



2024-2033

ENERGY FACILITY PLAN

THE SUBSEQUENT BIENNIAL  
REPORT  
OF THE TEN-YEAR PLAN

## TABLE OF CONTENTS

§20:10:21:02 Ten-Year Plans.....	3
§20:10:21:03 Contents of Plans .....	3
§20:10:21:04 Existing Energy Conversion Facilities .....	5
§20:10:21:05 Proposed Energy Conversion Facilities .....	5
§20:10:21:06 Existing Transmission Facilities .....	5
§20:10:21:07 Proposed Transmission Facilities .....	6
§20:10:21:08 Coordination of Plans.....	6
§20:10:21:09 Single Regional Plans.....	6
§20:10:21:10 Submission of Regional Plan .....	7
§20:10:21:11 Utility Relationships .....	7
§20:10:21:12 Efforts to Minimize Adverse Effects .....	7
§20:10:21:13 Efforts Relating to Load Management .....	8
§20:10:21:14 List of Reports.....	8
*Exhibit 2 – Integrated Resource Plan.....	14
§20:10:21:15 Changes in Status of Facilities.....	9
§20:10:21:16 Projected Electric Demand .....	9
§20:10:21:17 Changes in Electric Energy.....	7
§20:10:21:18 Map of Service Area .....	10
*Exhibit 1 – Service Area Map .....	12
§20:10:21:19 Individual Utility Plans.....	10
§20:10:21:20 Biennial Filing .....	10
§20:10:21:21 Subsequent Plans.....	10
§20:10:21:22 Places of Filing .....	10
§20:10:21:23 Notice of Filing .....	10
§20:10:21:24 Copy on Request.....	11
§20:10:21:25 Form for Plans .....	11

## BLACK HILLS POWER – ENERGY FACILITY PLAN

### §20:10:21:02 Ten-year Plans

This submittal is for Black Hills Power, Inc. d/b/a Black Hills Energy ("BHP", "Company" or "Black Hills Power") subsequent biennial report of the ten-year plan which will restate each area required by the South Dakota Public Utilities Commission ("Commission") Rule, Chapter 20:10:21.

### §20:10:21:03 Contents of Plans

BHP's plan contains all sections from §20:10:21:02 - §20:10:21:25.

### §20:10:21:04 Existing Energy Conversion Facilities

1. The Ben French facility is located in Pennington County in the Northwest area of Rapid City, along Deadwood Avenue (393). The site is located in Section 34, Township 2N, Range 7E. The Ben French site has a combination of four (4) combustion turbines and five (5) internal combustion diesels.

The name plate rating and net capacity of the units are:

UNIT TYPE	# OF UNITS	GENERATOR RATING	NET RATING	PRIMARY FUEL
Combustion Turbine	4	25 MW each	20 MW each	Diesel Fuel Oil Natural Gas
Internal Combustion Diesels	5	2 MW each	2 MW each	Diesel Fuel Oil
TOTAL	9	110	90	

The 2022 and 2023 net Megawatt (MWH) generation of these units was:

TYPE	2022 MWH's	2023 MWH's
Combustion Turbine Combined (MWH)	3,744	3,480
Internal Combustion Diesels Combined (MWH)	(348)	(396)

The water sources for this generating facility are private wells located on the property. The wells draw water from the Madison & Minnekahta Formations. The water usage from these wells during 2022 was 0.058 acre feet and 0.049 acre feet in the 2023 year for generation purposes.

The combustion turbines use Natural Gas as their primary fuel. Natural Gas is supplied from regional suppliers on a monthly bid basis and transported by Williston Basin Interstate Pipeline through the Krebs Border Station and by the new WBI Krebs Delivery Station at 655 Krebs Drive, Rapid City, SD in 2023. The combustion turbines consumed 61,964 MCF in 2022 and 63,924 MCF in 2023.

The fuel oil used by the combustion turbines and internal combustion diesels is supplied from regional refineries and delivered by truck to the Ben French complex. The combustion turbines used a total of 128,315 gallons in 2022 and 2,879 gallons in 2023. The Internal combustion diesels consumed a total of 6,576 gallons in 2022 and 2,695 gallons in 2023.

Consistent with its standard practice, Black Hills Power will evaluate the remaining useful life of the Ben French facility during the resource planning process and will make a recommendation in its 2024 Integrated Resource Plan ("IRP").

2. The Lange LM6000 combustion turbine unit is located in Pennington County in the northwest area of Rapid City, off Tatanka Drive at 2900 Lange Ranch Road. The site is located in the southwest quarter of the northeast quarter of Section 22, Township 2N, Range 7E.

The name plate rating and net capacity of the unit is:

UNIT TYPE	# OF UNITS	GENERATOR RATING	NET RATING	PRIMARY FUEL
Combustion Turbine	1	40 MW	38 MW	Natural Gas

The 2022 and 2023 net MWH generation for this facility was as follows:

TYPE	2022 MWH's	2023MWH's
Combustion Turbine	27,683	38,170

The water source for the Lange facility is provided by a private well in the Minnelusa formation. The water usage was 7.9522-acre feet in 2022 and 8.1387-acre feet in 2023. The combustion turbines natural gas is supplied from regional suppliers on a monthly bid basis and transported by Williston Basin Interstate Pipeline through the Lange Border Station. The combustion turbines consumed 289,646 MCF in 2022 and 415,076 MCF in 2023.

There are no plans to retire the Lange facility.



### §20:10:21:05 Proposed Energy Conversion Facilities

Black Hills Power is in the process of finalizing its 2024 Integrated Resource Plan ("IRP") and anticipates the IRP will identify a need for utility owned generation.

### §20:10:21:06 Existing Transmission Facilities

Black Hills Power is an investor-owned utility that operates and owns, with Basin Electric Power Cooperative ("Basin Electric") and Powder River Energy Corporation ("PreCorp"), a looped 230kV transmission system which includes the AC/DC/AC converter station located in Rapid City, South Dakota. The 69 kV transmission system is supported by the 230 kV transmission system with substations in Spearfish, Lead, Rapid City, Hot Springs, South Dakota, and Gillette, Wyoming; and supported by generation located in South Dakota and Wyoming. Power is also delivered through transmission interconnections with other systems. The interconnecting points to other systems are at or near Stegall, Nebraska, Wright, Wyoming, Sheridan, Wyoming, Glenrock, Wyoming and Gillette, Wyoming.

LOCATION	TYPE	CONDUCTOR	VOLTAGE
<b>SOUTH DAKOTA</b>			
Wyodak-Lookout	H-Wood	1272 KCM ACSR	230 kV
Lookout-Lange	H-Wood	1272 KCM ACSR	230 kV
Lange-West Hill	H-Wood	1275 KCM ACSR	230 kV
West Rapid Tap – West Rapid	SP-Steel	1272 KCM ACSR	230 kV
Lange – West Rapid Tap	H-Wood	1272 KCM ACSR	230 kV
West Rapid Tap – South Rapid	H-Wood	1272 KCM ACSR	230 kV
South Rapid – West Hill	H-Wood	1272 KCM ACSR	230 kV
West Hill-Minnekahta	H-Wood	1272 KCM ACSR	230 kV
Sagebrush-Minnekahta	H-Wood	1272 KCM ACSR	230 kV
Lange-Ben French	H-Wood	795 KCM ACSR	69 kV
DC Tie West-South Rapid City	SP-Steel	1272 KCM ACSR	230 kV
Osage-Yellowcreek	H-Wood	1272 KCM ACSR	230 kV
Osage-Lange	H-Wood	1272 KCM ACSR	230 kV
Fall River-Stegall	H-Wood	1272 KCM ACSR	230 kV
West Hill-Fall River	H-Wood	1272 KCM ACSR	230 kV
<b>WYOMING</b>			
Wyodak-Lookout	H-Wood	1272 KCM ACSR	230 kV
Osage-Sagebrush	H-Wood	1272 KCM ACSR	230 kV
Sagebrush-Minnekahta	H-Wood	1272 KCM ACSR	230 kV
Osage-Wyodak	H-Wood	1272 KCM ACSR	230 kV
Neil Simpson 1–Neil Simpson 2	SP-Steel	795 KCM ACSR	69 kV
Osage-Yellow Creek	H-Wood	1272 KCM ACSR	230 kV

Neil Simpson 1-Wyodak	H-Wood	795 KCM ACSR	69 kV
Donkey Creek-Pumpkin Buttes	H-Wood	1272 KCM ACSR	230 kV
Wygen 3-Donkey Creek	SP-Steel	1272 KCM ACSR	230 kV
Pumpkin Buttes-Windstar	H-Steel	1272 KCM ACSR	230 kV
Windstar-Dave Johnson	H-Steel	1272 KCM ACSR	230 kV
Donkey Creek-Wyodak Tie Line #2	Steel	1272 KCM ACSR	230 kV
WY 1.14 Tap-Wyodak Baghouse	H-Wood	336.4 ACSR	230 kV
Teckla-Osage	H-Wood	1272 KCM ACSR	230 kV
Osage-Lange	H-Wood	1272 KCM ACSR	230 kV
<b>NEBRASKA</b>			
Fall River-Stegall	H-Wood	1272 KCM ACSR	230 kV

Retirement dates on these facilities have not been determined or anticipated at this time.

#### **§20:10:21:07 Proposed Transmission Facilities**

Black Hills Power does not currently have any proposed transmission facilities in its plan.

#### **§20:10:21:08 Coordination of Plans**

Black Hills Power is a member of Western Electricity Coordinating Council ("WECC") and reports regional information through this agency. Black Hills Power is also a member of the WestConnect Planning Management Committee and actively participates in the sub-regional Colorado Coordinated Planning Group ("CCPG"). WestConnect and CCPG are recognized sub-regional planning groups within the WECC.

Black Hills Power, Basin Electric and PreCorp through participation in a Federal Energy Regulatory Commission ("FERC") filed "Common Use System ("CUS") Open-Access Transmission Tariff" ("JOATT") perform joint planning studies on their facilities that serve loads in South Dakota and Wyoming. Per FERC Order 890, the CUS filed a revised Attachment K to its JOATT on December 7, 2007 outlining its planning process and establishing the CUS Transmission Coordination and Planning Committee ("TCPC"). This committee is open to all transmission customers and stakeholders, including regulators, with the intent to share information on the CUS transmission planning process and study results. Members of the TCPC include transmission customers, neighboring utilities and state regulators.

#### **§20:10:21:09 Single Regional Plans**

Black Hills Power, Basin Electric and PreCorp own and operate a joint transmission system within the Black Hills and portions of the NE Wyoming region. The three companies jointly plan, coordinate and expand the transmission system to ensure

reliable service to our customers. The proposed facilities mentioned in Section 20:10:21:07 are incorporated into a single plan for the Black Hills and NE Wyoming region.

#### **§20:10:21:10 Submission of Regional Plan**

As future joint transmission studies between Black Hills Power, Basin Electric and PRECorp are completed and show the need for additional facilities to support regional loads, those study(s) will be submitted to the South Dakota Public Utilities Commission ("Commission").

#### **§20:10:21:11 Utility Relationships**

Black Hills Power has AC interconnections with PacifiCorp ("PAC") and Western Area Power Administration – Rocky Mountain Region ("WAPA-RMR").

Black Hills Power is a member of Western Electricity Coordinating Council ("WECC"), WSPP, Inc., North American Energy Markets Association ("NAEMA") and also belongs to the Rocky Mountain Reliability Corporation ("RMRC"). Black Hills Power participates in the Northwest Power Pool ("NWPP") through a sub-entity agreement with WAPA-RMR.

Black Hills Power has transmission agreements with the following utilities: Basin Electric, PAC, WAPA-RMR, PreCorp, Butte Electric Cooperative ("Butte Electric") and Black Hills Electric Cooperative ("Black Hills Electric").

#### **§20:10:21:12 Efforts to Minimize Adverse Effects**

##### **Environmental**

Black Hills Energy is committed to providing safe, reliable, and affordable energy in a manner that ensures the highest priority for protection of the environment as well as the health and welfare of our customers, general public and our employees. Our outstanding environmental compliance provides protection of our natural environment for present and future generations to enjoy. Energy development in the West requires a strong commitment to the protection of our natural resources. We have and will continue to work closely with state and federal agencies to ensure our projects have minimal impact on these resources.

Black Hills Energy's environmental practice is implemented through the principles of our environmental management system:

- The Board of Directors established a goal for the CEO of zero non-compliance for all environmental activities.
- The Board of Directors are updated regularly regarding the status of our environmental and safety compliance programs.



- All management and employees are committed to continuous environmental compliance by providing the resources required to meet this goal.
- Operations are conducted in a manner that ensures meeting or surpassing applicable environmental rules and standards. Operations are monitored to strive to cost-effectively meet requirements and minimize corporate risk and liability.
- Annual training is provided to all employees to ensure knowledge of environmental compliance requirements related to their job duties.
- We participate in the development of new technologies in a manner that provides for customer and shareholder value.
- We strive to create partnerships with policy makers, both at the Federal and State level, to develop the best environmental outcome viable is achieved and to ensure customer and shareholder values are represented.

### Social

All Black Hills Power employees are encouraged to provide leadership to local civic and charitable organizations. The Company has an active program to encourage employees to support the United Way Program financially and with donated time.

### Public Safety

Black Hills Power conducts public safety educational programs throughout the public schools, local civic organizations, local contractors associations and through local media plus safety links on our website. The Company continues to offer power plant tours in Wyoming, as security issues permit, to schools and organizations wanting to learn more about the production of electricity. The Company does not offer plant tours in South Dakota due to NERC CIP regulations.

### **§20:10:21:13    Efforts Relating to Load Management**

Residential customers are offered an optional demand service rate in combination with the installation of a demand controller that limits their on-peak energy use. Over 4,000 residential customers take advantage of this rate.

Commercial customers can take advantage of Black Hills Power's Energy Storage rate for heat storage, ice storage, battery charging, water heating and geothermal heat pump systems. Larger commercial and industrial customers can shift load to off-peak periods to improve their load factor. Commercial and Industrial ("C&I") customers are offered assistance with load monitoring, power factor analysis, energy use calculations and rate analysis.

### **§20:10:21:14    List of Reports**

As stated in Section §20:10:21:05, Black Hills Power is in the process of finalizing its 2024 Integrated Resource Plan ("IRP") and anticipates the IRP will identify a need for



utility owned generation. Black Hills Power will provide the Commission with a copy of the IRP once finalized.

#### **§20:10:21:15 Changes in Status of Facilities**

There have been no major changes in status of any transmission or transmission substation infrastructure since the last biennial plan filing.

#### **§20:10:21:16 and §20:10:21:17 Projected Electric Demand & Change in Electric Energy**

Black Hills Power's projected electric demand and electric energy and change in are shown below in Table 1 and 2. The tables show projected data for the years 2024-2033, the projected data is from BHPs 2021 IRP. These projections do not include the City of Gillette or the City of Sheridan.

**Table 1  
BHP Peak Demand and Energy Forecast 2024-2033**

<b>Year</b>	<b>Peak Demand (MW)</b>	<b>Annual Energy (MWh)</b>
2024	379	2,041,755
2025	377	2,014,141
2026	377	2,005,311
2027	380	2,012,378
2028	383	2,022,806
2029	385	2,034,011
2030	387	2,032,940
2031	389	2,034,151
2032	390	2,034,999
2033	392	2,035,423

**Table 2  
BHP Change in Peak Demand and Energy 2024-2033**

<b>Year</b>	<b>Change in Peak Demand</b>		<b>Change in Annual Energy</b>	
2024				
2025	-2	-0.53%	-27,614	-1.35%
2026	0	0.00%	-8,830	-0.44%
2027	3	0.80%	7,067	0.35%
2028	3	0.79%	10,428	0.52%
2029	2	0.52%	11,205	0.55%
2030	2	0.52%	-1,071	0.05%
2031	2	0.52%	1,211	0.06%
2032	1	0.26%	848	0.04%

2033	2	0.51%	424	0.02%
------	---	-------	-----	-------

#### **§20:10:21:18 Map of Service Area**

The map for Black Hills Powers service area is included as Exhibit 1.

#### **§20:10:21:19 Individual Utility Plans**

Black Hills Power submits its own plan, which is contained herein.

#### **§20:10:21:20 Biennial Filing**

Black Hills Power submits its' ten-year plan to the Commission on the 1st day of July 2024. This ten-year plan shall apply beginning with 2024 through 2033.

#### **§20:10:21:21 Subsequent Plans**

Subsequent biennial plans for Black Hills Power will be submitted to the Commission as stated when we have additions, deletions, or modifications. These plans shall be clearly cross-referenced to prior reports.

#### **§20:10:21:22 Places of Filing**

Ten (10) copies of Black Hills Power's ten-year plan shall be filed and are included herewith. Upon the PUC's request, Black Hills Power shall file within fifteen (15) days with each county auditor that the Commission designates.

#### **§20:10:21:23 Notice of Filing**

Black Hills Power shall comply with the PUC's determination of the notice of filing by public notice to the following state agencies (see below) and officers and, within ten (10) days of designation, to any other governmental agencies or bodies designated by the commission order.

- |   |   |
|---|---|
| (1) Aeronautics Commission                    | (2) Department of Agriculture and Natural Resources |
| (3) Attorney General                          | (4) Department of Commerce                          |
| (5) Governor's Office of Economic Development | (6) Department of Education and Cultural Affairs    |
| (7) State Engineer                            | (8) Department of Game, Fish and Parks              |
| (9) State Geologist                           | (10) Governor                                       |
| (11) Department of Health                     | (12) Indian Affairs Commission                      |
| (13) Department of Labor and Regulation       | (14) Legislative Research Council                   |

(15) Department of School and Public  
Lands

(16) Department of Transportation

**§20:10:21:24 Copy on Request**

Black Hills Power shall provide a copy of this plan, upon written request and without cost, to any agency or officer named in §20:10:21:23 or designated by the Commission under the provisions of any section.

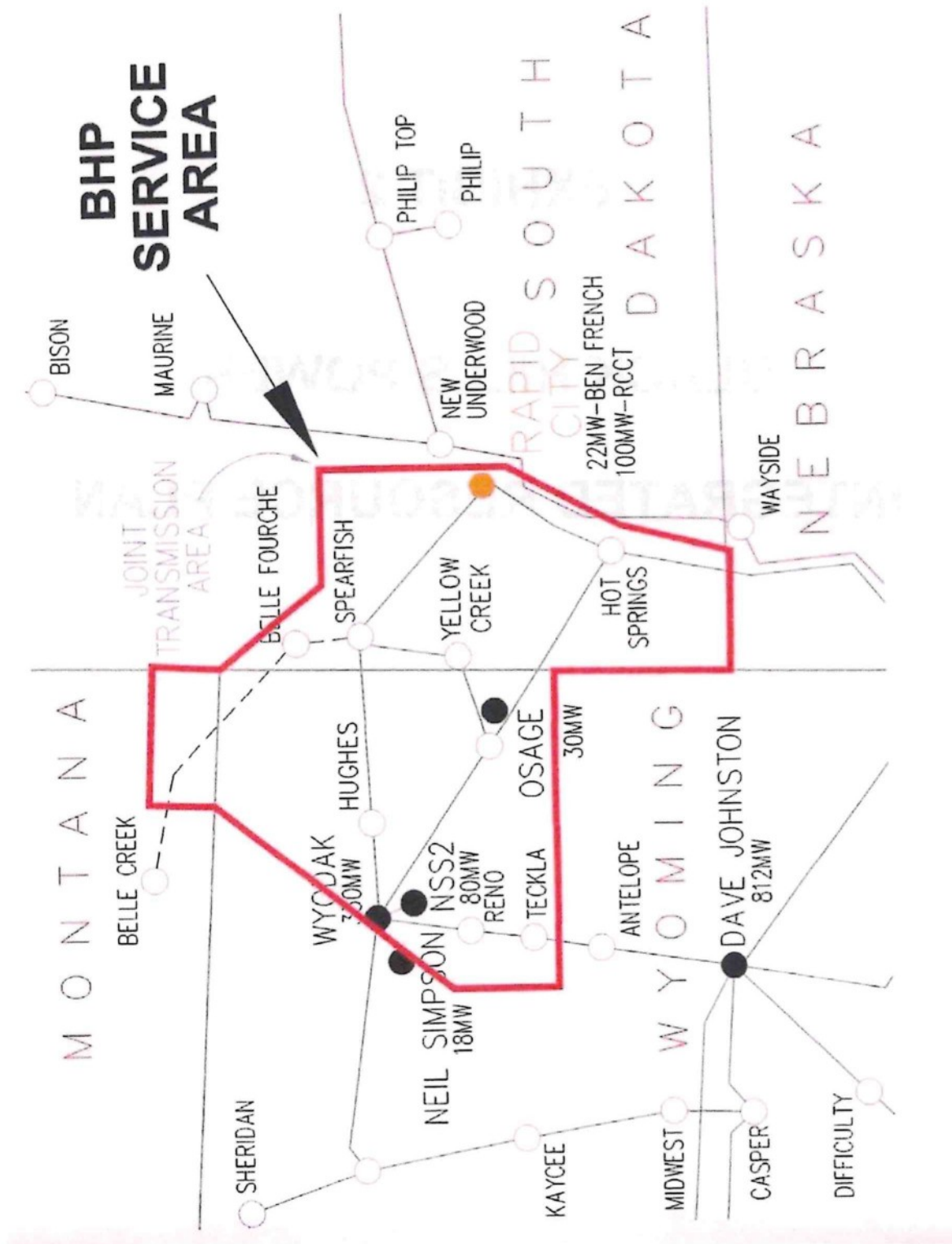
**§20:10:21:25 Form for Plans**

Black Hills Power's plan is submitted under this chapter in numeric sequence as requested. Our service area map is condensed to 8 ½ by 11 inches and is clearly marked for the Commissions use.



# **EXHIBIT 1**

## **BLACK HILLS POWER SERVICE AREA**



## **EXHIBIT 2**

# **BLACK HILLS POWER INTEGRATED RESOURCE PLAN**