				Sulfur Dioxide Control					Mercury Control		Acid Gas Control
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
SP		2		2C	OP	5348							79.9	98.7	01-2013	36.9	61288	.9	1.81	

FGD Operation and Maintenance Expenditures During Year, Excluding Electricity (Thousand Dollars)

Flue Gas Desulfurization Unit ID	Feed Materials and Chemicals	Land and Supervision	Waste Disposal	Maintenance, Material and All Other Costs	Total
1	$1,574	$354	$913	$1	$2,842
2	$2,754	$584	$787	$2	$4,127

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
1	ON	OP	744	0		71663	71663	0	4	39	44	46	59	1		3199.043	3199.043	0
Report Month 2																		
1	ON	OP	672	0		71700	71700	0	4	38	43	54	69	1		2890.941	2890.941	0
Report Month 3																		
1	ON	OP	743	0		71738	71738	0	4	40	47	45	64	1		3198.082	3198.082	0
Report Month 4																		
1	ON	OP	196	0		65955	65955	0	4	42	46	41	63	1		774.644	774.644	0
Report Month 5																		
1	ON	OP	220	0		65370	65370	0	4	49	53	46	77	1		861.899	861.899	0
Report Month 6																		
1	ON	OP	720	0		71689	71689	0	4	56	60	72	84	1		3096.959	3096.959	0

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Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
1	ON	OP	744	0		71632	71632	0	4	58	61	79	85	1		3197.658	3197.658	0
Report Month 8																		
1	ON	OP	744	0		71606	71606	0	4	60	66	80	89	1		3196.47	3196.47	0
Report Month 9																		
1	ON	OP	720	0		71722	71722	0	4	63	86	76	89	1		3098.399	3098.399	0
Report Month 10																		
1	ON	OP	744	0		71586	71586	0	4	59	82	76	89	1		3195.592	3195.592	0
Report Month 11																		
1	ON	OP	720	0		71513	71513	0	4	54	60	68	81	1		3093.646	3093.646	0
Report Month 12																		
1	ON	OP	744	0		71826	71826	0	4	41	55	52	69	1		3206.331	3206.331	0

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.
- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					**Cooling Water Temperature (degrees Fahrenheit)**					**Volume Cooling Water (to nearest 0.001 million gallons per month)**			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
2	ON	OP	744	0		149326	149326	0	4	39	44	64	74	1		6665.925	6665.925	0
Report Month 2																		
2	ON	OP	671	0		149390	149390	0	4	38	43	56	72	1		6018.477	6018.477	0
Report Month 3																		
2	ON	OP	743	0		149476	149476	0	4	40	47	55	78	1		663.645	6663.645	0
Report Month 4																		
2	ON	OP	720	0		149586	149586	0	4	42	46	61	78	1		6462.136	6462.136	0
Report Month 5																		
2	ON	OP	744	0		149809	149809	0	4	49	53	50	82	1		6687.478	6687.478	0
Report Month 6																		
2	ON	OP	720	0		149372	149372	0	4	56	60	73	85	1		6448.393	6448.393	0

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					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
2	ON	OP	744	0		149264	149264	0	4	58	61	79	85	1		6663.156	6663.156	0
Report Month 8																		
2	ON	OP	744	0		149211	149211	0	4	60	66	82	96	1		6660.779	6660.779	0
Report Month 9																		
2	ON	OP	629	0		125960	125960	0	4	63	86	73	94	1		4751.097	4751.097	0
Report Month 10																		
2	ON	OP	0	0		0	0	0	4	59	82	59	63	1		0	0	0
Report Month 11																		
2	ON	OP	0	0		0	0	0	4	54	60	52	59	1		0	0	0
Report Month 12																		
2	ON	OP	614	0		126004	126004	0	4	41	55	39	53	1		4641.852	4641.852	0

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SCHEDULE 9. COMMENTS

(Instructions for SCHEDULE 9. are on page 20.)

Schedule	Part	Item	Comments

Generator Retirement Dates

Generator Id	Retirement Month	Retirement Year	Comments

Changes in Ownership (Provide name of purchaser and date sold.)

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ERRORS

Purchase Type	Fuel	Schedule	Prime Mover	Equipment ID	Rpt Month	Supplier	Error Number & Description		Ranges	Override Comment
		3A	ST	2	1		1300	Difference between the reported Gross Generation and Net Generation on Schedule 3A cannot be greater than 50%. Please revise or provide clarification.		LOS Unit 2 was inoperable for a good portion of the month, and it did not become available until the end of the month and testing took place and other troubleshooting, thus the gross and net are very low numbers such that at this point, net was quite low.
	RC	4			0		406	No stocks were reported for this fuel this cycle, while stocks were positive in the previous cycle. If correct, please enter an override comment to explain the change.		Refined coal contract was allowed to expire, therefore no longer RC to report.
		8C		1C/SP			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While emission control equipment does provide some acid gas removal, the amount is unknown.
		8C		2/SP			851	The Removal Efficiency tested at 100% load for sulfur dioxide is outside the expected range of 50%-99%. If correct, enter a comment to explain data out of typical range.		This error is incorrect. The entered value is between 50% and 99%.
		8C		2C/SP			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While emission control equipment does provide some acid gas removal, the amount is unknown.
		8D		1	4		1803	Average temperature at intake point should not be greater than the average temperature at discharge point. Please review reported data.		Data is correct as entered.
		8D		1	5		1803	Average temperature at intake point should not be greater than the average temperature at discharge point. Please review reported data.		Data is correct as entered.
		8D		2	11		1803	Average temperature at intake point should not be greater than the average temperature at discharge point. Please review reported data.		Data is correct as entered.
		8D		2	12		1803	Average temperature at intake point should not be greater than the average temperature at discharge point. Please review reported data.		Data is correct as entered.

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NOTICE: This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning confidentiality of information in the instructions. **Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

SCHEDULE 1. IDENTIFICATION

Is this a regulated utility plant	X Yes ☐ No
Is this a combined heat and power pla	☐ Yes X No
Enter the total plant efficiency of the combined heat and power p	☐ %

Survey Contact

Contact	Erin Dukart		Submit Date	27-MAY-21	
Title	Environmental Compliance Coordinator				
Address	1717 E. Interstate Avenue				
City/State/Zip	Bismarck	ND	58503		
Email	edukart@bepc.com	Phone	(701) 557-5557	Fax	

Supervisor of Contact Person for Survey

Contact	Joseph Leingang				
Title	Director of Fuels				
Address	1717 E. Interstate Avenue				
City/State/Zip	Bismarck	ND	58503		
Email	jleingang@bepc.com	Phone	(701) 557-5648	Fax	(701) 557-5144

Report For

Company Name	Basin Electric Power Coop		
Plant Name	Leland Olds		
Plant ID	2817	Plant County	Mercer
Plant Address	Hwy 200		
Plant City	Stanton	Plant State	ND

For contact detail go to http://www.eia.doe.gov/oss/forms.html#eia-923

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SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY

(Instructions for SCHEDULE 6 are on page 13)

SCHEDULE 6 collects calendar year data (no monthly detail).
Report all generation in **megawatthours (MWh)** rounded to a whole number.

(1) Gross Generation (Annual)	(4) Station Use
(2) Other Incoming Electricity	(5) Direct Use
	(6) Total Facility Use (4 + 5)
	(7) Retail Sales to Ultimate Customers
	(8) Sales for Resale (MWh)
	(9) Provided Tolling Agreement (MWh)
	(10) Other Outgoing Electricity
(3) Total Sources (1 + 2)	(11) Total Disposition (6 + 7 + 8+ 9+ 10)

Total Sources must equal Total Disposition (3 = 11)

Plants that cannot separate Station Use and Direct Use may enter zero in Station Use and the sum of Station Use and Direct Use in the Direct Use field.

Types of Other Incoming Electricity
List all of the types of incoming electricity included in (2)
Other Incoming Electricity

Types of Other Outgoing Electricity
List all of the types of outgoing electricity in item (10)
Other Outgoing Electricity

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SCHEDULE 7. PART A. ANNUAL REVENUES FROM SALES FOR RESALE TOAL

Complete Schedule 7, Part A, only if a positive value was entered on Schedule 6, Item (8): "Sales for Resale."

Sales for Resale are energy supplied to electric utilities, cooperatives, municipalities, federal and state elecytic agencies, power marketers, or other entities, for resale to end-use consumers.

Report in thousand dollars. For example $1,987,234 should be entered as 1,987

Annual Revenues from Sales for Resale (in thousand dollars)

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SCHEDULE 7. PART B. ANNUAL RETAIL SALES, REVENUES AND NUMBER OF CUSTOMERS FROM RETAIL SALES

Report by state and end-use customer sectors (Residential, Commercial, industrial and Transportation).
Complete an individual Schedule 7, Part B, for each state where customers are located, only if a positive value was entered on Schedule 6, Item (7), "Retail Sales to Ultimate Customers."

Annual Retail Sales, Revenue, and Number of Customers:

- Retail sales are sold directly to an end-use customer (i.e., the energy is consumed by the customer, onsite, and is not resold to other customers).
- Enter annual retail sales, revenue, and number of customers for each state where customer(s) are located.
  - Report Annual Retail Sales in megawatthours (Mwh), by sector.
  - Report Annual Revenue in thousand dollars, by sector.
  - Report Number of Customers, by sector.

State

Items	Residential	Commercial	Industrial	Transportation	Total
Retail Sales (Mwh)					
Revenue ($ 000's)					
Number of Customers					

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SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION

SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION

Complete an individual Schedule 8. Part A annually for each organic-fueled thermoelectric power plant (i.e., steam-electric plants, including nuclear and combined cycle plants with a total steam turbine capacity of greater than, or equal to 100 megawatts.
- Enter the quantity of combustion by-products for the year, by type of disposal.
- If actual data are not available, provide an estimate value.
- Report the quantity of combustion by-products rounded to the nearest 0.1 thousand tons.
- Report sales of steam in million BTU (MMBtu)
- If no by-product was produced, place a check in the checkbox labeled "Select if no combustion by-product were produced"

NOTE: PCD = Particulate Control Device; FGD = Flue Gas Desulfurization; FBC = Fluidized Bed combustion; IGCC = Integrated Gasification Combined Cycle

☐ No Byproducts

Combustion Byproduct	Disposal			Beneficial Use			Storage		Total
	On-site Landfill	Disposal On-site Ponds	Disposal Off-site	Sold	Used On-site	Used Off-site	Storage Stored On-site	Stored Off-site	
Fly ash from standard boiler/PCD units			79.3	22.4					101.7
Fly ash from units with dry FGD									
Fly ash from FBC units									
Bottom ash from standard boiler units			100.4	32.4					132.8
Bottom (bed) ash from FBC units									0.0
FGD Gypsum			104.0	11.6					115.6
Other FGD byproducts									
Ash from coal gasification (IGCC) units									
Other (specify via footnote on Schedule 9)									
Steam Sales (MMBtu)									

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SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BY-PRODUCTS

Complete an individual Schedule 8, Part B, annually, for each organically fueled thermolectric power plant with a total steam turbine capacity greater than, or equal to, 100 megawatts.

- Data reported in Schedule 8, Part B must correspond to the combustion by-product data reported on Schedule 8, Part A.
- If actual data are not available, provide an estimate value.
- Report all values in thousand dollars, to the nearest thousand.

Operation and Maintenance (O&M) Expenditures During Year (Thousand Dollars)

Type	(1) Fly Ash	(2) Bottom Ash	(3) Flue Gas Desulfurization	(4) Water Pollution Abatement	(5) Other Pollution Abatement	(6) Total (1 + 2 + 3 + 4 + 5)
Collection	2,241	1,491	9,529	0	134	13,395
Disposal						
Other						

Capital Expenditures for New Structures and Equipment During Year, Excluding Land and Interest Expense (Thousand Dollars)

Type	(7) Air Pollution Abatement	(8) Water Pollution Abatement	(9) Solid/Contained Waste	(10) Other Pollution Abatement
Amount		35	1,117	

Byproduct Sales Revenue During Year (Thousand Dollars)

Type	(11) Fly Ash	(12) Bottom Ash	(13) Fly and Bottom Ash Sold Intermingled	(14) Flue Gas Desulfurization	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount	282	82		1		365

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Report electricity generation related operational emissions data for sulfur dioxide (SO2), nitrogen oxides (NO2), particulate matter, mercury, and acid gas.

Annual Operations

Environmental Equipment and/or Technology Type							**NOx Emission Rate (lbs/MMBtu)**		**Particulate Matter Control**				**Sulfur Dioxide Control**					**Mercury Control**		**Acid Gas Control**
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
ACI				1	OP	5946												.9	1.96	
LN			1		OP	5946	.142	.145												
OV			1		OP	5946	.142	.145												
ACI				2	OP	7207												.9	2.34	
OV			2		OP	7207	.288	.289												
EK	1			1B	OP	5946			.0062	79.8	99.8	12-1974						.9	1.96	
EK	2			2B	OP	7207			.0054	80.6	99.5	12-1976						.9	2.34	
SN			1		OP	5946	.142	.145												
SN			2		OP	7207	.288	.289												
SP		1		1C	OP	5946							78.2	97.7	08-2013	20.9	32239	.9	1.96	

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Annual Operations

Environmental Equipment and/or Technology Type							**NOx Emission Rate (lbs/MMBtu)**		**Particulate Matter Control**				**Sulfur Dioxide Control**					**Mercury Control**		**Acid Gas Control**
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
SP		2		2C	OP	7207							79.9	98.7	01-2013	51.7	77481	.9	2.34	

FGD Operation and Maintenance Expenditures During Year, Excluding Electricity (Thousand Dollars)

Flue Gas Desulfurization Unit ID	**Feed Materials and Chemicals**	**Land and Supervision**	**Waste Disposal**	**Maintenance, Material and All Other Costs**	**Total**
1	$811	$201	$211	$1,536	$2,759
2	$2,209	$401	$429	$3,731	$6,770

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- Complete a seperate row for each cooling system.
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					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					**Cooling Water Temperature (degrees Fahrenheit)**					**Volume Cooling Water (to nearest 0.001 million gallons per month)**			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
1	ON	OP	744	0	0	71679	71679	0	4	38	42	48	67	1		3199.754	3199.754	0
Report Month 2																		
1	ON	OP	696	0		71657	71657	0	4	39	43	51	66	1		2992.416	2992.416	0
Report Month 3																		
1	ON	OP	743	0		71745	71745	0	4	38	43	47	61	1		3198.373	3198.373	0
Report Month 4																		
1	ON	OP	720	0		71781	71781	0	4	40	48	42	64	1		3100.96	3100.96	0
Report Month 5																		
1	ON	OP	744	0		59543	59543	0	4	47	54	49	70	1		2658.009	2658.009	0
Report Month 6																		
1	ON	OP	720	0		71773	71773	0	4	55	60	60	85	1		311.593	3100.593	0

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Report Month 7																		
1	ON	OP	744	0		71746	71746	0	4	59	62	65	86	1		3202.72	3202.72	0
Report Month 8																		
1	ON	OP	744	0		71643	71643	0	4	60	63	76	86	1		3198.127	3198.127	0
Report Month 9																		
1	ON	OP	720	0		71678	71678	0	4	62	67	76	91	1		3096.5	3096.5	0
Report Month 10																		
1	ON	OP	744	0		71731	71731	0	4	56	64	69	88	1		3202.062	3202.062	0
Report Month 11																		
1	ON	OP	720	0		71702	71702	0	4	49	55	55	78	1		3101.823	3101.823	0
Report Month 12																		
1	ON	OP	744	0		71690	71690	0	4	43	50	47	62	1		3200.234	3200.234	0

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Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
2	ON	OP	744	0	0	149358	149358	0	4	38	42	62	70	1		6667.349	6667.349	0
Report Month 2																		
2	ON	OP	696	0		134306	134306	0	4	39	43	65	81	1		5608.617	5608.617	0
Report Month 3																		
2	ON	OP	743	0		128577	128577	0	4	38	43	54	71	1		5731.976	5731.976	0
Report Month 4																		
2	ON	OP	720	0		142445	142445	0	4	40	48	57	75	1		6153.619	6153.619	0
Report Month 5																		
2	ON	OP	744	0		118813	118813	0	4	47	54	49	81	1		5303.796	5303.796	0
Report Month 6																		
2	ON	OP	720	0		149546	149546	0	4	55	60	69	88	1		6460.387	6460.387	0

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					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
2	ON	OP	744	0		149491	149491	0	4	59	62	74	89	1		6673.8	6673.28	0
Report Month 8																		
2	ON	OP	744	0		148334	148334	0	4	60	63	84	92	1		6621.644	6621.644	0
Report Month 9																		
2	ON	OP	720	0		149356	149356	0	4	62	67	81	95	1		6452.199	6452.199	0
Report Month 10																		
2	ON	OP	744	0		149462	149462	0	4	56	64	71	92	1		6671.964	6671.964	0
Report Month 11																		
2	ON	OP	720	0		149404	149404	0	4	49	55	68	86	1		6463.207	6463.207	0
Report Month 12																		
2	ON	OP	744	0		149380	149380	0	4	43	50	65	81	1		6668.309	6668.309	0

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Energy Information Administration
Form EIA-923

Supplemental EIA923 Power Plant Operations Report

Year: **2020** Plant: **2817** **Leland Olds**

Form Approval
OMB No. 1905-0129
Approval Expires 05/31/2023

SCHEDULE 9. COMMENTS

(Instructions for SCHEDULE 9. are on page 20.)

Schedule	Part	Item	Comments

Generator Retirement Dates

Generator Id	Retirement Month	Retirement Year	Comments

Changes in Ownership (Provide name of purchaser and date sold.)

U.S. Department of Energy
Energy Information Administration
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Supplemental EIA923 Power Plant Operations Report

Year: **2020** Plant: **2817** **Leland Olds**

Form Approval
OMB No. 1905-0129
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ERRORS

Purchase Type	Fuel	Schedule	Prime Mover	Equipment ID	Rpt Month	Supplier	Error Number & Description		Ranges	Override Comment
	SUB	4			0		401	Current Cycle Ending Stocks must be reported for coal (BIT, SUB, LIG, ANT), distillate fuel oil (DFO), residual fuel oil (RFO), kerosene (KER), jet fuel (JF), and petroleum coke (PC). Please enter a value for the ending stocks, or enter zero if none. Do not leave the field blank.		We no longer have an inventory or sub coal, nor are we purchasing any at this time
	SUB	4			0		406	No stocks were reported for this fuel this cycle, while stocks were positive in the previous cycle. If correct, please enter an override comment to explain the change.		We have no inventory of sub coal at this time, nor do we plan to purchase any in the future
		8C		1C/SP			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While emission control equipment does provide some acid gas removal, the amount is unknown.
		8C		2/SP			851	The Removal Efficiency tested at 100% load for sulfur dioxide is outside the expected range of 50%-99%. If correct, enter a comment to explain data out of typical range.		This error is incorrect. The entered value is between 50% and 99%.
		8C		2C/SP			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While emission control equipment does provide some acid gas removal, the amount is unknown.

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Supplemental EIA923 Power Plant Operations Report

Year: **2021** Plant: **6469** **Antelope Valley**

Form Approval
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Approval Expires 05/31/2023

NOTICE: This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning confidentiality of information in the instructions. **Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

SCHEDULE 1. IDENTIFICATION

Is this a regulated utility plant ☒ Yes ☐ No

Is this a combined heat and power pla ☐ Yes ☒ No

Enter the total plant efficiency of the combined heat and power p ☐ %

Survey Contact

Contact Erin Dukart Submit Date 21-MAR-22

Title Environmental Compliance Coordinator

Address 1717 E. Interstate Avenue

City/State/Zip Bismarck ND 58503

Email edukart@bepc.com Phone (701) 557-5557 Fax

Supervisor of Contact Person for Survey

Contact Colleen Peterson

Title

Address

City/State/Zip

Email cpeterson@bepc.com Phone (701) 516-2719 Fax

Report For

Company Name Basin Electric Power Coop

Plant Name Antelope Valley

Plant ID 6469 Plant County Mercer

Plant Address Hwy 200

Plant City Beulah Plant State ND

For contact detail go to http://www.eia.doe.gov/oss/forms.html#eia-923

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Year: **2021** Plant: **6469** **Antelope Valley**

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SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY

(Instructions for SCHEDULE 6 are on page 13)

SCHEDULE 6 collects calendar year data (no monthly detail).
Report all generation in **megawatthours (MWh)** rounded to a whole number.

(1) Gross Generation (Annual)	(4) Station Use
(2) Other Incoming Electricity	(5) Direct Use
	(6) Total Facility Use (4 + 5)
	(7) Retail Sales to Ultimate Customers
	(8) Sales for Resale (MWh)
	(9) Provided Tolling Agreement (MWh)
	(10) Other Outgoing Electricity
(3) Total Sources (1 + 2)	(11) Total Disposition (6 + 7 + 8+ 9+ 10)

Total Sources must equal Total Disposition (3 = 11)

Plants that cannot separate Station Use and Direct Use may enter zero in Station Use and the sum of Station Use and Direct Use in the Direct Use field.

Types of Other Incoming Electricity
List all of the types of incoming electricity included in (2)
Other Incoming Electricity

Types of Other Outgoing Electricity
List all of the types of outgoing electricity in item (10)
Other Outgoing Electricity

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SCHEDULE 7. PART A. ANNUAL REVENUES FROM SALES FOR RESALE TOAL

Complete Schedule 7, Part A, only if a positive value was entered on Schedule 6, Item (8): "Sales for Resale."

Sales for Resale are energy supplied to electric utilities, cooperatives, municipalities, federal and state elecytic agencies, power marketers, or other entities, for resale to end-use consumers.

Report in thousand dollars. For example $1,987,234 should be entered as 1,987

Annual Revenues from Sales for Resale (in thousand dollars) [ ]

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SCHEDULE 7. PART B. ANNUAL RETAIL SALES, REVENUES AND NUMBER OF CUSTOMERS FROM RETAIL SALES

Report by state and end-use customer sectors (Residential, Commercial, industrial and Transportation).
Complete an individual Schedule 7, Part B, for each state where customers are located, only if a positive value was entered on Schedule 6, Item (7), "Retail Sales to Ultimate Customers."

Annual Retail Sales, Revenue, and Number of Customers:

- Retail sales are sold directly to an end-use customer (i.e., the energy is consumed by the customer, onsite, and is not resold to other customers).
- Enter annual retail sales, revenue, and number of customers for each state where customer(s) are located.
  - Report Annual Retail Sales in megawatthours (Mwh), by sector.
  - Report Annual Revenue in thousand dollars, by sector.
  - Report Number of Customers, by sector.

State

Items	Residential	Commercial	Industrial	Transportation	Total
Retail Sales (Mwh)					
Revenue ($ 000's)					
Number of Customers					

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SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION

SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION

Complete an individual Schedule 8. Part A annually for each organic-fueled thermoelectric power plant (i.e., steam-electric plants, including nuclear and combined cycle plants with a total steam turbine capacity of greater than, or equal to 100 megawatts.

- Enter the quantity of combustion by-products for the year, by type of disposal.
- If actual data are not available, provide an estimate value.
- Report the quantity of combustion by-products rounded to the nearest 0.1 thousand tons.
- Report sales of steam in million BTU (MMBtu)
- If no by-product was produced, place a check in the checkbox labeled "Select if no combustion by-product were produced"

NOTE: PCD = Particulate Control Device; FGD = Flue Gas Desulfurization; FBC = Fluidized Bed combustion; IGCC = Integrated Gasification Combined Cycle

☐ No Byproducts

	Disposal			Beneficial Use			Storage		
Combustion Byproduct	On-site Landfill	Disposal On-site Ponds	Disposal Off-site	Sold	Used On-site	Used Off-site	Storage Stored On-site	Stored Off-site	Total
Fly ash from standard boiler/PCD units									
Fly ash from units with dry FGD			652.3	0.0		35.6			687.9
Fly ash from FBC units									
Bottom ash from standard boiler units			163.1						163.1
Bottom (bed) ash from FBC units									
FGD Gypsum									
Other FGD byproducts									
Ash from coal gasification (IGCC) units									
Other (specify via footnote on Schedule 9)									
Steam Sales (MMBtu)									

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SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BY-PRODUCTS

Complete an individual Schedule 8, Part B, annually, for each organically fueled thermolectric power plant with a total steam turbine capacity greater than, or equal to, 100 megawatts.

- Data reported in Schedule 8, Part B must correspond to the combustion by-product data reported on Schedule 8, Part A.
- If actual data are not available, provide an estimate value.
- Report all values in thousand dollars, to the nearest thousand.

Operation and Maintenance (O&M) Expenditures During Year (Thousand Dollars)

Type	(1) Fly Ash	(2) Bottom Ash	(3) Flue Gas Desulfurization	(4) Water Pollution Abatement	(5) Other Pollution Abatement	(6) Total (1 + 2 + 3 + 4 + 5)
Collection	987	1,459	2,045			4,491
Disposal						
Other						

Capital Expenditures for New Structures and Equipment During Year, Excluding Land and Interest Expense (Thousand Dollars)

Type	(7) Air Pollution Abatement	(8) Water Pollution Abatement	(9) Solid/Contained Waste	(10) Other Pollution Abatement
Amount	263	0	160	0

Byproduct Sales Revenue During Year (Thousand Dollars)

Type	(11) Fly Ash	(12) Bottom Ash	(13) Fly and Bottom Ash Sold Intermingled	(14) Flue Gas Desulfurization	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount						

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Report electricity generation related operational emissions data for sulfur dioxide (SO2), nitrogen oxides (NO2), particulate matter, mercury, and acid gas.

Annual Operations

Environmental Equipment and/or Technology Type							NOx Emission Rate (lbs/MMBtu)		Particulate Matter Control				Sulfur Dioxide Control					Mercury Control		Acid Gas Control
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
LN			B1		OP	6240	.113	.112												
OT				1	OP	6240												.9	2.80	
OV			B1		OP	6240	.113	.112												
LN			B2		OP	7814	.108	.111												
OT				2	OP	7814												.9	2.60	
OV			B2		OP	7814	.108	.111												
BR	BH1			1	OP	6240			.0009	70.9	99.9	09-1983						.9	2.80	
BR	BH2			2	OP	7814			.0012	70.9	99.9	08-1986						.9	2.80	
SD		FGD1		1	OP	6240							45.7	63.9	09-1983	38.1	10296	.9	2.80	
SD		FGD2		2	OP	7814							60.9	85.8	08-1986	49.2	13714	.9	2.60	

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Annual Operations

Environmental Equipment and/or Technology Type							NOx Emission Rate (lbs/MMBtu)		Particulate Matter Control				Sulfur Dioxide Control					Mercury Control		Acid Gas Control
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)

Flue Gas Desulfurization Unit ID	Feed Materials and Chemicals	FGD Operation and Maintenance Expenditures During Year, Excluding Electricity (Thousand Dollars) Land and Supervision	Waste Disposal	Maintenance, Material and All Other Costs	Total
FGD1	$3,885	$1,218	$1,549	$31	$6,683
FGD2	$5,016	$1,218	$496	$34	$6,764

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
CC1	RF	OP	530	2.278	2206	2206	0	2206	2	32				7	98.481	98.481	0	98.481
Report Month 2																		
CC1	RF	OP	668	2.66	2852	2852	0	2852	2	32				7	114.986	114.986	0	114.986
Report Month 3																		
CC1	RF	OP	609	2.592	2510	2510	0	2510	2	35				7	112.054	112.054	0	112.054
Report Month 4																		
CC1	RF	OP	81	.238	239	239	0	239	2	47				7	10.307	10.307	0	10.307
Report Month 5																		
CC1	RF	OP	0	0	0	0	0	0	2	57				7	0	0	0	0
Report Month 6																		
CC1	RF	OP	57	.243	243	243	0	243	2	71				7	10.507	10.507	0	10.507

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Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
					Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
CC1	RF	OP	676	3.824	3703	3703	0	3703	2	74				7	165.293	165.293	0	165.295
Report Month 8																		
CC1	RF	OP	744	4.077	3948	3948	0	3948	2	67				7	176.261	176.261	0	176.261
Report Month 9																		
CC1	RF	OP	720	3.594	3596	3596	0	3596	2	62				7	155.36	155.36	0	155.36
Report Month 10																		
CC1	RF	OP	682	3.221	3119	3119	0	3119	2	52				7	139.236	139.236	0	139.236
Report Month 11																		
CC1	RF	OP	690	3.088	3090	3090	0	3090	2	40				7	133.478	133.478	0	133.478
Report Month 12																		
CC1	RF	OP	655	2.666	2582	2582	0	2582	2	34				7	115.257	155.257	0	115.257

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
CC2	RF	OP	718	3.049	3034	3034	0	3034	2	32				7	135.441	135.441	0	135.441
Report Month 2																		
CC2	RF	OP	607	2.323	2559	2559	0	2559	2	32				7	103.203	103.203	0	103.203
Report Month 3																		
CC2	RF	OP	611	2.542	2530	2530	0	2530	2	35				7	112.954	112.954	0	112.954
Report Month 4																		
CC2	RF	OP	588	2.497	2568	2568	0	2568	2	47				7	110.956	110.956	0	11.956
Report Month 5																		
CC2	RF	OP	579	3.977	3958	3958	0	3958	2	57				7	176.691	176.691	0	176.691
Report Month 6																		
CC2	RF	OP	720	3.913	4024	4024	0	4024	2	71				7	173.835	173.835	0	173.835

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
CC2	RF	OP	663	3.662	3644	3644	0	3644	2	74				7	162.669	162.669	0	162.669
Report Month 8																		
CC2	RF	OP	654	3.339	3323	3323	0	3323	2	67				7	148.344	148.344	0	148.344
Report Month 9																		
CC2	RF	OP	709	3.36	3455	3455	0	3455	2	62				7	149.268	149.268	0	149.268
Report Month 10																		
CC2	RF	OP	454	1.954	1944	1944	0	1944	2	52				7	86.796	86.796	0	86.796
Report Month 11																		
CC2	RF	OP	666	2.789	2868	2868	0	2868	2	40				7	123.904	123.904	0	123.904
Report Month 12																		
CC2	RF	OP	593	2.284	2273	2273	0	2273	2	34				7	101.473	101.473	0	101.473

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SCHEDULE 9. COMMENTS

(Instructions for SCHEDULE 9. are on page 20.)

Schedule	Part	Item	Comments
8	C		Chemical injected into scrubber.
8	D	O	USGS Data from the lake.

Generator Retirement Dates

Generator Id	Retirement Month	Retirement Year	Comments

Changes in Ownership (Provide name of purchaser and date sold.)

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ERRORS

Purchase Type	Fuel	Schedule	Prime Mover	Equipment ID	Rpt Month	Supplier	Error Number & Description		Ranges	Override Comment
		8A					808	You have entered a cost in O&M Expenditures for FGD on Schedule 8B (Part 3), but have not entered a positive quantity of FGD Gypsum or By-products in any column on Schedule 8A. Please enter the quantity of FGD byproduct or FGD Gypsum associated with the costs in Schedule 8B.		FGD quantity is included in the fly ash quantity.
		8B					835	Sales of fly and bottom ash (Line 1, 2, 3, 4, and 5) were reported on Schedule 8, Part A. Please enter the revenue (Part 13) in units of thousand dollars from those sales on Schedule 8B, if applicable. If the fly and bottom ash sold were not sold intermingled, please comment.		No sales.
		8C		1/SD			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While the equipment does remove acid gases, the amount of control is unknown.
		8C		2/SD			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While the equipment does remove acid gases, the amount of control is unknown.
		8C		FGD1/S			850	The Removal Efficiency at Annual Operating Factor for sulfur dioxide is outside the expected range. Expected range is within 50%-99%. If correct, enter a comment to explain data out of typical range.		This error is incorrect. The entered value is between 50% and 99%.
		8C		OT			1815	A comment is required on Schedule 9 for the Other Equipment Type (OT) you selected on Schedule 8C. Please enter Schedule 8, Part C, and Item OT next to the explanation comment.		This has been done.
		8D					864	The code for "Other" was selected for the 'Measured or Estimated' Water Temperature. Specify the method in an override comment.		This has been done.

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SCHEDULE 1. IDENTIFICATION

Is this a regulated utility plant	[X] **Yes** [ ] **No**
Is this a combined heat and power pla	[ ] **Yes** [X] **No**
Enter the total plant efficiency of the combined heat and power p	[ ] **%**

Survey Contact

Contact	Erin Dukart	Submit Date	22-MAR-21		
Title	Environmental Compliance Coordinator				
Address	1717 E. Interstate Avenue				
City/State/Zip	Bismarck	ND	58503		
Email	edukart@bepc.com	Phone	(701) 557-5557	Fax	

Supervisor of Contact Person for Survey

Contact	Joseph Leingang				
Title	Director of Fuels				
Address	1717 E. Interstate Avenue				
City/State/Zip	Bismarck	ND	58503		
Email	jleingang@bepc.com	Phone	(701) 557-5648	Fax	(701) 557-5144

Report For

Company Name	Basin Electric Power Coop		
Plant Name	Antelope Valley		
Plant ID	6469	Plant County	Mercer
Plant Address	Hwy 200		
Plant City	Beulah	Plant State	ND

For contact detail go to http://www.eia.doe.gov/oss/forms.html#eia-923

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SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY

(Instructions for SCHEDULE 6 are on page 13)

SCHEDULE 6 collects calendar year data (no monthly detail).
Report all generation in **megawatthours (MWh)** rounded to a whole number.

(1) Gross Generation (Annual)	(4) Station Use
(2) Other Incoming Electricity	(5) Direct Use
	(6) Total Facility Use (4 + 5)
	(7) Retail Sales to Ultimate Customers
	(8) Sales for Resale (MWh)
	(9) Provided Tolling Agreement (MWh)
	(10) Other Outgoing Electricity
(3) Total Sources (1 + 2)	(11) Total Disposition (6 + 7 + 8+ 9+ 10)

Total Sources must equal Total Disposition (3 = 11)

Plants that cannot separate Station Use and Direct Use may enter zero in Station Use and the sum of Station Use and Direct Use in the Direct Use field.

Types of Other Incoming Electricity
List all of the types of incoming electricity included in (2)
Other Incoming Electricity

Types of Other Outgoing Electricity
List all of the types of outgoing electricity in item (10)
Other Outgoing Electricity

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SCHEDULE 7. PART A. ANNUAL REVENUES FROM SALES FOR RESALE TOAL

Complete Schedule 7, Part A, only if a positive value was entered on Schedule 6, Item (8): "Sales for Resale."

Sales for Resale are energy supplied to electric utilities, cooperatives, municipalities, federal and state elecytic agencies, power marketers, or other entities, for resale to end-use consumers.

Report in thousand dollars. For example $1,987,234 should be entered as 1,987

Annual Revenues from Sales for Resale (in thousand dollars)

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SCHEDULE 7. PART B. ANNUAL RETAIL SALES, REVENUES AND NUMBER OF CUSTOMERS FROM RETAIL SALES

Report by state and end-use customer sectors (Residential, Commercial, industrial and Transportation).
Complete an individual Schedule 7, Part B, for each state where customers are located, only if a positive value was entered on Schedule 6, Item (7), "Retail Sales to Ultimate Customers."
Annual Retail Sales, Revenue, and Number of Customers:
- Retail sales are sold directly to an end-use customer (i.e., the energy is consumed by the customer, onsite, and is not resold to other customers).
- Enter annual retail sales, revenue, and number of customers for each state where customer(s) are located.
  - Report Annual Retail Sales in megawatthours (Mwh), by sector.
  - Report Annual Revenue in thousand dollars, by sector.
  - Report Number of Customers, by sector.

State

Items	Residential	Commercial	Industrial	Transportation	Total
Retail Sales (Mwh)					
Revenue ($ 000's)					
Number of Customers					

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SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION

SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION

Complete an individual Schedule 8. Part A annually for each organic-fueled thermoelectric power plant (i.e., steam-electric plants, including nuclear and combined cycle plants with a total steam turbine capacity of greater than, or equal to 100 megawatts.
- Enter the quantity of combustion by-products for the year, by type of disposal.
- If actual data are not available, provide an estimate value.
- Report the quantity of combustion by-products rounded to the nearest 0.1 thousand tons.
- Report sales of steam in million BTU (MMBtu)
- If no by-product was produced, place a check in the checkbox labeled "Select if no combustion by-product were produced"

NOTE: PCD = Particulate Control Device; FGD = Flue Gas Desulfurization; FBC = Fluidized Bed combustion; IGCC = Integrated Gasification Combined Cycle

☐ No Byproducts

	Disposal			Beneficial Use			Storage		
Combustion Byproduct	On-site Landfill	Disposal On-site Ponds	Disposal Off-site	Sold	Used On-site	Used Off-site	Storage Stored On-site	Stored Off-site	Total
Fly ash from standard boiler/PCD units									
Fly ash from units with dry FGD			700.8			55.2			756.0
Fly ash from FBC units									
Bottom ash from standard boiler units			175.2						175.2
Bottom (bed) ash from FBC units									
FGD Gypsum									
Other FGD byproducts									
Ash from coal gasification (IGCC) units									
Other (specify via footnote on Schedule 9)									
Steam Sales (MMBtu)									

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SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BY-PRODUCTS

Complete an individual Schedule 8, Part B, annually, for each organically fueled thermolectric power plant with a total steam turbine capacity greater than, or equal to, 100 megawatts.

- Data reported in Schedule 8, Part B must correspond to the combustion by-product data reported on Schedule 8, Part A.
- If actual data are not available, provide an estimate value.
- Report all values in thousand dollars, to the nearest thousand.

Operation and Maintenance (O&M) Expenditures During Year (Thousand Dollars)

Type	(1) Fly Ash	(2) Bottom Ash	(3) Flue Gas Desulfurization	(4) Water Pollution Abatement	(5) Other Pollution Abatement	(6) Total (1 + 2 + 3 + 4 + 5)
Collection	2,174	1,001	23,282	0	1,604	28,061
Disposal						
Other						

Capital Expenditures for New Structures and Equipment During Year, Excluding Land and Interest Expense (Thousand Dollars)

Type	(7) Air Pollution Abatement	(8) Water Pollution Abatement	(9) Solid/Contained Waste	(10) Other Pollution Abatement
Amount	272		1,098	

Byproduct Sales Revenue During Year (Thousand Dollars)

Type	(11) Fly Ash	(12) Bottom Ash	(13) Fly and Bottom Ash Sold Intermingled	(14) Flue Gas Desulfurization	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount						

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Report electricity generation related operational emissions data for sulfur dioxide (SO2), nitrogen oxides (NO2), particulate matter, mercury, and acid gas.

Annual Operations

Environmental Equipment and/or Technology Type							NOx Emission Rate (lbs/MMBtu)		Particulate Matter Control				Sulfur Dioxide Control					Mercury Control		Acid Gas Control
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)
LN			B1		OP	7563	.115	.117												
OT				1	OP	7563												86.8	2.76	
OV			B1		OP	7563	.115	.117												
LN			B2		OP	7967	.107	.109												
OT				2	OP	7967												87.5	2.63	
OV			B2		OP	7967	.107	.109												
BR	BH1			1	OP	7563			.0009	70.9	99.9	09-1983						86.8	2.76	
BR	BH2			2	OP	7967			.0012	70.9	99.9	08-1986						87.5	2.63	
SD		FGD1		1	OP	7563							63	63.9	09-1983	49	12479	86.8	2.76	
SD		FGD2		2	OP	7967							85	85.8	08-1986	50.9	13982	87.5	2.63	

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SCHEDULE 8. PART C. AIR EMISSIONS COMTROL INFORMATION

Annual Operations

Environmental Equipment and/or Technology Type							**NOx Emission Rate (lbs/MMBtu)**		**Particulate Matter Control**				**Sulfur Dioxide Control**					**Mercury Control**		**Acid Gas Control**
Types	PM Control ID	SO2 CONTOL ID	NOX Control ID	Mercury Control	Status	Hours in Service	Entire Year	May through September	Emission Rate (0.01 lb/MMBtu)	Removal Efficiency Rate at AOF	Tested Efficiency Particulate Removal (at 100% Load)	Test Date MM-YYYY	Removal Efficiency Rate at AOF	Removal Tested Efficiency (at 100% Load)	Test Date MM-YYY	Quantity of FGD Sorbent Used (nearest 0.1 thousand tons)	FGD Unit Electrical Energy Consumption	Removal Efficiency (nearest 0.1% by weight)	Emission Rate (0.01 lbs / Tbtu)	Removal Efficiency (nearest 0.1% by weight)

Flue Gas Desulfurization Unit ID	**Feed Materials and Chemicals**	**FGD Operation and Maintenance Expenditures During Year, Excluding Electricity (Thousand Dollars)**		**Maintenance, Material and All Other Costs**	**Total**
		Land and Supervision	**Waste Disposal**		
FGD1	$4,787	$2,833	$592	$3,693	$11,905
FGD2	$4,890	$2,956	$618	$2,914	$11,378

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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, MONTHLY OPERATIONS

Complete an individual Schedule 8, Part D for each thermoelectric power plant (organically fueled, nuclear and combined cycle) with a total steam capacity greater than, or equal to, 100 megawatts.

- **Complete a seperate schedule for each reporting month.**
- Complete a seperate row for each cooling system.
- If actual data are not available, provided an estimated value.
- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
CC1	RF	OP	744	3.449	3125	3125	0	3125	2	32				7	139.504	139.504	0	139.504
Report Month 2																		
CC1	RF	OP	631	2.863	2772	2772	0	2772	2	32				7	115.782	115.782	0	115.782
Report Month 3																		
CC1	RF	OP	672	2.923	2648	2648	0	2648	2	33				7	118.216	118.216	0	118.216
Report Month 4																		
CC1	RF	OP	645	2.825	2645	2645	0	2645	2	43				7	114.251	114.251	0	114.251
Report Month 5																		
CC1	RF	OP	650	3.138	2844	2844	0	2844	2	57				7	126.943	126.943	0	126.946
Report Month 6																		
CC1	RF	OP	477	2.499	2339	2339	0	2339	2	65				7	101.063	101.063	0	101.063

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Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
CC1	RF	OP	666	3.854	3492	3492	0	3492	2	70				7	155.896	155.896	0	155.896
Report Month 8																		
CC1	RF	OP	717	4.305	3900	3900	0	3900	2	70				7	147.125	174.125	0	174.125
Report Month 9																		
CC1	RF	OP	481	2.395	2243	2243	0	2243	2	58				7	96.886	96.886	0	96.886
Report Month 10																		
CC1	RF	OP	673	3.15	2854	2854	0	2854	2	36				7	127.412	127.412	0	127.412
Report Month 11																		
CC1	RF	OP	415	1.86	1741	1741	0	1741	2	35				7	75.235	75.235	0	75.235
Report Month 12																		
CC1	RF	OP	603	2.666	2415	2415	0	2415	2	32				7	107.829	107.829	0	107.829

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					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 1																		
CC2	RF	OP	656	3.019	2683	2683	0	2683	2	32				7	119.797	119.797	0	119.797
Report Month 2																		
CC2	RF	OP	586	2.693	2559	2559	0	2559	2	32				7	106.875	106.875	0	106.875
Report Month 3																		
CC2	RF	OP	743	3.4	3022	3022	0	3022	2	33				7	134.924	134.924	0	134.924
Report Month 4																		
CC2	RF	OP	547	2.433	2235	2235	0	2235	2	43				7	96.544	96.544	0	96.544
Report Month 5																		
CC2	RF	OP	684	3.303	2936	2936	0	2936	2	57				7	131.071	131.071	0	131.071
Report Month 6																		
CC2	RF	OP	660	3.546	3257	3257	0	3257	2	65				7	140.715	140.715	0	140.715

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- **Complete a seperate schedule for each reporting month.**
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- If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.

					Average Monthly Rate of Cooling Water (to nearest 0.1 gallons per minute)					Cooling Water Temperature (degrees Fahrenheit)					Volume Cooling Water (to nearest 0.001 million gallons per month)			
Cooling System ID	Cooling System Type	Cooling System Status	Hours in Service Per monthe	Annual Amt of Chlorine added to Cooling Water (1000 lbs)	Div	Withdrawal	Discharge	Consumption	Method of Measure	Avg at Intake	Max at Intake	Avg at Discharg	Max at Discharg	Method of Measure	Div	Withdrawal	Discharge	Consumption
Report Month 7																		
CC2	RF	OP	671	3.897	3464	3464	0	3464	2	70				7	154.653	154.653	0	154.653
Report Month 8																		
CC2	RF	OP	744	4.494	3995	3995	0	3995	2	70				7	178.355	178.355	0	178.355
Report Month 9																		
CC2	RF	OP	720	3.739	3435	3435	0	3435	2	58				7	148.394	148.394	0	148.394
Report Month 10																		
CC2	RF	OP	453	1.968	1749	1749	0	1749	2	36				7	78.092	78.092	0	78.092
Report Month 11																		
CC2	RF	OP	661	2.393	2198	2198	0	2198	2	35				7	94.98	94.98	0	94.98
Report Month 12																		
CC2	RF	OP	719	3.334	2964	2964	0	2964	2	32				7	132.324	132.324	0	132.324

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SCHEDULE 9. COMMENTS

(Instructions for SCHEDULE 9. are on page 20.)

Schedule	Part	Item	Comments
8	C		Chemical injected into scrubber.
8	D	O	USGS Data from the lake.

Generator Retirement Dates

Generator Id	Retirement Month	Retirement Year	Comments

Changes in Ownership (Provide name of purchaser and date sold.)

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ERRORS

Purchase Type	Fuel	Schedule	Prime Mover	Equipment ID	Rpt Month	Supplier	Error Number & Description		Ranges	Override Comment
		8A					808	You have entered a cost in O&M Expenditures for FGD on Schedule 8B (Part 3), but have not entered a positive quantity of FGD Gypsum or By-products in any column on Schedule 8A. Please enter the quantity of FGD byproduct or FGD Gypsum associated with the costs in Schedule 8B.		FGD quantity is included in the fly ash quantity.
		8B					835	Sales of fly and bottom ash (Line 1, 2, 3, 4, and 5) were reported on Schedule 8, Part A. Please enter the revenue (Part 13) in units of thousand dollars from those sales on Schedule 8B, if applicable. If the fly and bottom ash sold were not sold intermingled, please comment.		No sales.
		8C		1/SD			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While the equipment does remove acid gases, the amount of control is unknown.
		8C		2/SD			890	Acid Gas Removal Efficiency cannot be null if hours in service are provided. Please review reported data.		While the equipment does remove acid gases, the amount of control is unknown.
		8C		OT			1815	A comment is required on Schedule 9 for the Other Equipment Type (OT) you selected on Schedule 8C. Please enter Schedule 8, Part C, and Item OT next to the explanation comment.		This has been done.
		8D					864	The code for "Other" was selected for the 'Measured or Estimated' Water Temperature. Specify the method in an override comment.		This has been done.

EXHIBIT 2 - SUMMER/WINTER LOADS BY STATE

Basin Electric Member Loads by State

Note: Historical 2000-2021 and Forecasted 2022-2032

SUMMER Peak Demand (MW)

	ND	%	SD	%	MN	%	IA	%	NE	%	MT	%	CO	%	WY	%	BEPC TOTAL
2000	293	23.0%	302	23.7%	54	4.2%	99	7.8%	215	16.9%	29	2.3%	82	6.5%	200	15.7%	1,273
2001	307	22.2%	343	24.8%	58	4.2%	116	8.4%	227	16.5%	30	2.2%	82	5.9%	218	15.8%	1,380
2002	315	21.3%	352	23.8%	58	3.9%	127	8.6%	254	17.1%	44	3.0%	95	6.4%	236	15.9%	1,480
2003	353	22.9%	346	22.4%	58	3.8%	121	7.9%	239	15.5%	56	3.6%	114	7.4%	254	16.5%	1,541
2004	329	21.2%	354	22.8%	55	3.6%	119	7.7%	233	15.0%	62	4.0%	130	8.4%	271	17.5%	1,554
2005	357	20.7%	400	23.2%	62	3.6%	131	7.6%	270	15.7%	74	4.3%	132	7.6%	296	17.2%	1,722
2006	400	20.5%	440	22.6%	71	3.7%	188	9.7%	273	14.0%	82	4.2%	134	6.9%	358	18.4%	1,947
2007	452	21.9%	461	22.3%	92	4.4%	186	9.0%	262	12.7%	86	4.2%	135	6.6%	389	18.9%	2,063
2008	465	22.5%	421	20.4%	88	4.2%	177	8.6%	270	13.1%	74	3.6%	142	6.9%	426	20.7%	2,062
2009	448	21.4%	438	20.9%	102	4.9%	201	9.6%	232	11.1%	65	3.1%	145	7.0%	400	19.1%	2,090
2010	509	20.5%	472	19.0%	181	7.3%	459	18.5%	238	9.6%	70	2.8%	145	5.9%	407	16.4%	2,482
2011	543	20.8%	548	21.0%	169	6.5%	460	17.7%	280	10.8%	69	2.7%	140	5.4%	396	15.2%	2,607
2012	693	23.1%	596	19.9%	207	6.9%	476	15.9%	333	11.1%	104	3.5%	208	6.9%	377	12.6%	2,994
2013	812	26.5%	572	18.7%	224	7.3%	460	15.0%	299	9.8%	147	4.8%	180	5.9%	370	12.1%	3,063
2014	889	29.3%	508	16.8%	160	5.3%	433	14.3%	311	10.3%	178	5.9%	179	5.9%	372	12.3%	3,029
2015	1,187	34.7%	587	17.2%	212	6.2%	425	12.4%	274	8.0%	186	5.4%	195	5.7%	356	10.4%	3,421
2016	1,141	34.2%	568	17.0%	212	6.4%	470	14.1%	266	7.9%	176	5.3%	200	6.0%	308	9.2%	3,342
2017	1,244	34.8%	585	16.3%	234	6.5%	471	13.2%	293	8.2%	244	6.8%	199	5.6%	309	8.6%	3,578
2018	1,289	35.0%	580	15.7%	240	6.5%	480	13.0%	260	7.1%	245	6.6%	304	8.3%	289	7.8%	3,687
2019	1,425	37.7%	579	15.3%	239	6.3%	480	12.7%	259	6.9%	250	6.6%	278	7.4%	272	7.2%	3,783
2020	1,478	38.4%	596	15.5%	269	7.0%	477	12.4%	272	7.0%	246	6.4%	191	5.0%	323	8.4%	3,851
2021	1,539	36.9%	673	16.1%	299	7.2%	497	11.9%	317	7.6%	262	6.3%	202	4.8%	380	9.1%	4,169
2022	1,659	38.4%	655	15.1%	347	8.0%	501	11.6%	347	8.0%	285	6.6%	177	4.1%	354	8.2%	4,326
2023	2,094	43.4%	669	13.9%	359	7.4%	523	10.8%	347	7.2%	310	6.4%	178	3.7%	345	7.2%	4,825
2024	2,140	43.6%	691	14.1%	371	7.6%	526	10.7%	348	7.1%	316	6.4%	178	3.6%	341	6.9%	4,911
2025	2,180	43.7%	702	14.1%	380	7.6%	539	10.8%	348	7.0%	323	6.5%	178	3.6%	339	6.8%	4,988
2026	2,218	43.7%	714	14.1%	406	8.0%	541	10.7%	348	6.9%	329	6.5%	178	3.5%	336	6.6%	5,071
2027	2,245	43.7%	726	14.1%	415	8.1%	544	10.6%	349	6.8%	341	6.6%	178	3.5%	336	6.5%	5,133
2028	2,274	43.8%	739	14.2%	424	8.2%	547	10.5%	349	6.7%	344	6.6%	178	3.4%	335	6.5%	5,190
2029	2,299	43.9%	751	14.3%	433	8.3%	550	10.5%	350	6.7%	347	6.6%	178	3.4%	332	6.3%	5,239
2030	2,316	43.9%	763	14.5%	441	8.4%	552	10.5%	350	6.6%	348	6.6%	178	3.4%	327	6.2%	5,274
2031	2,338	44.0%	774	14.6%	448	8.4%	554	10.4%	351	6.6%	349	6.6%	178	3.3%	326	6.1%	5,318
2032	2,361	44.0%	786	14.7%	456	8.5%	556	10.4%	351	6.5%	351	6.5%	178	3.3%	326	6.1%	5,365

WINTER Peak Demand (MW)

	ND	%	SD	%	MN	%	IA	%	NE	%	MT	%	CO	%	WY	%	BEPC TOTAL
00/01	342	27.4%	328	26.2%	57	4.6%	125	10.0%	43	3.4%	34	2.7%	83	6.7%	239	19.1%	1,250
01/02	313	26.2%	300	25.2%	47	3.9%	108	9.1%	37	3.1%	35	2.9%	82	6.9%	270	22.6%	1,193
02/03	377	27.7%	342	25.1%	54	4.0%	128	9.4%	36	2.6%	55	4.0%	103	7.6%	268	19.6%	1,362
03/04	417	27.5%	394	25.9%	60	3.9%	134	8.8%	36	2.3%	62	4.1%	123	8.1%	293	19.3%	1,518
04/05	438	27.4%	417	26.1%	63	3.9%	139	8.7%	44	2.7%	64	4.0%	121	7.6%	314	19.7%	1,599
05/06	463	26.8%	415	24.0%	66	3.8%	187	10.8%	48	2.8%	72	4.2%	121	7.0%	353	20.5%	1,725
06/07	495	25.4%	484	24.9%	111	5.7%	212	10.9%	50	2.6%	71	3.6%	122	6.3%	403	20.7%	1,946
07/08	563	26.3%	524	24.5%	113	5.3%	232	10.8%	50	2.3%	81	3.8%	124	5.8%	454	21.2%	2,140
08/09	623	25.7%	634	26.2%	133	5.5%	276	11.4%	57	2.3%	78	3.2%	138	5.7%	481	19.9%	2,420
09/10	627	23.5%	619	23.2%	169	6.3%	518	19.4%	59	2.2%	74	2.8%	137	5.1%	468	17.5%	2,671
10/11	679	25.2%	622	23.0%	198	7.3%	468	17.4%	55	2.0%	56	2.1%	145	5.4%	477	17.7%	2,698
11/12	835	29.5%	600	21.2%	181	6.4%	443	15.6%	49	1.7%	92	3.2%	180	6.4%	450	15.9%	2,828
12/13	973	32.3%	627	20.8%	194	6.4%	457	15.2%	52	1.7%	101	3.3%	183	6.1%	428	14.2%	3,014
13/14	1,134	31.9%	778	21.9%	253	7.1%	523	14.7%	54	1.5%	183	5.1%	200	5.6%	434	12.2%	3,559
14/15	1,359	37.2%	700	19.2%	233	6.4%	496	13.6%	57	1.6%	191	5.2%	184	5.1%	432	11.8%	3,651
15/16	1,394	39.9%	634	18.2%	229	6.5%	466	13.3%	54	1.5%	161	4.6%	184	5.3%	369	10.6%	3,491
16/17	1,441	38.7%	695	18.7%	249	6.7%	477	12.8%	53	1.4%	242	6.5%	184	5.0%	380	10.2%	3,720
17/18	1,546	39.3%	718	18.3%	281	7.2%	493	12.6%	57	1.4%	245	6.2%	191	4.9%	354	9.0%	3,929
18/19	1,717	42.3%	741	18.2%	289	7.1%	517	12.7%	48	1.2%	236	5.8%	194	4.8%	318	7.8%	4,060
19/20	1,823	44.9%	688	17.0%	235	5.8%	499	12.3%	58	1.4%	256	6.3%	129	3.2%	369	9.1%	4,056
20/21	1,830	43.1%	769	18.1%	284	6.7%	513	12.1%	64	1.5%	256	6.0%	130	3.1%	396	9.3%	4,242
21/22	1,868	44.1%	766	18.1%	249	5.9%	547	12.9%	61	1.4%	252	5.9%	131	3.1%	360	8.5%	4,233
22/23	2,251	47.0%	781	16.3%	344	7.2%	577	12.1%	61	1.3%	296	6.2%	131	2.7%	346	7.2%	4,786
23/24	2,458	48.8%	806	16.0%	354	7.0%	580	11.5%	61	1.2%	300	5.9%	131	2.6%	351	7.0%	5,041
24/25	2,505	48.9%	818	16.0%	361	7.0%	594	11.6%	61	1.2%	307	6.0%	131	2.6%	348	6.8%	5,124
25/26	2,536	48.7%	832	16.0%	382	7.3%	597	11.5%	61	1.2%	326	6.3%	131	2.5%	345	6.6%	5,210
26/27	2,581	48.9%	846	16.0%	390	7.4%	600	11.4%	61	1.2%	325	6.2%	131	2.5%	345	6.5%	5,279
27/28	2,617	49.0%	860	16.1%	397	7.4%	604	11.3%	61	1.1%	328	6.1%	131	2.4%	345	6.5%	5,342
28/29	2,646	49.0%	874	16.2%	405	7.5%	607	11.3%	61	1.1%	330	6.1%	131	2.4%	341	6.3%	5,396
29/30	2,666	49.1%	887	16.3%	410	7.6%	610	11.2%	61	1.1%	332	6.1%	131	2.4%	335	6.2%	5,432
30/31	2,693	49.1%	900	16.4%	416	7.6%	612	11.2%	61	1.1%	333	6.1%	131	2.4%	334	6.1%	5,481
31/32	2,720	49.2%	914	16.5%	422	7.6%	615	11.1%	62	1.1%	335	6.1%	131	2.4%	334	6.0%	5,532

EXHIBIT 3 - EASTERN SYSTEM SUMMER/WINTER LOADS & RESOURCES

SPP SUMMER SEASON	Members' Load Projections*	Contracted Sales to Others	Firm Purchases	Losses & Diversity	Total Responsibility
2022	3,080	153	-38	522	3,717
2023	3,553	153	-38	714	4,382
2024	3,616	162	-38	728	4,468
2025	3,683	162	-38	741	4,548
2026	3,739	162	-38	752	4,614
2027	3,789	162	-38	762	4,674
2028	3,833	162	-38	771	4,727
2029	3,873	162	-38	778	4,775
2030	3,903	162	-38	784	4,811
2031	3,939	162	-38	791	4,854
2032	3,976	162	-38	799	4,898

SPP WINTER SEASON	Members' Load Projections*	Contracted Sales to Others	Firm Purchases	Losses & Diversity	Total Responsibility
2022/23	3,389	156	-312	578	3,811
2023/24	3,873	162	-313	1,014	4,735
2024/25	3,949	162	-313	1,035	4,833
2025/26	4,013	162	-313	1,052	4,914
2026/27	4,072	162	-313	1,068	4,988
2027/28	4,125	162	-313	1,082	5,056
2028/29	4,172	162	-313	1,095	5,116
2029/30	4,208	162	-313	1,104	5,161
2030/31	4,250	162	-313	1,116	5,214
2031/32	4,294	162	-313	1,127	5,270

MISO Z1 SUMMER SEASON	Members' Load Projections*	Contracted Sales to Others	Firm Purchases	Losses & Diversity	Total Responsibility
2022	284	0	0	32	316
2023	295	0	0	31	326
2024	306	0	0	31	337
2025	313	0	0	31	344
2026	325	0	0	32	357
2027	333	0	0	33	366
2028	341	0	0	32	373
2029	349	0	0	32	381
2030	356	0	0	31	387
2031	363	0	0	31	394
2032	370	0	0	32	401

MISO Z1 WINTER SEASON	Members' Load Projections*	Contracted Sales to Others	Firm Purchases	Losses & Diversity	Total Responsibility
2022/23	311	0	0	34	345
2023/24	321	0	0	33	355
2024/25	328	0	0	33	361
2025/26	338	0	0	34	372
2026/27	345	0	0	35	380
2027/28	352	0	0	34	386
2028/29	360	0	0	34	394
2029/30	366	0	0	33	399
2030/31	372	0	0	33	405
2031/32	378	0	0	33	411

*** Load Projections include diversity adjustments to account for load levels at time of each assessment area's coincident peak**

2022 Resources

	Summer Season																		
	SPP																	MISO Z1	
	LOS[1]	LRS East	AVS[2]	Neal4	Wisdom 1&2[1]	SMS	GGS	CGS	DCS	PGS	LCS	New Gas Gen	CBPC Peakers[1]	Wind	Waste Heat	Solar	SPP Purchases	NTEC CCGT	MISO Z1 Purchases
2022	660.0	92.0	900.0	104.0	105.2	99.6	170.0	85.0	297.0	232.8	240.0	-	52.1	348.5	29.4	-	698.1	-	320.0
2023	660.0	92.0	900.0	104.0	105.2	99.6	170.0	85.0	297.0	232.8	240.0	-	52.1	341.6	29.4	-	852.9	-	325.0
2024	660.0	92.0	900.0	104.0	105.2	99.6	170.0	85.0	297.0	232.8	240.0	-	52.1	340.9	29.4	86.5	702.0	-	325.0
2025	660.0	92.0	900.0	104.0	105.2	99.6	170.0	85.0	297.0	232.8	240.0	322.3	52.1	342.7	29.4	84.2	701.5	-	255.0
2026	660.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	52.1	343.9	29.4	165.0	576.2	-	255.0
2027	660.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	52.1	343.5	29.4	160.6	576.1	152.4	255.0
2028	660.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	52.1	342.3	29.4	156.4	575.9	152.4	75.0
2029	660.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	52.1	329.6	29.4	152.2	555.7	152.4	75.0
2030	660.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	52.1	328.2	29.4	148.2	555.4	152.4	75.0
2031	440.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	41.0	320.1	29.4	144.3	548.8	152.4	75.0
2032	440.0	92.0	900.0	104.0	69.0	99.6	170.0	85.0	297.0	232.8	240.0	538.5	41.0	318.5	9.9	140.5	548.6	152.4	75.0

	Winter Season																		
	SPP																	MISO Z1	
	LOS[1]	LRS East	AVS[2]	Neal4	Wisdom 1&2[1]	SMS	GGS	CGS	DCS	PGS	LCS	New Gas Gen	CBPC Peakers[1]	Wind	Waste Heat	Solar	SPP Purchases	NTEC CCGT	MISO Z1 Purchases
2022/23	660.0	92.0	900.0	104.0	111.9	120.0	188.0	95.0	297.0	241.8	270.0	-	56.7	539.4	29.4	-	698.1	-	320.0
2023/24	660.0	92.0	900.0	104.0	111.9	120.0	188.0	95.0	297.0	241.8	270.0	-	56.7	529.9	29.4	1.9	852.9	-	325.0
2024/25	660.0	92.0	900.0	104.0	111.9	120.0	188.0	95.0	297.0	241.8	270.0	-	56.7	532.9	29.4	14.0	702.0	-	325.0
2025/26	660.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	328.3	56.7	535.0	29.4	27.5	701.5	-	255.0
2026/27	660.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	56.7	537.1	29.4	26.8	576.2	167.8	255.0
2027/28	660.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	56.7	531.5	29.4	26.1	576.1	167.8	255.0
2028/29	660.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	56.7	514.0	29.4	25.4	555.9	167.8	75.0
2029/30	660.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	56.7	512.4	29.4	24.7	555.7	167.8	75.0
2030/31	440.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	45.6	503.0	29.4	24.0	555.4	167.8	75.0
2031/32	440.0	92.0	900.0	104.0	75.0	120.0	188.0	95.0	297.0	241.8	270.0	550.5	45.6	500.9	9.9	23.4	548.8	167.8	75.0

Footnotes:

1) For planning purposes, the financial depreciable life of our generating units is used as their assumed remaining useful life, even though no formal retirement decisions have been made. Actual retirement decisions have to be made by BEPC's Board of Directors.

2) BEPC owns 24.166% of AVS unit 2 and leases the remaining portion from other owners. The original terms of the lease have been extended by 10 years through 2030.