

**BASIN ELECTRIC
POWER COOPERATIVE**

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RECEIVED

JUN 27 2008



PUBLIC SERVICE COMMISSION

June 24, 2008

Mr. Tony Clark, President
North Dakota Public Service Commission
Capitol Building
600 E. Boulevard Avenue
Bismarck, ND 58505

Dear Mr. Clark:

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

Enclosed is an original and 10 copies of the plan.

Sincerely,



Ronald R. Harper
CEO & General Manager

vlw
ATTACHMENT

1 **PU-08-401** Filed: 6/27/2008 Pages: 31
2008 Ten Year Plan

Basin Electric Power Coop Inc.

EXHIBIT A

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ND Soil Conservation Committee
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ND Geological Survey
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State Engineer
ND State Water Commission
900 East Boulevard; Dept. 770
Bismarck, ND 58505-0850

AVS - Annual 2007

923 Power Plant Operations Report Plant 6483 - Antelope Valley Cycle 12/2/07

Edit Query Block Record Field Window Help

BMIT | Schedule 8A | Schedule 8B | Schedule 8C | Schedule 8D | Schedule 8E | Schedule 8F | Comments | Errors | Survey Submit

U.S. Department of Energy
Energy Information Administration
Form EIA-923 (2008)

Form Approved
OMB No. 1905-0129
Approval Expires 12/31/2010

Power Plant Operations Report

SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION

SCHEDULE 8, PARTS A through F are filed annually and must be reported by steam-electric organic-fueled power plants with a total steam turbine capacity of 100 megawatts and above (only plants that reported boiler-level consumption on SCHEDULE 3, Part A). All steam-electric organic-fueled power plants with a total steam turbine capacity of 10 megawatts and above are responsible for filing Schedule 8, Parts C, E, and F. Annual data are due by March 30 following the reporting year.

SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION
(Instructions for SCHEDULE 8 PART A are on page 14)

Enter the quantity of combustion byproducts for the year by type of disposal (to nearest 0.1 thousand tons). Report sales of steam in million Btu (MMBtu). If actual data are not available, provide an estimated value.

NO BYPRODUCTS

Byproduct	On-Site Landfill	Disposal On-site Ponds	Disposal Off-site	Sale or Beneficial Use		Storage		Total
				Sold	Used On-site	Used Off-site	On-site	
ash from standard boiler/FGD units			555.6	7.2	48.8			611.6
ash from units with dry FGD								
ash from FEC units			142.2					142.2
Bottom ash from standard boiler units								
Bottom (bed) ash from FEC units								
Dry Spent								
Other FGD byproducts								
Slurry from coal gasification (IGCC) units								
Other (specify via footnote on Schedule 9)								
Steam Sales (MMBtu)								

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Power Plant Operations Report
SCHEDULE 8. PART B. FINANCIAL INFORMATION
 (Instructions for SCHEDULE 8 PART B are on page 15.)

If actual data are not available, provide an estimated value.

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	1,075	1,027	8,291		2,467	12,860
Disposal						0
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	1,220			

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 Byproducts	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount	14					14

Power Plant Operations Report

SCHEDULE 8. PART C. BOILER INFORMATION NITROGEN OXIDE EMISSION CONTROLS
 (Instructions for SCHEDULE 8 PART C are on page 16.)

Complete a separate row for each boiler.

Note: The Boiler ID must match the Boiler ID as reported on Form EIA-860, "Annual Electric Generator Report"

No NOx Controls

Boiler ID	NOx Control In-Service (hours)	Entire Year	NOx Emission Rate (lbs/MMBtu)	May through September
B1	8,495	3900	3900	3900
B2	7,631	3300	3300	3300

Add Equipment

To add a new Equipment ID not on the drop down list, click "Add Equipment" and a generic ID will be assigned and appear on your drop down list. Choose EIA001, EIA002, etc. for the new Equipment ID. EIA will contact you to update this generic ID to an actual ID.

U.S. Department of Energy
Energy Information Administration
Form EIA-923 (2008)

Power Plant Operations Report

Form Approval
OMB No. 1905-0129
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SCHEDULE 8. PART D. COOLING SYSTEM INFORMATION, ANNUAL OPERATIONS

(Instructions for SCHEDULE 8 PART D are on page 16.)

Note: Cooling System ID must match the ID as reported on Form EIA-860, "Annual Electric Generator Report."
Complete a separate row for each cooling system.

Cooling System ID	Status	Annual Amount of Chlorine added to Cooling Water (1000 lbs)	Average Annual Rate of Cooling Water (0.1 ft ³ /sec)			Maximum Cooling Water Temperature at Intake (F)		Maximum Cooling Water Temperature at Discharge Outlet (F)	
			Withdrawal	Discharge	Consumption	Winter Peak Month	Summer Peak Month	Winter Peak Month	Summer Peak Month
CC1	OP	43.255	7.8	0	7.8	33.0	38.0		
CC2	OP	37.475	6.8	0	6.8	33.0	38.0		

Add Equipment

To add a new Equipment ID not on the drop down list, click "Add Equipment" and a generic ID will be assigned and appear on your drop down list. Choose EIA001, EIA002, etc. for the new Equipment ID. EIA will contact you to update this generic ID to an actual ID.

SCHEDULES, PART E. FLUE GAS PARTICULATE COLLECTION INFORMATION
 (Instructions for SCHEDULE 8 PART E are on page 17)

Complete a separate row for each flue gas particulate collector.

Does not Apply

Removal Efficiency of Particulate Matter (nearest 0.1% by weight)

Flue Gas Particulate Collector ID	Status	Hours in Service	Typical Particulate Emissions Rate (nearest 0.01 lb/MMBtu)	At Annual Operating Factor	At 100% Load or Tested Efficiency	Date of Most Recent Efficiency Test (e.g., 12-2005)
BH1	OP	8,495	.02	99.9	99.9	9-1983
BH2	OP	7,631	.02	99.9	99.9	8-1986

Add Equipment

To add a new Equipment ID not on the drop down list, click "Add Equipment" and a generic ID will be assigned and appear on your drop down list. Choose EIA001, EIA002, etc. for the new Equipment ID. EIA will contact you to update this generic ID to an actual ID.



**BASIN ELECTRIC
POWER COOPERATIVE**

NORTH DAKOTA TEN-YEAR PLAN

2008

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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 has five subsidiaries, Basin Cooperative Services, Dakota Gasification Company, Dakota Coal Company, Montana Limestone Company, and Basin Telecommunications Inc. 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 nine existing energy conversion facilities. Three of these facilities are in North Dakota; the Antelope Valley Station near Beulah, North Dakota; the Leland Olds Station at Stanton, North Dakota; and the Minot Wind Project located near Minot, North Dakota. Other existing energy conversion facilities outside of North Dakota are the Laramie River Station at Wheatland, Wyoming; the Spirit Mound Station at Vermillion, South Dakota; the Chamberlain Wind Project at Chamberlain, South Dakota; Wisdom Unit 2 at Spencer, Iowa; the Wyoming Distributed Generation in Wyoming; and the Groton Station near Groton, South Dakota.

Basin Electric purchases all or portions of the output from a Waste Heat Recovery Unit located near St. Anthony, North Dakota and three other Heat Recovery Units located in South Dakota; North Dakota I Wind Energy Center near Edgeley and Kulm, North Dakota; the Wilton Wind Energy Center near Wilton, North Dakota; the South Dakota Wind Energy Center near Highmore, South Dakota; the Rosebud Sioux Indian Reservation Wind Turbine; the Pipestone, Minnesota School District Wind Turbine; a portion of Unit #4 of the George Neal Station near Salix, Iowa; and the City of Madison, South Dakota Diesel Generators.

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 has Unit 2 at the Groton Generation Station near Groton, South Dakota in the testing stage and should become commercial in June, 2008. Basin Electric is developing a 390 MW (net) coal fired power plant located 10 miles north of Gillette, WY. This project is named "The Dry Fork Station" and the projected in-service date is 2011.

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

Basin Electric has committed to purchase the output from four additional Waste Heat Recovery Units in Minnesota, Montana and North Dakota. These units are anticipated to be on-line in 2009. Basin Electric is developing a 95 MW gas-fired peaking power plant located near Culbertson, MT with a 2009 in-service date. Basin Electric is developing a 300 MW combined-cycle power plant located near White, South Dakota, which is scheduled to be in-service the spring of 2012. This power plant is named "Deer Creek Station". Basin Electric is also developing a 115.5 MW wind project located near Minot, ND.

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

Basin Electric is evaluating the development of new generating resources (coal, gas, and wind) 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.	<p><u>Transmission Lines</u> <u>LINES - BY VOLTAGE</u> <u>69 kV Lines</u></p>	<p><u>COMMERCIAL IN-SERVICE DATE</u></p>
	Leland Olds - Basin Electric Sub	01/09/66
	<u>115 kV Lines</u>	
	Basin Electric Sub - Stanton Tap	01/09/66
	Logan-Kenmare Line	04/01/79
	Logan-Mallard Line	04/01/79
	<u>230 kV Lines</u>	
	Leland Olds #1-Washburn Double Circuit	01/09/66
	Leland Olds-Logan Line	03/31/80
	Leland Olds #2 - Basin Electric Sub	12/15/75
	Logan-Tioga	05/01/82
	Tioga-Canadian Border (Estevan)	05/01/82

345 kV Lines

Leland Olds-Groton-Watertown	12/15/75
Leland Olds-Ft. Thompson (SD) 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	11/30/83

500 kV Lines

Antelope Valley Station-Huron, SD (345 kV operation)	07/01/84
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b. Substations

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 Logan Substation	04/01/79
230/115 kV Dickinson, ND Substation	12/15/75
345/115 kV Charlie Creek Substation	11/30/83
345 kV Antelope Valley Station Switchyard	11/30/83

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

SECTION F: EXISTING TRANSMISSION FACILITIES (PIPELINES)

Pipeline transmission facilities utilized by Basin Electric are water supply lines to the Leland Olds Station, Antelope Valley Station, and a 12 mile long natural gas fuel supply pipeline associated with the Groton 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 the Antelope Valley Station 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 AVS 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.

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

Basin Electric is developing a Belfield-Rhame 230 kV transmission line. The line will be about 70 miles long and is required to support southwest North Dakota electrical load growth. The projected in-service date is 2010. Basin Electric is developing a Williston-Tioga 230 kV transmission line. This 50 mile long line is needed to serve northwest North Dakota load growth. The projected in-service date is 2010. Basin Electric is also developing the Hughes transmission project which consists of 130 miles of 230 kV line located in northeastern Wyoming. The projected in-service date is 2009.

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

No new pipeline construction is expected to occur within the ensuing five year period.

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

Results of the resource development of new generating resources (refer to section D) will identify transmission improvements necessary to support the interconnection of the new resources. Transmission studies are underway to analyze the effect of accelerated electrical load growth associated with increased oil production in North Dakota. Results of these studies may indicate the need for additional load serving transmission facilities.

SECTION J: **REGIONAL COORDINATION**

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 Missouri River Basin. Mid-West's Water & Power Marketing Committee meets throughout the year to discuss and review planned additions of Mid-West member utilities.

Mid-Continent Area Power Pool

Basin Electric is a member of the Mid-Continent Area Power Pool (MAPP). Basin Electric participates on various committees which review the transmission adequacy and plans of area utilities as a function of the Mid-Continent Area Power Pool.

The Transmission Planning Subcommittee (TPS), which coordinates MAPP's ten-year plan, has formed four sub-regional working groups whose primary purpose is to perform coordinated transmission planning. These sub-regional planning groups are:

Northern MAPP
Missouri Basin
Nebraska
Iowa Transmission Working Group

The Missouri Basin Sub-Regional Planning Group includes utilities in the North and South Dakota area. The Northern MAPP Sub-Regional Planning Group includes utilities in northeastern North Dakota and western Minnesota. In compliance with NERC planning standards, the working groups are required to develop a coordinated ten-year plan for MAPP every two years for their specific regions. These ten-year plans evaluate the adequacy of existing interconnected systems to support load growth and provide an indication of the ability of the system to meet regional reliability criteria.

Basin Electric also participates on the Design Review Subcommittee which ensures that long term reliability of the MAPP system is not adversely affected by changes to generation and transmission facilities. Many other MAPP committees, in which Basin Electric is involved, also review the transmission, generation, and operations of the MAPP interconnected system.

Coordination with Area Utilities

Western Area Power Administration

Basin Electric coordinates regional power supplies with the Western Area Power Administration. 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, a Class A member with electrical loads primarily located west of the east-west separation.

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). To avoid duplication of transmission facilities an agreement was entered into on January 1, 1972, providing for

joint use and construction of transmission facilities. This agreement provides for studies to be performed every two years to determine what additional transmission will be required to meet area load growth. This agreement calls for the sharing of facilities on the basis of each utility's respective load projections.

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, SD, 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.

Integrated System Transmission Tariff

Basin Electric Power Cooperative, WAPA and Heartland Consumers Power District have combined their transmission facilities to create the Integrated System (IS) transmission tariff. This tariff was created to facilitate the use of the transmission facilities of Basin Electric Power Cooperative, WAPA and Heartland Consumers Power District by other utilities required under FERC Order 888.

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. 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 adhere to the requirements of the Rural Utilities Service 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.

Basin Electric utilizes a socio-economic impact management program to assist communities in addressing population growth associated with the construction of energy conversion facilities. Basin Electric follows an open-planning process to determine the specific negative and positive impacts that may develop in an area, and works closely with the local citizens and public officials on key issues. Once issues are defined, strategies are recommended to alleviate the adverse conditions. Basin Electric further provides public officials with the technical assistance to secure financing for public services and facilities needed to alleviate negative impacts.

SECTION L: PROJECTED DEMAND FOR SERVICES

Exhibits 2 and 3 represent Basin Electric's sale to its Class A members. These exhibits represent 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 2007. 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 15-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 member systems and the Rural Utilities Service (RUS) in Washington, D.C. The RUS is responsible to review and approve close to 1,000 distribution cooperative forecasts as well as large G&T systems forecasts such as Basin Electric. The RUS insures that state of the art methods and technologies are being used to produce short term and long-term forecasts. Historical energy data is combined with external data obtained from government and private sector sources as well as membership 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, MO., Woods & Poole Economics, Inc., and the Department of Energy, Wn. D.C., as well as others.

Exhibits 4 and 5 provide a geographical breakdown by state of the Basin Electric sales indicated in Exhibits 2 and 3.

Basin Electric is in the process of developing a system-wide load management system to help meet the growing demand of Basin Electric's member systems.

Basin Electric's service area is electrically divided into western and eastern systems. These systems 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, MT, 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.

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

1. Leland Olds Generating Station: Leland Olds Unit 1 was placed in service on January 9, 1966 and is a base-load thermal unit located near Stanton, ND with a net capacity of 221 MW. Leland Olds Unit 2 was placed in service on December 15, 1975 with a net capacity of 448 MW. Basin Electric has committed to install emission control equipment at the Leland Olds Station which requires an increase to the station service. This equipment is anticipated to be installed in the fall of 2009 for Unit 2 and the fall of 2010 for Unit 1.
2. 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, whereas an at-plant value includes losses on the Integrated System (IS).
3. Spirit Mound Station: Basin Electric placed in service two 60 MW (net) nameplate oil-fired combustion turbines on June 30, 1978. The combined winter rating of the two units is 120 MW (net) and the summer rating is 104 MW (net). 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, SD.
4. Laramie River Station: 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 Unit 1 at a net capacity of 550 MW; Unit 2 at a net capacity of 562 MW; and Unit 3 at a net capacity of 565 MW. The current rating of the units is due to turbine upgrades. 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. During 1998, the maximum emergency output rating of each of these units was increased by 15-20 MW. This increased output capability will be used in situations to maintain system reliability. The amount of power Basin Electric receives from the eastern unit is 38 MW (net). Basin Electric, along with the other participants of the Laramie River Station, have committed to upgrading the high pressure and intermediate pressure turbine sections of the main turbine at all three units. Unit 2 was completed in the spring of 2007 maintenance period; Unit 3 was completed in 2008 and Unit 1 will be completed in 2009.

5. Antelope Valley Station: Basin Electric operates two 450 MW (net) thermal-generating units near Beulah, ND. Approximately 110+ MW of electric power for the Dakota Gasification Company Synfuels Plant facilities are supplied by the Antelope Valley Station. Basin Electric has sold 98 MW of participation power from AVS #1 and #2 to the Montana Power Company. This sale is for the November through April periods through 2010. The remaining AVS power is available for use by Basin Electric to serve its member cooperatives' increasing loads. Unit 1 began commercial operation on July 1, 1984 and Unit 2 began partial commercial operation on June 1, 1986. Basin Electric has committed to an Air Jigging project at the Antelope Valley Station which is anticipated to increase the station service by 2.5 MW. The project is anticipated to be completed in 2009.
6. Neal IV: Basin Electric and Northwest Iowa Power Cooperative (NIPCO), one of Basin Electric's member cooperative negotiated a power supply contract which provides that NIPCO will sell to Basin Electric NIPCO's 33 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.
7. Chamberlain Wind Project: Basin Electric, in partnership with East River Power Cooperative, has constructed a wind energy project near Chamberlain, South Dakota. The 2.6 megawatt capacity turbines were placed into commercial service in January 2002. The energy is delivered to members as part of Basin Electric's overall power supply.
8. 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 2.6 megawatt capacity wind turbines were placed into commercial service in February 2002. The energy is delivered to members as part of Basin Electric's overall power supply.

9. Wisdom Unit 2: Basin Electric partnered with Cornbelt Electric 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.
10. Groton Unit 1: Basin Electric commissioned the 95 MW Groton Unit 1 in 2006. This unit provides peaking power.
11. 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.
12. Long-Term Resource: Basin Electric has entered into a long-term purchase agreement with Florida Power and Light Energy to meet contractual power supply obligations. A 40 megawatt wind energy project is located just west of Edgeley, ND, a 49.5 MW wind energy project is located near Wilton, ND, and a 40 megawatt wind energy project is located near Highmore, SD. Basin Electric also entered into a long-term purchase agreement with the City of Madison which provides 10MW of peaking power from a diesel unit at Madison, SD. Finally, Basin Electric has a purchase power agreement with Ormat Industries at four 5.5 MW waste heat recovery units. One is located near St. Anthony, North Dakota and the others are located in South Dakota.
13. 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:

1. Laramie River Station: The Laramie River Station capacity that Basin Electric will receive from the two west-side units is 671 MW (net). Basin Electric, along with the other participants of the Laramie River Station, have committed to upgrading the high pressure and intermediate pressure turbine sections of the main turbine at all three units. Unit 2 was completed in the spring of 2007 maintenance period; Unit 3 was completed in 2008 and Unit 1 will be completed in 2009.
2. Miles City DC Tie: Basin Electric and the Western Area Power Administration have shared in the construction and capacity rights of a 200 MW back-to-back, AC-DC-AC tie built at Miles City, MT and completed in June 1985. 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 Antelope Valley Station.

3. Rapid City DC Tie: Basin Electric and Black Hills Power, Inc. have constructed a 200 MW asynchronous tie at Rapid City, SD. This tie enables Basin Electric to serve new coalbed methane load growth in northeastern Wyoming located west of the east-west ties, using capacity and/or energy from east side resources such as Antelope Valley Station. The Basin Electric ownership percentage is 65% and the Black Hills Power, Inc. ownership percentage is 35%.
4. Wyoming Distributed Generation: The Wyoming Distributed Generation consists of 9 units located at 3 sites; Arvada, Hartzog and Barber Creek. These units are natural gas fired units with a total net output of 45 MW summer and 68 MW winter.

The load values contained in Exhibits 2 through 5 were obtained from the econometric based load forecast completed in 2007. These loads have been adjusted to an at-generator system coincident basis by allowing for reserves, on-peak losses and system diversity as outlined in Exhibits 6 and 7.

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:

<u>Plant</u>	<u>Fuel Source</u>	<u>Transportation</u>
Leland Olds Station	ND Lignite/Wyoming (PRB) Coal	Rail
Spirit Mound Station	Oil	Pipeline
Laramie River Station	Wyoming (PRB) Coal	Rail
Antelope Valley Station	ND Lignite/Wyoming (PRB) Coal	Mine Mouth/Rail
Minot Wind Project	Wind	N/A
Wyoming Distributed Generation	Natural Gas	Pipeline
Wisdom Unit 2	Natural Gas	Pipeline
Chamberlain Wind Project	Wind	N/A
Groton 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 member cooperatives.

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.

LIST OF EXHIBITS

1. Form EIA-923*
2. Summer Loads
3. Winter Loads
4. Summer Loads by States
5. Winter Loads by States
6. Eastern System Summer Season Load-Resources
7. Eastern System Winter Season Load-Resources

Notes: * These exhibits are distributed only to the Public Service Commission. Copies are on file with the Public Service Commission or can be obtained from the Communications and Government Relations Department, Basin Electric Power Cooperative, 1717 East Interstate Avenue, Bismarck, ND 58503.

Resource values used in Exhibits 6 and 7 are based on actual or estimated results of Uniform Rating of Generating Equipment (URGE) tests, whereas the values referred to in the narrative are generally net or estimated net capacities for each plant. All east-side generator capabilities are on a net at-plant basis. The total responsibility includes adjustments for losses, system diversity and reserves.

BASIN ELECTRIC RESPONSIBILITY TO MEMBER COOPERATIVESSummer Loads
(MW)

1998		1138
1999		1195
2000		1273
2001		1380
2002		1480
2003		1541
2004		1554
2005		1722
2006		1947
2007	Historical	2052

2008	Projected	2362
2009		2582
2010		2722
2011		2884
2012		2996
2013		3141
2014		3253
2015		3352
2016		3420
2017		3484

BASIN ELECTRIC RESPONSIBILITY TO MEMBER COOPERATIVESWinter Loads
(MW)

1998/99		1133
1999/00		1084
2000/01		1250
2001/02		1193
2002/03		1362
2003/04		1518
2004/05		1599
2005/06		1725
2006/07		1949
2007/08	Historical	2216

2008/09	Projected	2426
2009/10		2615
2010/11		2764
2011/12		2861
2012/13		3004
2013/14		3118
2014/15		3212
2015/16		3294
2016/17		3354
2017/18		3416

BASIN ELECTRIC MEMBER LOADS BY STATE

Summer Peak Demand (MW)

Historical

<u>Year</u>	<u>ND</u>	<u>%</u>	<u>SD</u>	<u>%</u>	<u>MN</u>	<u>%</u>	<u>IA</u>	<u>%</u>	<u>NE</u>	<u>%</u>	<u>MT</u>	<u>%</u>	<u>CO/WY</u>	<u>%</u>	<u>Total</u>
1998	248.7	21.8	273.0	24.0	47.1	4.1	83.2	7.3	211.3	18.6	28.1	2.5	247.1	21.7	1138.4
1999	267.9	22.4	288.5	24.2	52.5	4.4	102.2	8.6	197.4	16.5	28.3	2.4	257.7	21.6	1194.5
2000	292.6	23.0	301.7	23.7	53.9	4.2	98.7	7.8	214.9	16.9	28.9	2.3	282.3	22.2	1273.0
2001	306.5	22.2	342.5	24.8	58.0	4.2	116.0	8.4	227.3	16.5	30.3	2.2	299.8	21.7	1380.4
2002	315.3	21.3	351.9	23.8	57.7	3.9	127.1	8.6	253.5	17.1	43.9	3.0	330.1	22.3	1479.6
2003	353.0	22.9	345.5	22.4	57.8	3.8	121.4	7.9	239.1	15.5	55.9	3.6	367.9	23.9	1540.6
2004	328.8	21.2	353.9	22.8	55.4	3.6	119.0	7.7	233.4	15.0	61.8	4.0	401.4	25.8	1553.6
2005	356.6	20.7	400.1	23.2	62.0	3.6	131.1	7.6	269.7	15.7	74.2	4.3	428.0	24.9	1721.6
2006	400.0	20.5	440.4	22.6	71.4	3.7	187.9	9.7	272.9	14.0	82.0	4.2	492.2	25.3	1946.9
2007	451.9	22.0	460.8	22.5	91.6	4.5	186.1	9.1	261.6	12.8	75.4	3.7	524.0	25.5	2051.5

Projected

<u>Year</u>	<u>ND</u>	<u>%</u>	<u>SD</u>	<u>%</u>	<u>MN</u>	<u>%</u>	<u>IA</u>	<u>%</u>	<u>NE</u>	<u>%</u>	<u>MT</u>	<u>%</u>	<u>CO/WY</u>	<u>%</u>	<u>Total</u>
2008	510.7	21.6	509.8	21.6	136.1	5.8	237.2	10.0	256.6	10.9	116.3	4.9	595.0	25.2	2361.5
2009	576.7	22.3	534.3	20.7	191.1	7.4	264.2	10.2	258.7	10.0	126.1	4.9	631.1	24.4	2582.2
2010	628.2	23.1	570.7	21.0	216.5	8.0	266.1	9.8	260.9	9.6	136.6	5.0	642.8	23.6	2721.9
2011	652.6	22.6	592.8	20.6	240.3	8.3	270.6	9.4	262.8	9.1	152.2	5.3	712.5	24.7	2883.7
2012	670.7	22.4	614.8	20.5	266.1	8.9	272.5	9.1	260.7	8.7	158.8	5.3	751.8	25.1	2995.6
2013	700.7	22.3	638.8	20.3	290.7	9.3	275.1	8.8	262.5	8.4	165.9	5.3	807.6	25.7	3141.4
2014	710.8	21.8	664.0	20.4	316.0	9.7	277.2	8.5	264.1	8.1	167.8	5.2	853.3	26.2	3253.2
2015	718.4	21.4	689.2	20.6	340.8	10.2	279.5	8.3	265.7	7.9	169.1	5.0	889.1	26.5	3351.8
2016	725.6	21.2	716.9	21.0	368.0	10.8	282.6	8.3	265.9	7.8	170.9	5.0	889.8	26.0	3419.7
2017	732.1	21.0	743.8	21.3	393.7	11.3	285.6	8.2	266.9	7.7	172.2	4.9	889.5	25.5	3483.9

BASIN ELECTRIC MEMBER LOADS BY STATE

Winter Peak Demand (MW)

Historical

<u>Year</u>	<u>ND</u>	<u>%</u>	<u>SD</u>	<u>%</u>	<u>MN</u>	<u>%</u>	<u>IA</u>	<u>%</u>	<u>NE</u>	<u>%</u>	<u>MT</u>	<u>%</u>	<u>CO/WY</u>	<u>%</u>	<u>Total</u>
1998/99	331.3	29.2	291.8	25.8	47.8	4.2	109.2	9.6	37.0	3.3	30.4	2.7	285.5	25.2	1133.1
1990/00	312.3	28.8	269.3	24.8	47.9	4.4	102.3	9.4	31.0	2.9	28.0	2.6	292.9	27.0	1083.8
2000/01	342.1	27.4	328.0	26.2	57.4	4.6	124.6	10.0	42.5	3.4	33.6	2.7	321.9	25.8	1250.0
2001/02	312.5	26.2	300.4	25.2	47.1	3.9	108.4	9.1	37.4	3.1	34.9	2.9	352.6	29.5	1193.4
2002/03	376.7	27.7	342.3	25.1	54.0	4.0	127.8	9.4	35.7	2.6	55.0	4.0	370.6	27.2	1362.2
2003/04	416.9	27.5	393.8	25.9	59.7	3.9	134.2	8.8	35.6	2.3	62.4	4.1	415.7	27.4	1518.4
2004/05	437.9	27.4	416.6	26.1	62.7	3.9	138.7	8.7	43.5	2.7	64.0	4.0	435.6	27.2	1598.9
2005/06	462.6	26.8	414.7	24.0	65.8	3.8	186.6	10.8	48.4	2.8	72.2	4.2	474.3	27.5	1724.6
2006/07	494.6	25.4	484.4	24.9	111.0	5.7	211.5	10.9	50.0	2.6	73.5	3.8	524.3	26.9	1949.2
2007/08	571.4	25.8	511.2	23.1	128.9	5.8	256.3	11.6	45.0	2.0	97.4	4.4	605.5	27.3	2215.6

Projected

<u>Year</u>	<u>ND</u>	<u>%</u>	<u>SD</u>	<u>%</u>	<u>MN</u>	<u>%</u>	<u>IA</u>	<u>%</u>	<u>NE</u>	<u>%</u>	<u>MT</u>	<u>%</u>	<u>CO/WY</u>	<u>%</u>	<u>Total</u>
2008/09	626.8	25.8	534.8	22.0	163.7	6.7	284.1	11.7	45.7	1.9	116.7	4.8	654.4	27.0	2426.2
2009/10	702.8	26.9	575.4	22.0	191.9	7.3	286.4	11.0	46.5	1.8	131.5	5.0	680.4	26.0	2614.8
2010/11	731.5	26.5	597.1	21.6	210.5	7.6	291.6	10.5	47.2	1.7	139.3	5.0	746.8	27.0	2764.1
2011/12	752.1	26.3	618.8	21.6	230.7	8.1	294.2	10.3	47.8	1.7	157.6	5.5	759.4	26.5	2860.6
2012/13	785.8	26.2	642.4	21.4	249.9	8.3	296.9	9.9	48.4	1.6	165.6	5.5	814.5	27.1	3003.5
2013/14	796.9	25.6	667.1	21.4	269.8	8.7	299.4	9.6	48.9	1.6	167.8	5.4	867.8	27.8	3117.7
2014/15	804.6	25.0	691.6	21.5	289.1	9.0	302.2	9.4	49.5	1.5	169.0	5.3	906.1	28.2	3212.2
2015/16	812.6	24.7	718.9	21.8	310.6	9.4	305.9	9.3	50.0	1.5	171.0	5.3	925.0	28.1	3294.1
2016/17	819.4	24.4	745.4	22.2	330.7	9.9	309.5	9.2	50.5	1.5	172.3	5.1	926.6	27.6	3354.2
2017/18	826.1	24.2	772.5	22.6	351.2	10.3	313.0	9.2	50.9	1.5	173.4	5.1	929.0	27.2	3416.0

BASIN ELECTRIC EASTERN SYSTEM LOAD-RESOURCES

Summer Season

	<u>Members' Load Projections</u>	<u>Contracted Sales to Others</u>	<u>Losses, Diversity, and Reserves</u>	<u>Total Responsibility</u>
2008	1892	0	303	2195
2009	2071	0	331	2402
2010	2193	0	351	2544
2011	2280	0	365	2645
2012	2347	0	376	2723
2013	2433	0	389	2822
2014	2494	0	399	2893
2015	2549	0	408	2957
2016	2603	0	416	3019
2017	2661	0	426	3087

Resources

	<u>Laramie River</u>	<u>Spirit Mound</u>	<u>Antelope Valley</u>	<u>Neal IV</u>	<u>Wisdom</u>	<u>Groton</u>	<u>Madison</u>	<u>Purchases</u>	<u>Wind Accreditation</u>	<u>Waste Heat Recovery</u>	<u>Total Resources</u>
2008	669	38	104	33	39	192	10	30	12	22	2049
2009	669	48	104	33	39	192	10	30	18	39	2082
2010	669	48	104	33	39	192	10	30	18	44	2087
2011	669	48	104	33	39	192	10	30	18	44	2087
2012	669	48	104	33	39	192	10	30	18	44	2087
2013	669	48	104	33	39	192	10	30	18	44	2087
2014	669	48	104	33	39	192	10	0	18	44	2087
2015	669	48	104	33	39	192	10	0	18	44	2087
2016	669	48	104	33	39	192	10	0	18	44	2087
2017	669	48	104	33	39	192	10	0	18	44	2087

BASIN ELECTRIC EASTERN SYSTEM LOAD-RESOURCES

Winter Season

	<u>Members' Load Projections</u>	<u>Contracted Sales to Others</u>	<u>Losses, Diversity, and Reserves</u>	<u>Total Responsibility</u>
2008/09	1866	98	336	2300
2009/10	2028	98	363	2489
2010/11	2107	0	377	2484
2011/12	2188	0	372	2560
2012/13	2273	0	386	2659
2013/14	2330	0	396	2726
2014/15	2383	0	405	2788
2015/16	2438	0	414	2852
2016/17	2493	0	424	2917
2017/18	2546	0	433	2979

Resources

	<u>Leland Olds</u>	<u>Laramie River</u>	<u>Spirit Mound</u>	<u>Antelope Valley</u>	<u>Neal IV</u>	<u>Wisdom</u>	<u>Groton</u>	<u>Madison</u>	<u>Purchases</u>	<u>Wind Accreditation</u>	<u>Waste Heat Recovery</u>	<u>WAPA Peaking</u>	<u>Total Resources</u>
2008/09	669	38	120	900	33	40	192	10	30	35	22	279	2444
2009/10	669	48	120	900	33	40	192	10	30	35	44	279	2465
2010/11	669	48	120	900	33	40	192	10	30	35	44	276	2456
2011/12	669	48	120	900	33	40	192	10	30	35	44	276	2456
2012/13	669	48	120	900	33	40	192	10	30	35	44	276	2456
2013/14	669	48	120	900	33	40	192	10	30	35	44	276	2456
2014/15	669	48	120	900	33	40	192	10	0	35	44	276	2425
2015/16	669	48	120	900	33	40	192	10	0	35	44	276	2425
2016/17	669	48	120	900	33	40	192	10	0	35	44	276	2425
2017/18	669	48	120	900	33	40	192	10	0	35	44	276	2425