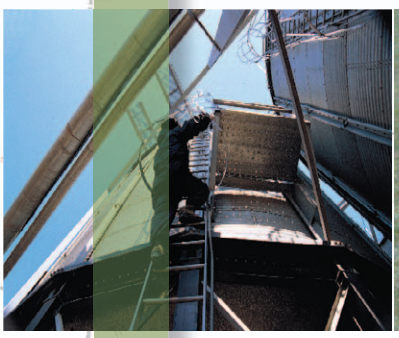
REQUEST FOR WAIVER OF PERMIT APPLICATION
FOR THE DRY FORK STATION

MAY 2006

PREPARED FOR:

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
INDUSTRIAL SITING DIVISION



PREPARED FOR:

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

PREPARED BY:

EDAW

CH2MHILL

Wyoming Industrial Development Information and Siting Act

Request for Waiver of Permit Application

Basin Electric Power Cooperative

Dry Fork Station

Prepared for:

BASIN ELECTRIC POWER COOPERATIVE
Your Touchstone® Energy Cooperative

Prepared by:

EDAW

May 2006

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List of Acronyms and Abbreviations

AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ACR	ACR Consultants, Inc.
BACT	Best Available Control Technology
BEPC	Basin Electric Power Cooperative
BLM	Bureau of Land Management
CBM	Coal Bed Methane
CFC	Cooperative Finance Corporation
CIP	Capital Improvements Plan
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DOE	Department of Employment
EIS	Environmental Impact Statement
FEIS	Final EIS
FEMA	Federal Emergency Management Agency
FGD	flue gas desulfurization
gpm	gallon per minute
I-25	Interstate 25
I-90	Interstate 90
IRS	Internal Revenue Service
ISC	Industrial Siting Council
kV	kilovolt
LNB	low NOx burner
LOS	level of service
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MMBtu/hr	Million British thermal units per hour
mph	miles per hour

MW	megawatts
MWh	MW hours
NEPA	National Environmental Policy Act
NOx	nitrogen oxides
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
OFA	overfire air
PC	Pulverized Coal
PJFF	pulse-jet cleaned fabric filter
PRB	Powder River Basin
PRECorp	Powder River Energy Corporation
PSD	Prevention of Significant Deterioration
RUS	Rural Utilities Service
RV	recreational vehicle
SCC	submerged chain conveyor
SCR	Selective Catalytic Reduction
SH	State Highway
SO_2	sulfur dioxide
SSURGO	Soil Survey Geographic Database
SWTSD	solid waste treatment, storage, and disposal
tph	tons per hour
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WDEQ	Wyoming Department of Environmental Quality
WIDISA	Wyoming Industrial Development and Siting Act
WSEO	Wyoming State Engineer’s Office
WYDOT	Wyoming Department of Transportation
WYGF	Wyoming Game and Fish Department
WYNDD	Wyoming Natural Diversity Database

1.0 Executive Summary

1.1 Introduction

Basin Electric Power Cooperative (Basin Electric or BEPC) is submitting a Request for Waiver of Permit Application pursuant to Wyoming Statute 35-12-107. This application addresses the project description, location, schedule, cost, purpose, need, and benefit. Summary information regarding socioeconomic conditions, impacts within the project area, potential environmental impacts, and plans for alleviating any identified impacts are also addressed.

Basin Electric has contacted the potentially affected municipalities, counties, state agencies, and other stakeholders. Contact information is provided in **Table 5** starting on page 40. Letters of support are included in Appendix A.

1.2 Project Background

Basin Electric prepared a Project Justification Report for the U.S. Department of Agriculture and Rural Utilities Service (RUS) in December 2004 and July 2005. The purpose of the report was to summarize and assess electric system loads and to illustrate the purpose and need for a new baseload generating resource in Northeast Wyoming.

The initial report was completed in December 2004 using the current RUS-approved load forecast process (May 2004 Load Forecast) and determined which alternative was the most economically viable and technically feasible. The report was developed pursuant to RUS requirements for an Alternative Evaluation Study and the RUS Loan Financing document for the Project Justification. The technical analysis evaluated possible alternatives for capacity expansion. The following alternatives were included:

- Energy conservation and efficiency
- Renewable energy sources
- Wind
- Solar
- Hydroelectric
- Geothermal
- Biomass
- Fossil-fueled generation (natural gas simple-cycle combustion turbine, natural gas combined-cycle combustion turbine, microturbines, and coal)
- Repowering/uprating of existing generating units
- Participation in another utility's generation project
- Purchased power and new transmission capacity

The alternatives that met capacity needs and that were commercially and technically feasible in northeast Wyoming were evaluated in more detail. A Production Cost Model was applied to evaluate the alternatives to determine the most economical option for Basin Electric. Based on the technical and economic analysis, a 250 megawatt (MW) coal resource was the best option.

A new Load Forecast in 2005 reflected an increase in member load. Basin Electric reevaluated the capacity size of the unit. This reevaluation showed that a coal-based resource was still the preferred alternative; however, a larger unit would be needed to meet capacity demands. The project will include a transmission interconnection that will tap into a proposed 230-kilovolt (kV) transmission line, referred to as the Hughes Transmission Project.

1.3 Project Location and Description

The Dry Fork Station Unit 1 is a 422-gross MW coal-based electric generation facility located in northeastern Wyoming. The maximum net rating for the Dry Fork Station is 385 MW. The project will be constructed and operated by Basin Electric. The approximately 353-acre site is located 7 miles north of the city of Gillette in Campbell County (Township 51N, Range 72W, S ½ of SW ¼ Section 13, N ½ Section 24, NE ¼ Section 23). The property is bounded by State Highway (SH) 59 to the north; SH 59 and coal mining operations to the west; and a rail line and mining operations to the south and east. The predominate surrounding land use is coal mining operations. Ranch land and other rural land uses are found outside of the coal mining operations.

The proposed power plant will be a mine-mouth facility using coal-combustion technology and dry cooling that will operate as a baseload facility with a minimum 85 percent capacity factor. The estimated online life of the facility is 60 years. The power plant site allows for the future construction of a second unit (Unit 2) as member electric loads increase; however, at this time, construction of the second unit is uncertain.

The major components of a coal-based power plant include a boiler; steam turbine; air cooled (dry cooling) condenser; exhaust stack; wastewater recycle surge pond(s); switchyard; transmission line; administrative, maintenance, and warehouse buildings; and ancillary facilities for fuel handling and ash collection.

Process and potable water will be obtained from groundwater sources. A well field will be constructed as part of the project that will consist of wells, piping, and pumps. It is anticipated this well field will be located in proximity to the plant site. Groundwater will be required for the life of the power plant. The plant will use “dry cooling,” which minimizes water usage. The Wyoming State Engineer’s Office has given its final opinion pursuant to Wyoming Statute 35-12-108 indicating that sufficient water is available. (See Appendix B.)

Ash, a by-product of coal combustion, will be returned to the Dry Fork Mine for disposal.

1.4 Schedule and Cost

Power plant construction is scheduled to begin in 2007, pending the result of the permitting activities, and the power plant is scheduled to be operational by 2011. The total cost of the project is estimated to be approximately $860,000,000.

1.5 Workforce Requirements

Basin Electric anticipates that 1,019 construction workers will be employed during peak construction activities. Approximately 78 percent of the workers (795) will consist of an import workforce, and approximately 22 percent of the workers (224) will come from the Gillette area. Upon completion, operation of the plant will require approximately 75 full-time employees.

Basin Electric anticipates a 42-month construction period for Unit 1.

1.6 Socioeconomic Impacts

The purpose of the Socioeconomic Impact Analysis was to supply information to the Industrial Siting Council (ISC) regarding socioeconomic impacts of the project.

The Socioeconomic Impact Analysis evaluated the benefits and impacts to the social and economic resources in the Study Area, including the benefits related to the tax structure, direct employee opportunities, and indirect employment benefits.

The analysis of the impacts included the effects on the following:

- Housing
- Public safety and security
- Municipal services
- Educational facilities
- Health resources
- Transportation systems

To measure potential impacts, the analysis compared the expected future conditions in the Study Area with and without the project. The Study Area was defined as comprising the following six counties that surround the site:

- Campbell
- Converse
- Sheridan
- Crook
- Johnson
- Weston

The counties included in the Study Area were determined in cooperation with the ISC.

The following economic benefits to the communities in the potential impact area were identified:

- Increased and stable employment
- Increased sales and use taxes on materials required for construction

- Increased need for goods and services
- Increased ad valorem property tax revenue

1.7 Environmental Impacts

Environmental impacts due to construction, operation, and maintenance of the project were analyzed. Resource data was collected to identify the characteristics of and to evaluate impacts on the natural environment, including:

- Air Quality and Noise
- Soil Resources
- Cultural Resources
- Vegetation
- Geological Hazards
- Surface and Groundwater Resources
- Land Use and Recreation
- Wetland Resources
- Visual Resources
- Wildlife Resources
- Mineral Resources
- Threatened, Endangered, Proposed, and Candidate Species

2.0 Introduction

Basin Electric, established in 1961 and headquartered in Bismarck, North Dakota, is one of the largest electric generation and transmission cooperatives in the United States. Basin Electric's core business is wholesale generation and transmission of electricity, on a not-for-profit basis, to its 120-member cooperatives in nine states. The service territory includes parts of Wyoming, Montana, Colorado, New Mexico, Nebraska, North Dakota, South Dakota, Minnesota, and Iowa. (See **Figure 1 Basin Electric Service Territory.**) Basin Electric's member cooperatives distribute electricity to approximately 1.8 million consumers.

Basin Electric proposes to construct a 422-gross MW baseload coal-based power plant near Gillette, Wyoming. The facility will operate as a baseload unit with a minimum 85 percent capacity factor. The proposed power plant will be mine-mouth using a coal combustion technology and dry cooling. This site was selected to locate the new power plant in proximity to the fuel source.

The new power plant is needed to meet a growing demand for electricity by customers in the western portion of Basin Electric's nine-state service area.

The site allows for the future construction of a second unit (Unit 2); however, at this time, construction of the second unit is uncertain.

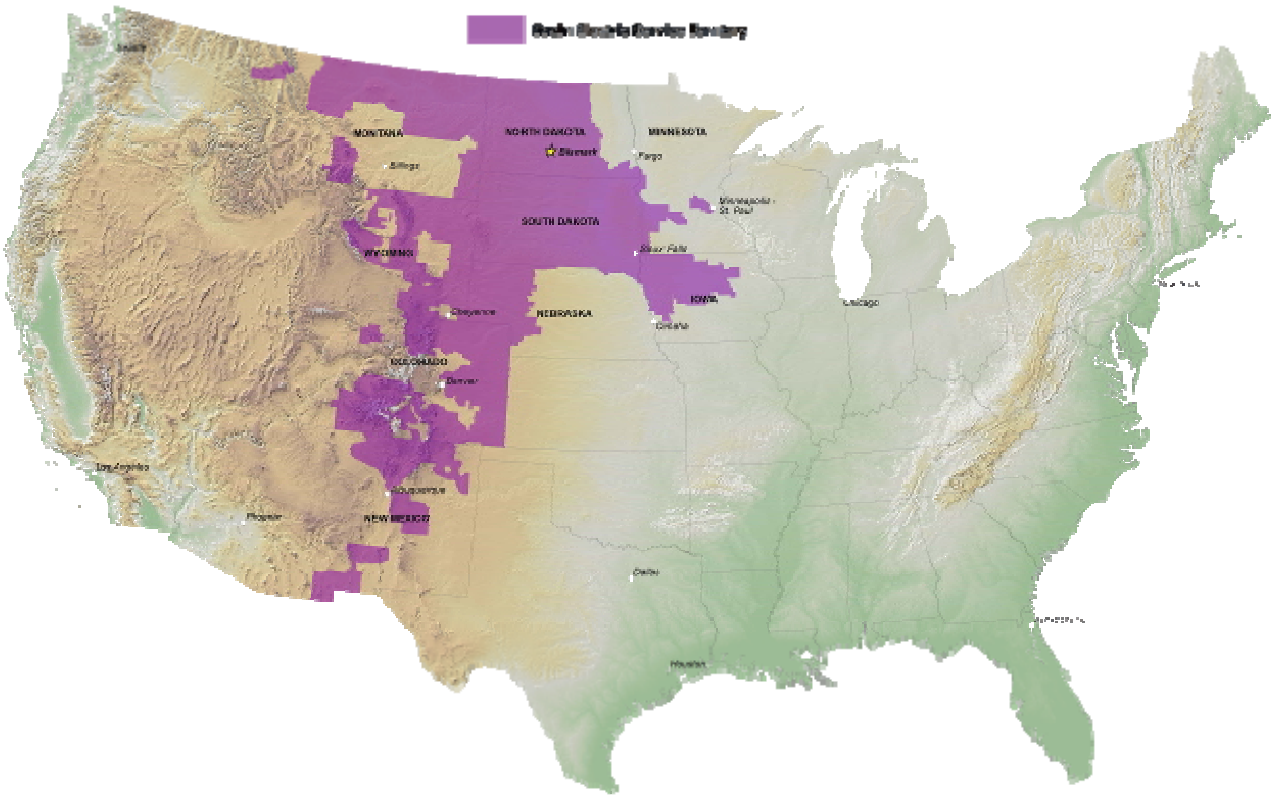

Figure 1 Basin Electric Service Territory

3.0 Purpose, Need, and Benefit

3.1 Purpose and Need

Basin Electric prepares projections for the RUS on a bi-annual basis for its 120-member cooperatives' long-range power requirements to ensure that adequate generation resources are available to meet the needs of its consumers. These projections demonstrate that Basin Electric's member cooperatives will need additional electrical generation as early as 2011. The proposed project is a direct result of Basin Electric's analysis and responsibility to serve its members.

Over the past 5 years, Basin Electric's power supply obligation to its member systems has grown by 28 percent, an increase of 331 MW. The increasing use of electricity in Basin Electric's member service area is caused by several factors, including industrial growth, energy-sector (coal, oil, and gas) development, and new rural load development. New housing also has resulted in increased generation needs due to population growth. A significant portion of this growth is anticipated to occur in northeast Wyoming, mainly due to Coal Bed Methane (CBM) extraction.

Between 1999 and 2003, Basin Electric's member energy sales and member peak demand increased from 1,195 MW to 1,526 MW, which is an average annual increase of 83 MW. During the same period, Basin Electric's member energy sales total demand increased from 6,538,312 MW hours (MWh) to 9,154,581 MWh, which is an average annual increase of 654,000 MWh. The average increase in system energy sales requires a 90 percent capacity factor from the average in peak demand. This indicates that Basin Electric is adding load at a capacity factor that is best served by baseload generation sources.

The project will improve Basin Electric's ability to provide low-cost, reliable electricity to its member systems and their consumers.

3.2 Benefits

Communities near power plant projects realize economic benefits, including:

- Job creation and stable employment
- Increased sales tax revenues from temporary and permanent employees during construction and operation
- Increased need for goods and services
- Increased property tax revenues
- Increased sales and use tax revenue from material used in power plant construction

3.2.1 Employment

Basin Electric anticipates that an average of 476 workers and a peak of 1,019 construction workers will be employed during the construction of the project. Approximately 224 of these workers will come from the Gillette area and approximately 795 workers will be from an import workforce. Employment opportunities may consist of:

- Brick Layers/Cement Workers
- Boilermakers
- Carpenters
- Electricians
- Ironworkers
- Surveyors
- Laborers
- Millwrights
- Operating Engineers
- Painters
- Pipefitters
- Sheetmetal Workers
- Truck Drivers

Upon completion, the operation of the plant will require approximately 75 full-time employees. Employment opportunities may include the following:

- Plant Manager
- Supervisors
- Planner/Analyst
- Operations Manager
- Maintenance Manager
- Control Systems Specialists
- Operations Shift Leaders
- Plant Engineers
- Plant Operators and Trainees
- Lab/Instrument/Equipment Technicians
- Maintenance Foremen
- Mechanics
- Electricians
- Coal Handlers

A long-term benefit of the project comes from permanent employees who will operate the power plant. These employees add income to the local economy. In addition, the taxes paid by Basin Electric and these employees contribute to the economic health of the region.

Basin Electric intends to use local workers and will use the local workforce center, when possible, to screen job applicants for skilled and unskilled labor. However, the results of the Socioeconomic Impact Analysis indicate that there is a shortage of skilled crafts persons and specialized workers in the general area of the project. Therefore, it is anticipated that the majority of the skilled crafts workers will come from out of the area during the construction phase. To identify housing alternative options for the estimated 795 workers who will comprise the import workforce, Basin Electric is currently working with local authorities and private companies to secure and develop housing options.

3.2.2 Purchase of Goods and Services

The construction and operation of the power plant will result in the purchase of goods and services, both for the power plant and for the needs of workers. Goods and services during construction will be obtained from various local and national vendors.

3.2.3 Taxes

The property taxes that Basin Electric will pay for the project will contribute to the economic health of the region. The taxes assessed on the project will depend on a number of factors, including industrial property valuation, mill levy, pollution control equipment exemptions, allocation factor, and obsolescence factor. Basin Electric estimates that, when combined, these factors will result in a property tax assessment equal to approximately 0.275 percent of the total value of construction work in progress. The resulting estimate of total property tax assessments during the construction phase is presented in Section 5.4.4.2.

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4.0 Siting Study Summary

The Site Selection Study began with the delineation of a Study Area that included the northern and central Powder River Basin (PRB) coal mines located to the northeast and southeast of Gillette, Wyoming.

The Site Selection Study was conducted in three phases:

- Phase 1 - Resource data collection and identification of opportunities and constraints
- Phase 2 - Suitability analysis to identify candidate sites
- Phase 3 - Comparative analysis and site selection

4.1 Phase 1 – Identification of Opportunities and Constraints

The Site Selection Study was developed to identify site opportunities and constraints with the least overall land use and environmental impacts. In addition, the Site Selection Study included a range of other considerations. (See Section 4.1.1. below.)

The primary objective of the opportunity and constraint phase was to reduce the 883-square-mile project area (see **Figure 2 Project Area**) to potential siting areas that would provide the highest level of compatibility with a comprehensive set of criteria. To achieve this objective, opportunity and constraint criteria were identified. These criteria were analyzed and composites were prepared to identify areas of highest opportunity. Specific sites were then identified from the areas of highest opportunity in subsequent phases of the study.

4.1.1 Siting Considerations

Basin Electric conducted a comprehensive siting process that considered input from various aspects including:

- Electric system planning
- Economics
- Environment
- Public involvement
- Legal/permits
- Power plant and transmission engineering
- Acquisition of land rights

The process of considering these aspects is shown in **Figure 3 Approach to Siting and Permitting** and is described in the sections that follow.

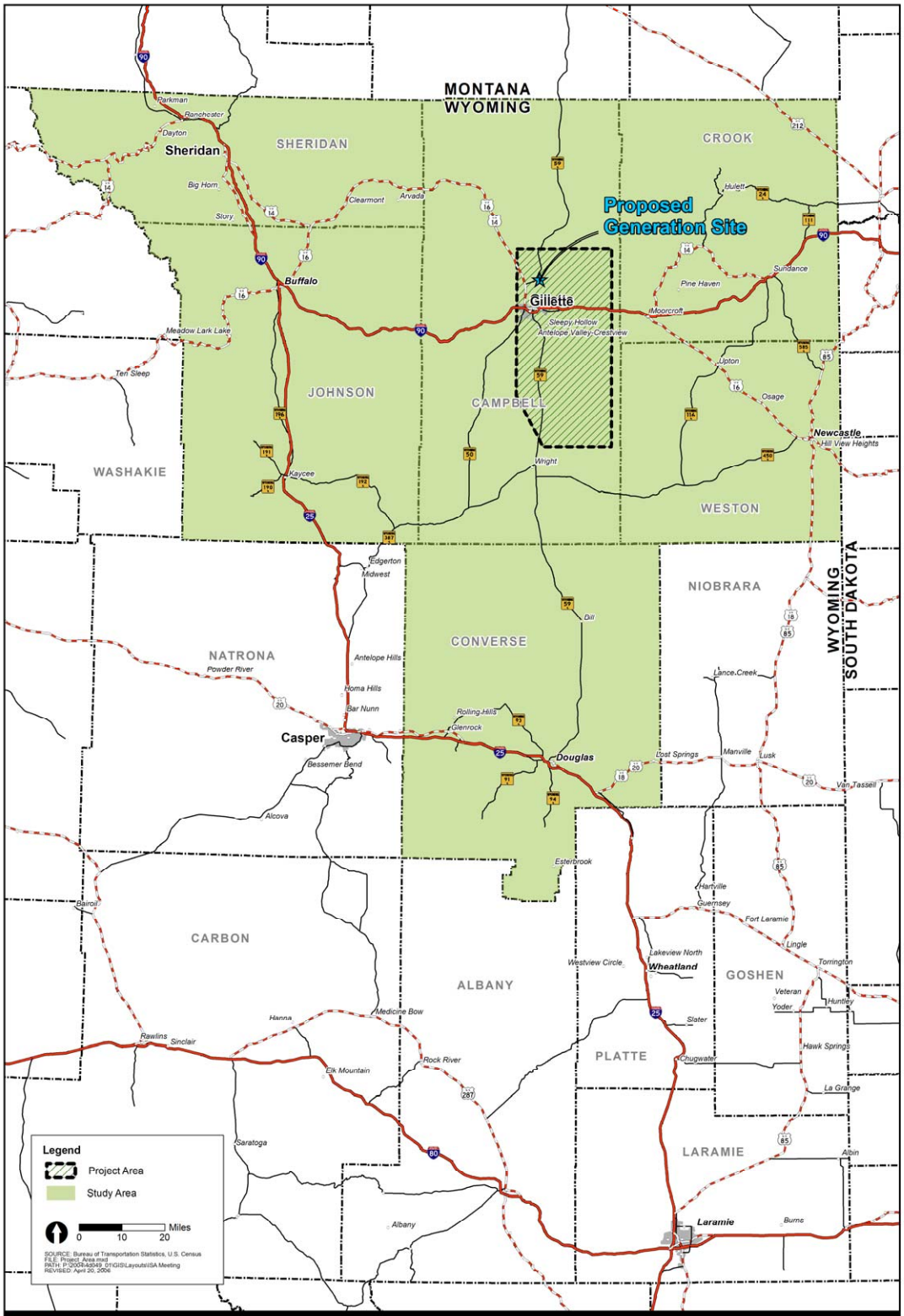


Figure 2 Project Area

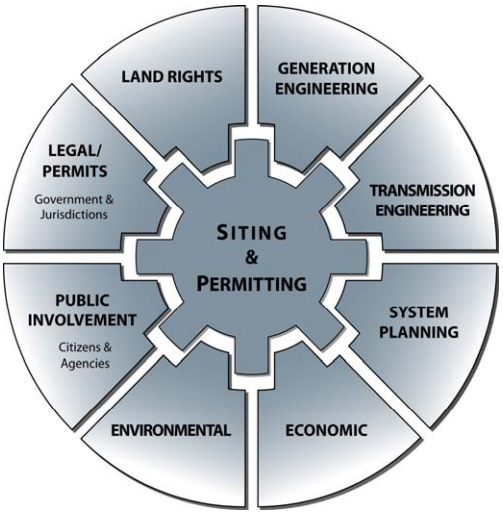


Figure 3 Approach to Siting and Permitting

4.1.1.1 Electric System Planning

Basin Electric continually evaluates the performance of its electric system to identify the need and general location for new capacity or improved reliability. The analysis of alternatives included consideration of reliability, timing, potential impacts to other system components, and the ability to maintain continuity of service under potential outage conditions.

4.1.1.2 Economics

Basin Electric has an obligation to its member consumers to operate in a financially responsible manner. When a need for new infrastructure is identified, Basin Electric considers the relative cost of alternatives including initial capital costs and ongoing operational and maintenance costs.

4.1.1.3 Environmental

Basin Electric conducts detailed assessments of potential environmental impacts of new electric facilities as part of the siting process. Basin Electric collects resource data and identifies the characteristics of the natural and human environment of a project area. It also identifies environmental opportunities and constraints. Through this interactive process, Basin Electric assesses the relative impact of these criteria on the overall evaluation of alternatives and the project decision.

4.1.1.4 Public Involvement

Basin Electric has involved the public in the siting process for this project. Public involvement helps to identify the values, concerns, and interests of the community. The value of public involvement is to facilitate understanding of the project and the process that is undertaken to identify alternatives, assess impacts, and integrate and consider the other sources of input into the siting process.

4.1.1.5 Legal/Permits

Legal considerations are important in acquiring necessary land rights. Permits may be required from local, state, or federal governments for the construction of new electric facilities. Submittal requirements and permit procedures also influence the identification of opportunities and constraints for project alternatives and the project schedule. **Table 1** is a summary list of the primary preconstruction permits.

Table 1 Major Federal and State Permits, Approvals, and Consultations Potentially Required for the Dry Fork Station Project

Jurisdiction	Permit / Decision / Action
Federal	
Federal Aviation Administration	Title 14 Code of Federal Regulations, Part 77, Objects Affecting Navigable Airspace
U.S. Army Corp of Engineers	Section 404 / Nationwide Permit 12
U.S. Fish And Wildlife Service	Section 7 Consultation
U.S. Department of Agriculture - Rural Utilities Service	NEPA / 7 CFR part 1794
State	
Wyoming Department of Environmental Quality (WDEQ)	Wyoming Industrial Development Information and Siting Act, Request for Wavier of Permit
	PSD Air Construction Permit: PSD permitting requirements will include the following:
	Best Available Control Technology (BACT) application
	Clean Air Mercury Rule (CAMR) analysis
	Class I areas impact analyses using long-range transport modeling (using the CALPUFF modeling system)
	Ambient air quality analyses and modeling for Class II areas (using the ISCST3 or AERMOD dispersion models)
	Analyses of impacts to soils, vegetation, and visibility
	Title IV Acid Rain Permit
	Title V Operating Permit
	Construction Stormwater Discharge Permit
	NPDES Stormwater Discharge Permit
	Permit to Construct (Evaporation Ponds, Surface Impounds, Septic Systems)
	Section 401 Water Quality Certification
	Solid Waste Disposal Industrial Landfill Permit (through WDEQ Land Quality Division)
	Spill Prevention, Containment and Counter Measures Plan
	Underground Storage Tank Registration
Wyoming Office of the State Engineer	Water Appropriation Permit
Wyoming Department of Transportation	Access Permit
Wyoming State Historic Preservation Office	Determination of Compliance with National Historic Preservation Act (NHPA) Section 106

4.1.1.6 Engineering

Engineering input is vital to the siting process to ensure that construction and operation of a given alternative is reliable, safe, and able to be maintained effectively.

4.1.1.7 Land Rights

Siting new electric facilities requires necessary land rights for project facilities, including access, construction, operation, and maintenance. The costs associated with purchasing properties in fee or with obtaining new rights-of-way is an economic component of the siting process.

4.2 Phase 2 – Suitability Analysis to Identify Candidate Sites

The highest opportunity siting areas from Phase 1 were analyzed in more detail in Phase 2. The objectives of Phase 2 were to:

- Identify specific sites for the generation site within the opportunity areas identified in Phase 1
- Compare the general characteristics of potential alternative sites
- Conduct field reconnaissance of the alternative sites to "ground truth" the data used in the analysis
- Develop a short-list of candidate sites to be analyzed in Phase 3

Thirty-three potential sites were identified prior to site reconnaissance. Three additional sites were identified during site reconnaissance, field observation, and discussions with mine operators. Ground truthing the resource information focused on identifying:

- Land area within a floodplain;
- Surface water or drainage precluding a larger area of use;
- Ecological sensitivities;
- Potential for hazardous contamination;
- Visual sensitivity based on elevation, topography, and/or viewpoints;
- Current and adjacent land use compatibility, including structures within 0.5 mile;
- Overall feasibility of a transmission interconnection, conveyor for fuel delivery, solid waste disposal (primarily fly ash), road access, and rail access; and
- Sites that can accommodate plant facilities without unreasonable modification.

Based on the site reconnaissance evaluations, eight sites were identified for further detailed analysis.

4.3 Phase 3 – Comparative Analysis and Site Selection

Phase 3 of the site selection study consisted of a detailed comparative analysis of the eight candidate sites. During this process, it was determined that three of the eight candidate sites (Sites A, D, and G) could actually support two different alternative layouts. Thus, Phase 3 consisted of Sites A, A2, B, C, D, D2, E, F, G, G2, and H. (See **Figure 4 Candidate Sites.**) These sites were subjected to additional evaluation that included the quantification of the following site evaluation criteria:

- Land Use
- Environmental Considerations
- Site Layout and Operational Considerations
- Cost

Although each of the final alternative candidate sites were technically feasible, Basin Electric pursued evaluation of a preferred site and one alternative that met project objectives. Based on the total score for each Phase 3 criterion, Site H was selected as the preferred site. The selection of Site H as the preferred site was based on its overall relatively lower level of environmental, land use, and economic impacts when compared to the other candidate sites. In addition, because the proposed project is a mine-mouth facility, Site H was preferred due to its proximity to a suitable source of PRB sub-bituminous coal. Site A was selected as the alternative site because of its low cost to develop compared to other sites; its relatively lower level of environmental, operational, and land use impacts than the other sites; and its proximity to a coal source.

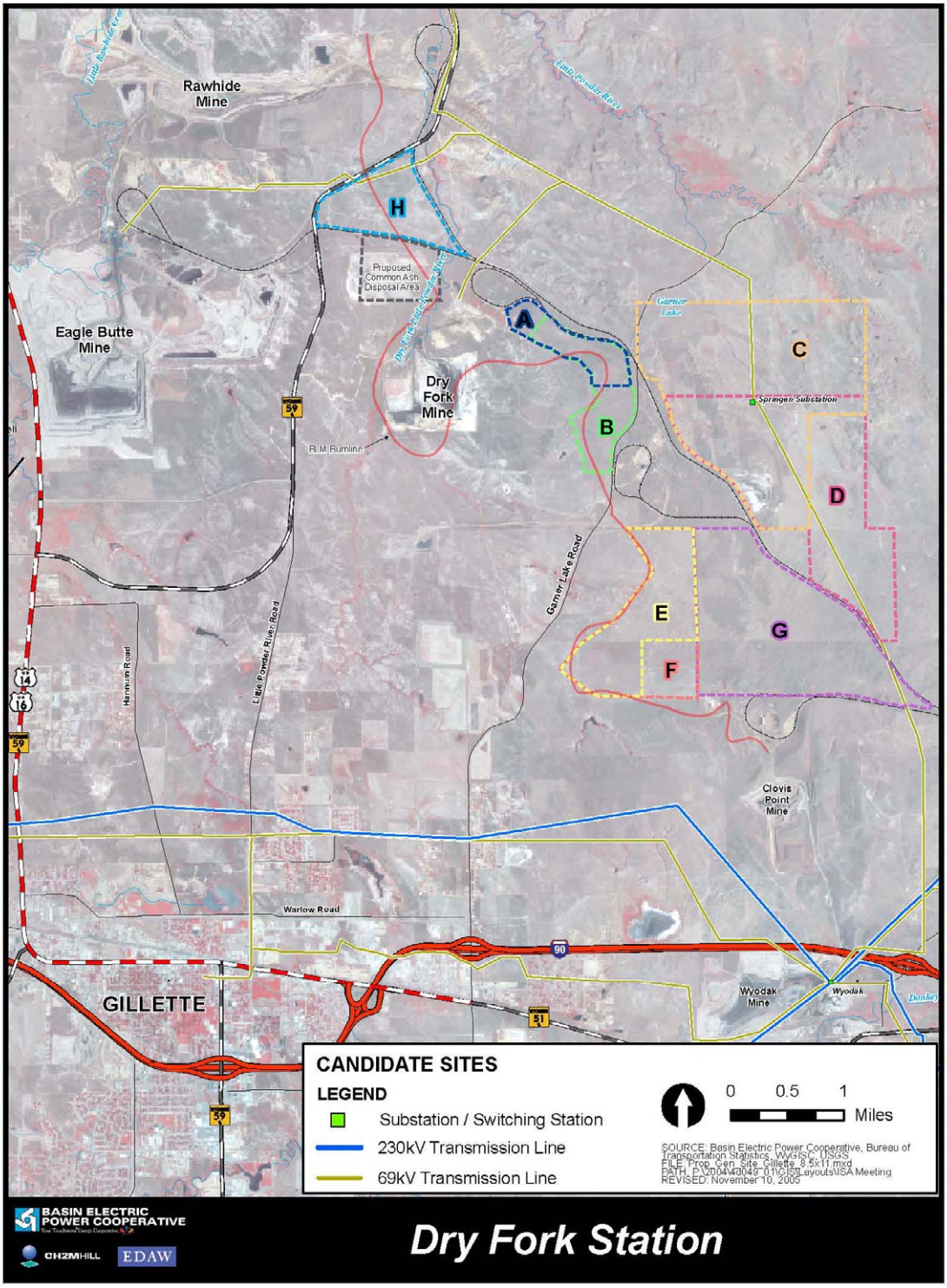


Figure 4 Candidate Sites

5.0 Request for Waiver of Permit Application

5.1 Applicant Information

The applicant is:

Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

Basin Electric is a regional wholesale electric generation and transmission cooperative corporation organized and existing under the laws of the State of North Dakota. Basin Electric is owned and controlled by the member cooperatives it serves. As the largest generation and transmission cooperative in the nation in terms of land area served, it provides wholesale, supplemental electric service to its 120-member cooperatives. The members' service territories encompass 430,000 square miles, spread over the states of Wyoming, Montana, Colorado, New Mexico, Nebraska, North Dakota, South Dakota, Minnesota, and Iowa. Approximately 1.8 million customers are served by Basin Electric's member cooperative systems.

The following managers have been designated by Basin Electric to be responsible for permitting and constructing the Dry Fork Station:

Mr. Clyde T. Bush, Project Manager
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

Mr. Curt Pearson, Project Coordinations Representative
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

Mr. James K. Miller, Manager of Environmental Services
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

5.2 Description and Location of the Facility

The project consists of a new 422-gross MW baseload coal-based power plant and associated transmission interconnection. The site that best meets the electric system requirements is 7 miles north of Gillette, Wyoming. (See **Figure 5 Proposed Generation Site.)**

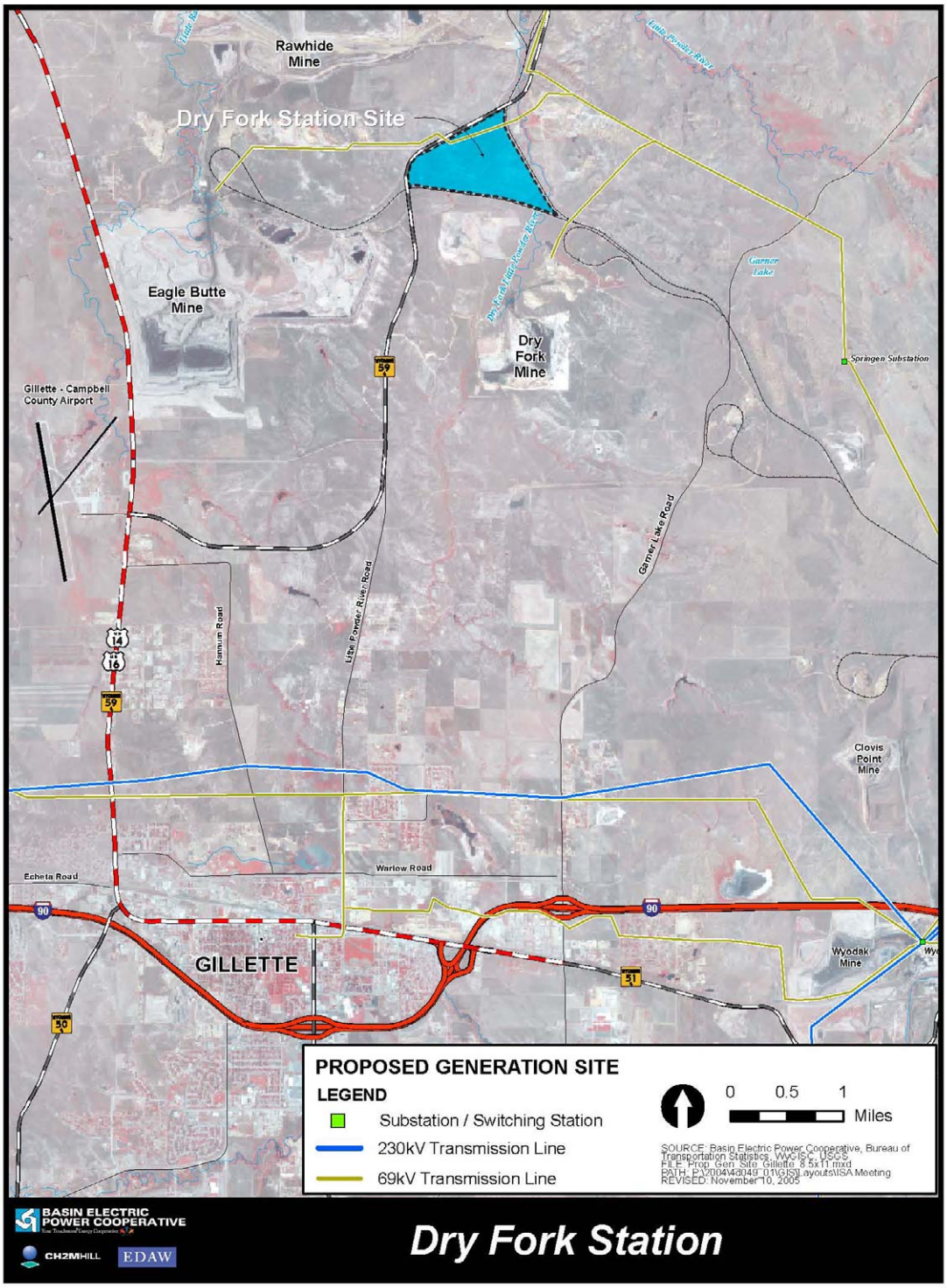


Figure 5 Proposed Generation Site

The power plant will be a mine-mouth facility using coal combustion technology and dry cooling. The facility will operate as a baseload facility with a minimum 85 percent capacity factor. The site will allow for future expansion of a second unit as member electric loads increase.

The major components of a coal-based power plant include a boiler, steam turbine, air-cooled condenser, exhaust stack, wastewater recycle surge ponds, switchyard, office building(s), and ancillary facilities for fuel handling and ash collection and disposal. **Figure 6** shows a **Photo Simulation** of the proposed power plant as viewed from SH 59 looking southeast.

Figure 6 Photo Simulation

A well field for water will be constructed as part of the project. The well field will consist of wells, piping, and pumps. It is anticipated that the well field will be located in proximity to the proposed power plant site and will supply water for the 60-year life of the power plant. The main plant cooling load will be provided by an air-cooled condenser. Other water demands include air pollution control systems, ash handling systems, steam-cycle makeup, and potable water uses.

An overland conveyor will be used to transfer coal from the Dry Fork Mine to coal storage silos on the plant site. A rail spur may be constructed to deliver construction materials and equipment to the site.

5.2.1 Unit 1

The cost of Dry Fork Station Unit 1 is estimated to be approximately $860,000,000 and consists of the following major components:

- Pulverized Coal (PC) Boiler
- Turbine
- Generator
- Auxiliary Equipment (auxiliary boiler, emergency generator, fire pump, fuel gas heater)
- Fuel Handling System
- Emissions Control Equipment
- Other Material Handling Systems (ash, lime, sorbent)

The proposed Unit 1 boiler will be an indoor-type subcritical PC-fired boiler designed for baseload operation. The unit will have a maximum gross heat input of approximately 3,801 MMBtu/hr, a maximum gross generation output of 422 MW, and a maximum net generation output of 385 MW. The primary fuel for Unit 1 will be Dry Fork Mine sub-bituminous coal. Natural gas will be used as the startup fuel and for the auxiliary boiler.

The flue gas from the boiler will pass through the emission control systems then through the induced-draft fans and will be exhausted through a stack to the atmosphere. The stack will be 500

feet tall and will consist of an outer concrete shell and an inner flue. A continuous emission monitoring system will monitor emissions.

Emissions associated with the PC boiler will be controlled through various reduction methods. The sulfur dioxide (SO_2) emissions will be controlled with a dry-scrubber flue gas desulfurization (FGD) system. Boiler particulate emissions will be controlled with a fabric filter dust collector (baghouse). Emissions of nitrogen oxides (NOx) will be controlled with a combination of low NOx burners (LNBs), overfire air (OFA), and Selective Catalytic Reduction (SCR). Mercury will be controlled with sorbent injection (e.g., activated carbon).

Coal will be received at the station from the Dry Fork Mine via a 48-inch-wide enclosed overland belt conveyor. The conveyor will be approximately 2,700 feet in length and will transport coal at a rate of 1,350 tons per hour (tph) from the mine to the mine transfer house. From the mine transfer house, coal will be conveyed to three coal-storage silos located on the plant site. A conveyor system will transport coal from the plant coal-storage silos through a crusher building and to the coal silo transfer bay.

The circulating FGD system uses lime to remove SO_2 from the flue gas and, therefore, requires a lime handling system, which receives, stores, and processes crushed lime. Lime will be delivered to the station by truck and trailer.

Fly ash and dry scrubber FGD by-product entrained in the hot boiler flue gas will be removed from the flue gas using a fabric filter baghouse. The ash and FGD by-product will be stored in a silo. Trucks will transport the waste material to the onsite landfill.

The unit is designed to operate with an average capacity factor of 85 percent and an availability rate greater than 90 percent.

Subject to the permitting process, major estimated milestones for equipment procurement, engineering, construction, and operation are as follows:

- Equipment Procurement — October 2006 to April 2008
- Engineering — November 2006 to July 2007
- Construction — April 2007 to December 2010
- Startup Activities — May 2009 to December 2010
- Commercial Operation — January 2011

5.2.2 Unit 2

The general arrangement for the power plant site includes the potential addition of a second coal-based generating unit (Unit 2).

5.2.3 Financing

Basin Electric's preferred source of funding for the Dry Fork Station will be with the Federal government through the RUS. A loan application was submitted to RUS in early September 2005. Other funding sources available to Basin Electric include the Cooperative Finance Corporation (CFC) or CoBank. Basin Electric has a banking relationship with both entities and has used CoBank extensively in the past. Given its very strong bond ratings (A+ by Standard and Poors and A1 by Moody's Investors Service), Basin Electric also has the option of issuing bonds in the public markets.

A portion of the Dry Fork Station is expected to qualify for tax-exempt financing. For that portion, Basin Electric plans to issue tax-exempt bonds in the public marketplace. All funding will be done in compliance with the Internal Revenue Service (IRS) rules.

To finance construction, or until such time as long-term financing is in place, Basin Electric will either use its own internally generated funds (cash) or a commercial paper program on a short-term basis for any interim funding needs.

5.2.4 Ash Disposal

The waste ash from the FGD, pulse-jet cleaned fabric filter (PJFF), and air heater hoppers is removed using a vacuum system that includes piping, valves, filter separators, vacuum exhausters, and bin vent filters. The collected ash is discharged into a storage silo, which includes wetting equipment to condition the ash prior to loading the ash into trucks for disposal in the adjacent landfill.

Bottom ash from the boiler will be collected in a water-submerged chain conveyor (SCC) located directly beneath the boiler. Pyrites from the pulverizers will be sluiced from the pyrites hoppers into the SCC. Economizer ash will be transported using dry flight conveyors to the SCC. Water lost due to carryover and evaporation will be made up by recycling wastewater generated in other areas of the project. The SCC water is continuously cooled by the auxiliary cooling system to reduce evaporation losses. The SCC continuously removes the bottom ash, pyrites, and economizer ash to a storage area located outside the boiler building. The bottom ash, pyrites, and economizer ash are removed by front-end loaders and trucked to an ash disposal area. An overpass will be constructed to allow ash haul trucks to pass over the tracks.

5.2.5 Generation Interconnection

The project will include a generation interconnection that will transport electricity from the power plant to a switchyard. The interconnection is into a proposed 230 kV transmission line, referred to as the Hughes Transmission Project.

5.3 Construction Period – Number and Job Classifications

Plant construction is scheduled to begin in 2007, pending the result of the permitting process. The project is scheduled to be operational by 2011. **Figure 7** shows the duration of construction activity. It is estimated that employment for Unit 1 will range from a high of 1,019 construction workers during construction to 75 workers during plant operation. The number of construction workers by calendar quarter expected to work on the project is shown in **Table 2** and the number of operation workers by job classification is shown in **Table 3**.

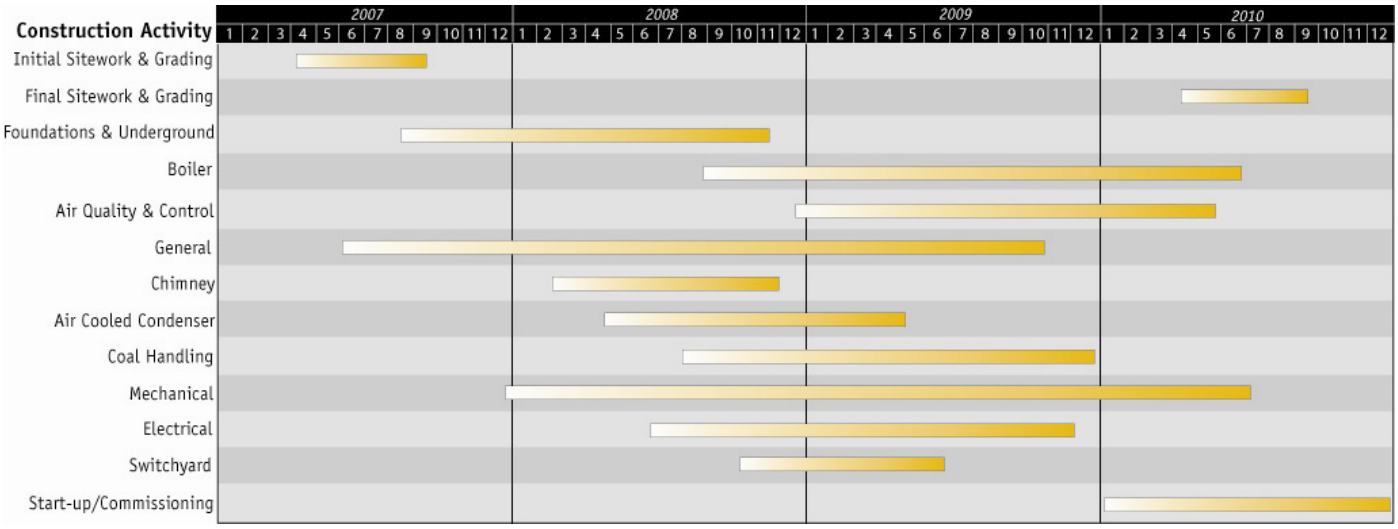


Figure 7 Preliminary Construction Schedule

Table 2

Estimated Number of Construction Workforce Summary by Calendar Quarter

	2007				2008				2009				2010			
Job Classification	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Insulation Worker	0	0	0	0	0	3	13	19	25	33	35	38	17	13	1	0
Boilermaker	0	1	1	0	5	30	103	109	131	157	161	147	61	61	1	0
Bricklayer	0	0	0	0	0	0	0	4	3	6	6	2	1	2	2	0
Carpenter	0	3	24	23	23	36	37	22	27	21	19	16	8	7	3	0
Cement Mason	0	2	5	4	6	5	21	14	11	1	1	1	0	1	1	0
Electrician	0	0	0	0	25	25	36	38	81	130	109	124	170	234	123	15
Elevator Construction	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	0
Glazier	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0
Iron Worker, Structural	0	19	45	33	33	92	178	153	159	197	158	133	40	43	17	0
Laborer	0	54	77	38	32	28	126	88	100	40	35	32	11	23	18	0
Mill Wright	0	0	0	0	0	10	42	43	96	123	118	101	32	25	1	0
Equipment Operator	0	59	74	30	20	37	89	75	66	57	53	47	21	31	18	0
Painter	0	0	0	0	1	1	2	3	5	7	7	8	7	7	6	0
Pipe Fitter	0	9	9	2	8	23	56	65	89	138	144	134	87	61	23	18
Plumber	0	0	0	2	4	1	0	0	1	1	1	1	1	1	1	0
Roofer, Composition	0	0	0	0	0	0	0	2	1	2	3	1	1	1	1	0
Sheetmetal Worker	0	0	0	0	0	2	10	21	25	35	38	37	21	16	8	0
Teamster	0	7	8	3	1	2	5	4	5	4	4	5	0	0	0	0
Tile Layer	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2	0
Non-Manual	0	17	27	15	17	29	78	72	91	99	98	90	49	56	25	4
Construction Mgmt.	9	10	10	10	11	11	13	15	19	21	21	21	18	14	14	13
Total Jobs	**9**	**181**	**279**	**158**	**185**	**303**	**796**	**737**	**936**	**1,019**	**1,010**	**927**	**510**	**577**	**265**	**49**
Basin Electric	2	4	6	8	10	12	12	12	12	12	12	12	12	12	12	12
Security	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Total Workers	**15**	**189**	**289**	**170**	**199**	**319**	**812**	**753**	**952**	**1,035**	**1,026**	**943**	**526**	**593**	**281**	**65**

Notes: 1. The contractor total does NOT equal the sum of the individual trades. This is because the peaks for each individual trade do not occur during the same month of the quarter.

Table 3

Estimated Operations Workforce Summary by Job Classification

Job Classification	Number of Personnel
Plant Manager	1
Maintenance Manager	1
Operations Manager	1
Operations Supervisors	6
Operations Shift Leaders	3
Lab / Instrument / Equip. Techs	3
Maintenance Workers	18
Plant Engineers	5
Plant Operators & Trainees	25
Administrative Support	12
Total Permanent Workers	75

5.4 Socioeconomic Conditions within Project Area

5.4.1 Introduction

This section presents a summary of the findings from the Socioeconomic Impact Analysis. The data used in that study will not be reproduced in this application. For further details on the data cited in this section, see the Socioeconomic Impact Analysis (CH2M HILL 2006).

The Socioeconomic Impact Analysis was performed to support the completion of the Wyoming Industrial Development and Siting Act (WIDISA) Request for Waiver of Permit Application for the proposed power plant and to assist Basin Electric in obtaining waiver approval through the Wyoming Industrial Siting Council. Construction for Unit 1 will begin in 2007 and is expected to be completed in 2010 and operational by 2011. It is estimated that employment for Unit 1 will range from a high of 1,019 construction workers during construction to 75 workers during operations. If Unit 2 is constructed, it is estimated the construction employment will be similar to that of Unit 1.

The purpose of the Socioeconomic Impact Analysis is to ensure that assistance is provided to communities and political subdivisions negatively affected by the siting of the power plant and to provide information to the Wyoming Industrial Siting Council regarding socioeconomic impacts and associated mitigation efforts.

The Socioeconomic Impact Analysis evaluates the benefits and impacts to social and economic resources in the Study Area, including the benefits derived from increased tax revenue, direct employee opportunities, and indirect employment benefits.

The analysis of the impacts includes the effects on the following:

- Housing
- Educational facilities
- Public safety and security
- Health resources
- Municipal services
- Transportation systems

The analysis includes an assessment of the future and present baseline conditions (without the project) in a large area of influence called the “Study Area.” (See **Figure 8**.) The project impacts a narrower geographic region called the “Area of Impact.” (See **Figure 9**.) The baseline conditions include the identification of the capacity of the resources involved, including the current standards for carrying capacities and the number of people currently served.

The impacts are based on the number of additional workers-families that these resources will likely need to serve and whether or not the systems in place, or the anticipated expanded systems in the future (based on current plans), will be able to satisfy the anticipated additional demand caused by the project. Mitigation efforts are proposed in the event that the resources are unlikely to be able to meet the additional demands.

The steps taken during the socioeconomic process are presented in **Figure 10**.

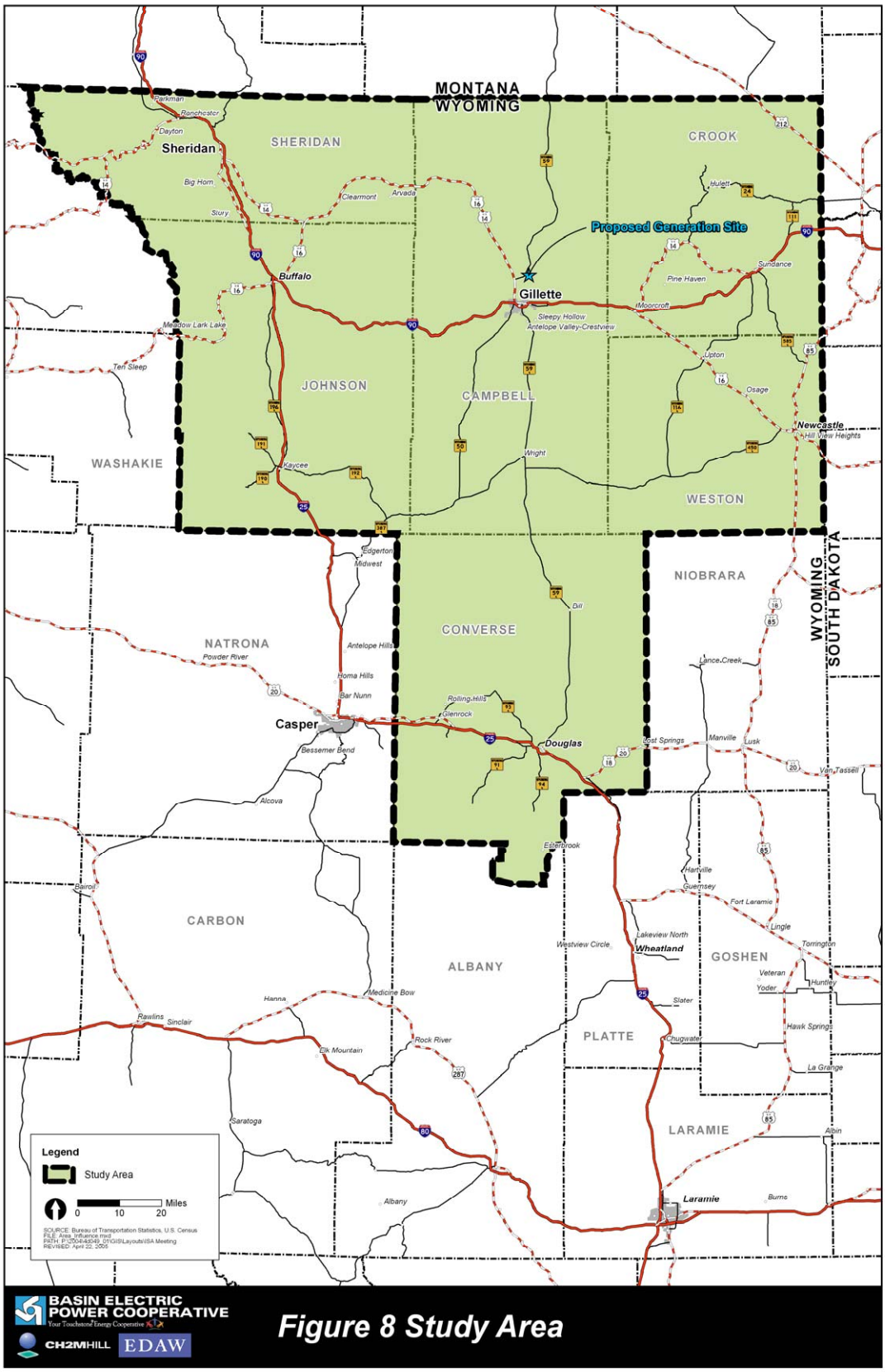


Figure 8 Study Area

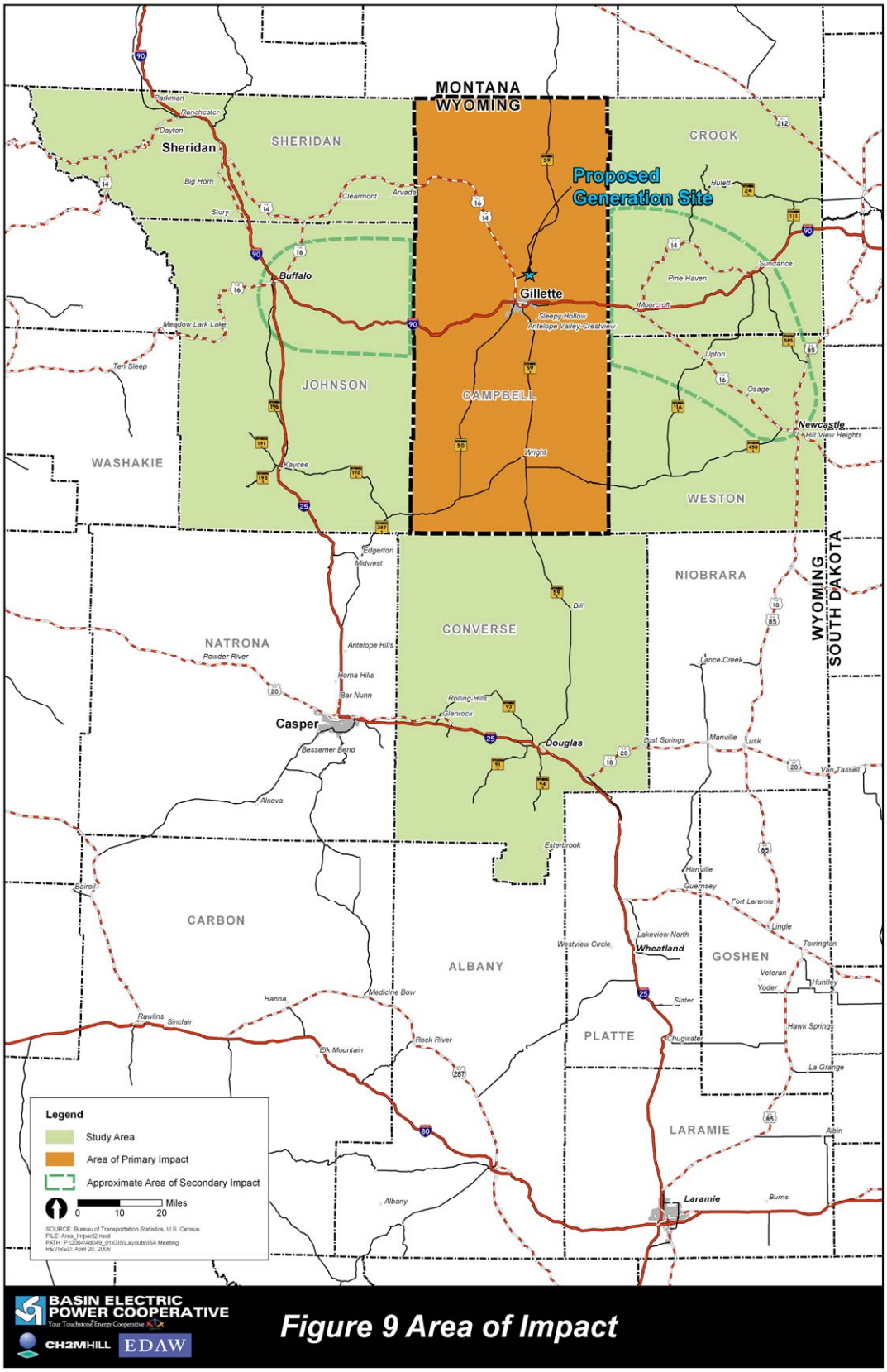
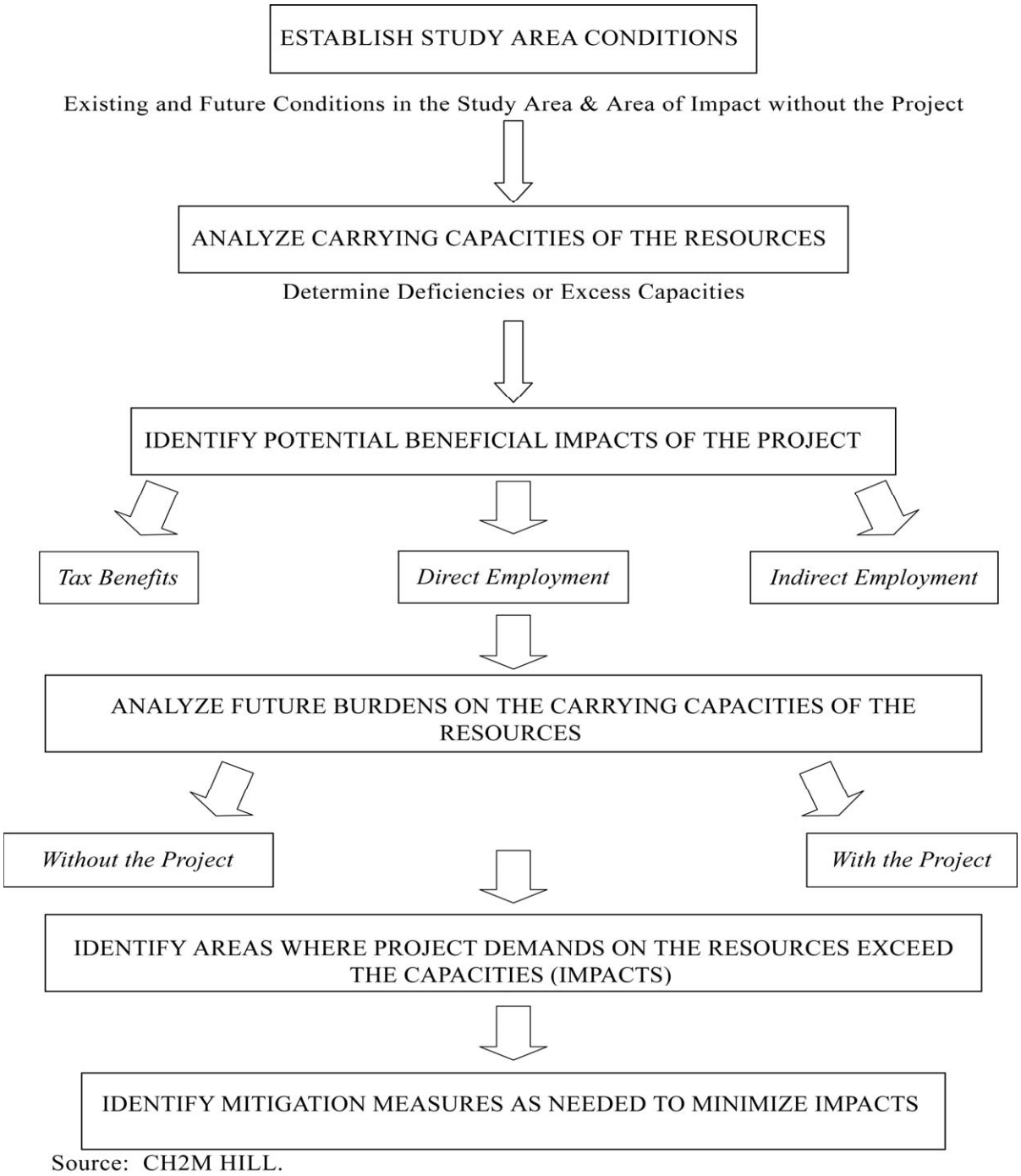


Figure 9 Area of Impact



Source: CH2M HILL.

Figure 10 Socioeconomic Process

5.4.2 Study Area

The Study Area is the following six counties:

- Campbell
- Crook
- Converse
- Johnson
- Sheridan
- Weston

These counties are included in the Study Area because they were identified in cooperation with the Industrial Siting Division staff as having the potential for workers to locate and commute to work at the site. A map of the Study Area is shown in **Figure 8**.

An analysis of impacts of the future and present baseline conditions was performed in a narrower geographic region within the Study Area. This geographic region was further subdivided into a primary and secondary Area of Impact. The primary Area of Impact was defined as Campbell County and the secondary Area of Impact was defined as the area outside of Campbell County. (See **Figure 9**.)

5.4.3 Population

5.4.3.1 Past and Present Population

Past population trends show that Campbell and Converse Counties have had the most dramatic population increases in the Study Area from 1920 to 2000. Campbell County increased in population from 5,233 to 33,698 persons, and the Study Area increased from 46,058 to 91,916 persons from 1920 to 2000. Overall the entire Study Area has shown modest growth and slight decline from 1920 to 1950 and from 1980 to 1990, while experiencing the most dramatic growth from 1970 to 1980, and stable growth throughout the Study Area from 1990 to 2000.

The most important factors in determining the location and availability of the local labor force are the location of the population centers and the age distribution of the population. Of the six counties in the Study Area, Campbell, Converse, and Sheridan Counties currently account for 79 percent of the total population, with 33,698, 12,052, and 26,560 persons, respectively. These counties also house the three largest cities in the Study Area: Gillette, Douglas, and Sheridan.

The age distribution in the Study Area, compared to that of the state of Wyoming, shows that the distribution of Campbell County is consistent with that of Wyoming as a whole, with 28 percent of the population being ages 20 to 39 and 33 percent being ages 40 to 64.

5.4.3.2 Future Population

Future population projections for the Study Area show the following trends:

- Moderate growth in Campbell County (1.5 percent annually)
- Moderate growth in Johnson County (1.3 percent annually)
- Slow growth in Converse County (0.6 percent annually)
- Slow growth in Crook County (0.5 percent annually)
- Slow growth in Sheridan County (0.7 percent annually)
- Flat growth in Weston County

In addition, the future age distribution of the population in the Study Area until 2010 is anticipated to remain generally the same. After 2010 it is projected that Wyoming will follow national trends as the baby boomer generation moves into retirement years.

As noted previously, a peak construction workforce of approximately 1,019 workers is anticipated during the construction period of 2007 through 2010. The permanent workforce is anticipated to be 75 workers. Due to the location of the Dry Fork Station, a majority of these workers will reside in Campbell County.

5.4.4 Economic Conditions

5.4.4.1 Labor

The labor force in the six counties of the Study Area was 55,118 persons (as of November 2004), with 53,527 of these persons actually employed. This represents an unemployment rate of slightly less than 3 percent. Campbell County has the largest workforce (23,282) followed by Sheridan County (14,911). The majority of the workforce in the Study Area is employed by the following sectors:

- Retail and services (37 percent)
- Mining (13 percent)
- Government services (17 percent)

The construction sector employs 4,543 persons, with 2,056 of those in Campbell County and 1,454 in Sheridan County. The average turnover rates in the construction industry range from 37 to 58 percent. The Wyoming Department of Employment estimates that construction employment will grow at an average annual rate of 1.2 percent in the period from 2000 to 2010. In 2007, an estimated 4,949 persons will be available for work or will be working in the construction sector in the Study Area. Assuming a turnover rate of 37 to 58 percent, approximately 1,830 to 2,865 persons will be looking for work on an annual basis. Basin Electric intends to hire qualified Wyoming contractors and construction/operation labor on a priority basis.

5.4.4.2 Revenues

Ad Valorem Taxes

Ad valorem taxes support a variety of county and municipal operations including airports, fire protection, hospitals, libraries, museums, public health, recreational systems, special districts, and education. Assessed property values are the basis for ad valorem taxes. Property values are assessed at both the local (county) and state level. Total assessed land values in 2004 for the Study Area were $4,399,961,453. Campbell County has the highest assessed property values in the Study Area, with a total of $3,258,728,320. The major share of assessed land valuations in Campbell County are the mineral properties assessed at $2,758,258,949 followed by industrial land assessed at $241,319,136. Mill levies are then assessed to property values to determine the tax rates for the various properties. Average mill levies range from 58.9 in Campbell County to 70.7 in Johnson County. Based on updated information, ad valorem taxes totaling approximately $5,189,000 will be collected during the duration of the construction based on the percentage of the project that is complete as of January 1 of each year of the construction. (See **Table 4**.)

Table 4

Ad Valorem Tax Estimate Paid to Campbell County 2006 - 2011

	2006	2007	2008	2009	2010	2011	Total
Construction Work in Progress	$664,000	$14,404,000	$74,536,000	$286,220,000	$650,880,000	$859,824,000	
Ad Valorem Tax at 0.275%[1]	$2,000	$40,000	$205,000	$787,000	$1,790,000	$2,365,000	$5,189,000

[1]The 0.275% multiplier is estimated by the Basin Electric tax department, and incorporates pollution control equipment exemption, allocation factor, obsolecense factor, 11.5% assessed value, and the 2005 mill levy of 58.918.

Ad valorem taxes will continue to apply after completion of construction. Annual ad valorem taxes beginning in year 2012 are estimated by Basin Electric's tax department at $2.30 million per year.

Sales and Use Taxes

The State of Wyoming levies a 4 percent sales tax and a 4 percent use tax. All the counties in the Study Area levy an additional 1 percent county sales and use tax and a 3 percent lodging option tax (with the exception of Johnson County, which levies a 2 percent lodging option tax and Campbell County, which levies a 1 ¼ percent sales and use tax, but does not levy a lodging option tax). Sales and use tax revenues for the Study Area totaled $141,668,708 in 2004. Approximately 54 percent of the total sales and use taxes collected in 2004 went to the State's general fund, and 46 percent was redistributed locally.

The estimated total sales and use taxes that will be paid on the materials purchased for the construction of this project are $13,100,000 in state taxes and $4,100,000 in county option taxes. The total sales and use tax is estimated to be $17,200,000.

5.4.5 Housing

There were a total of 35,959 occupied housing units in the six-county Study Area at the time of the 2000 U.S. Census. Campbell County had the greatest number of occupied housing units with 12,207, followed by Sheridan County with 11,165 units. Most of the housing stock is owner rather than renter occupied, with anywhere from 69 to 79 percent of the units being owner occupied.

Between 1990 and 2000, the housing stock of each county increased, but as the housing stock increased, the number of vacant units decreased. This is a reflection of the general population increase in each county. The actual vacancy rates in 2000 ranged from 8 percent in Campbell County to 21 percent in Crook County. In Campbell County, there was a 55 percent reduction in rental unit availability and a 58 percent reduction in housing availability. The low availability of vacant units coupled with the increased population has caused a greater demand and an increase in rent and home values. Monthly rent increased between 22 percent in Converse County and 81 percent in Sheridan County. Campbell County rent increased by 55 percent between 1990 and 2000. Housing values increased at a higher rate, increasing anywhere from 34 percent in Campbell County to 95 percent in Johnson County.

Based on the amount of buildings permitted for construction, the potential housing needs for each county through 2020 indicate that Campbell, Converse, Johnson, and Sheridan Counties will experience housing shortfalls in the near future. Without additional private-sector investment, Campbell County is estimated to experience a housing gap of 128 units in 2005 and 3,170 units in 2020. At the same time, all counties except Johnson are expected to have a surplus of renter households. However, the slight surplus of rental units represents a very low vacancy rate and includes potentially undesirable units. Essentially, the entire housing gap is estimated to be caused by a lack of single-family homes. In addition, the total number of potential homes for sale is expected to decline significantly between 2005 and 2010, declining from 3,345 to 256 available units. By 2015, the housing gap in the Study Area is expected to reach 2,519 and 4,598 in 2020. Campbell County is expected to experience the greatest homeowner housing shortfall.

5.4.6 Education

There are ten school districts in the Study Area operating a total of 82 educational facilities. The majority of the 82 facilities are elementary schools (47), followed by 17 junior high/middles schools, and 18 high schools.

The reviewed data indicate that there has been a decline in the actual enrollment as well as a decline in the percentage of the population enrolled, which is indicative of the aging population.

As a whole, the pupil-teacher ratios, which are used to determine school quality, within the Study Area tend to be better than the state and national standards. There are currently 7,198 students enrolled in Campbell County with a teacher-pupil ratio of 12.8. It was determined that 10,611 students could be added to the Study Area schools before the U.S. standard teacher-pupil ratio is exceeded, and 1,261 students could be added to the Campbell County district before the standard was exceeded. Sheridan has the largest excess capacity with 4,969 students.

5.4.7 Healthcare

There are seven hospitals in the Study Area: two in Sheridan County and one in each other county. Campbell County Memorial Hospital is the largest hospital in the Study Area, with 90 care beds, 155 swing beds, and almost 21,000 outpatient visits in 2002. The average bed occupancy was 22 percent. There are 15 ambulances servicing Campbell County. Campbell County has 44 physicians, which is the highest number of physicians in the Study Area and corresponds to a 1.19 ratio of physicians per 1,000 people. Sheridan has the second highest number of physicians with 39, or 1.42 physicians per 1,000 people. All counties have a physician shortage when compared to national recommendations, which is common to most low population areas.

Currently, the level of service provided by each county's health services seems to be adequate. Expansions are planned in Crook and Weston Counties. Citizens are generally satisfied with Campbell County Memorial Hospital, with over 62 percent of citizens ranking the facility as excellent or good in 2004. It is noteworthy to mention that the level of service may be impacted because of an increase in demand for health services, which is estimated to begin in 2010, due to the aging population in the Study Area. This corresponds to the baby boom generation moving into retirement years. Therefore, it is likely that the issue of healthcare quality will become of increasing importance in the next few years in the Study Area.

5.4.8 Municipal Services

Water in the Study Area is provided through municipal water services in the cities and the more densely populated areas. In Campbell County, the City of Gillette operates the municipal water supply. The City currently has 19 million gallons of water storage for peak

demands and fire protection. The annual average water production is 4.4 million gallons per day (mgd) and peak water production is 13.6 mgd. The current peak-day demand is 8,290 gallons per minute (gpm), but the system capacity is 12,865 gpm. The rural portion of the Study Area is serviced by private wells. The Capital Improvements Plan (CIP) for the city of Gillette shows planned improvements to the water system totaling more than $48 million.

Each county has its own wastewater treatment facilities, and there are a total of 62 treatment facilities in the Study Area. Campbell County has the most wastewater treatment facilities with 33 serving 36,342 customers. The largest facility in the city of Gillette serves almost 25,000 customers and treats an average of 2.5 mgd, but has the capacity to serve an estimated 38,000 people. Wastewater in rural areas is discharged to private leaching fields or septic tanks. The CIP for the city of Gillette shows planned improvements to the sewer system totaling over $13 million.

There are a variety of different waste disposal facilities, including industrial landfills; solid waste treatment, storage, and disposal (SWTSD); Type I municipal; and, Type II municipal waste. Campbell County has the most facilities with 20 and Sheridan has the least with six.

5.4.9 Transportation

There are two interstates that run through the Study Area: Interstate (I-90) runs east-west through Crook, Campbell, Johnson, and Sheridan Counties; and I-25 runs north-south through Converse and Johnson Counties. Campbell County had the second largest total annual average daily traffic (AADT) volume with 60,500, and Sheridan County had the largest with 63,510.

The Study Area also has a rail infrastructure consisting of 4,400 miles of freight rail track. Converse County has the largest rail infrastructure with 1,654 miles of track, followed by Campbell County with 1,093 miles. Burlington Northern – Santa Fe Railroad and Union Pacific are the two largest rail operators in the Study Area.

The Wyoming Department of Transportation (WYDOT) has planned construction for the counties in the Study Area to accommodate population growth and any increases in traffic. WYDOT's planned construction activities in the six-county area primarily consist of widening, resurfacing, grading, paving, and bridge repair and replacement.

A study that was completed by WYDOT details improvements over 15 years, including extending some existing streets and providing several new collectors. That study also provided existing and expected future traffic forecasts for Gillette and the surrounding areas. Near the proposed project site, SH 59 has an estimated traffic volume of 1,100 vehicles per day, and traffic is estimated to increase to 1,700 vehicles.

There were no roadways identified in the vicinity of the proposed project that are presently over capacity. The traffic volume level of service (LOS) for the adjacent SH 59 is currently acceptable and the road appears to be well maintained. In addition, a new roadway, Northern Drive, has been proposed that would further reduce traffic through Gillette and would provide

easy access from east of the city to the project site. It is worth noting that the portion of SH 59 that runs south of the city of Gillette has been having problems with traffic congestion.

5.4.10 Analysis of Impacts

5.4.10.1 Area of Impact

The primary Area of Impact defined for the project has been narrowed to Campbell County. This was based on the fact that 88 percent of persons working in Campbell County also live in Campbell County, and the fact that Basin Electric will concentrate its efforts to economically house the imported workers in Campbell County to minimize the primary Area of Impact.

5.4.10.2 Project Employment

It is estimated that 1,019 construction workers will be required at the peak of construction. Basin Electric expects to have 4 to 12 onsite employees for construction management positions and a total of 4 security guards. Security guards are assumed to be hired locally.

The man hours for the project construction are estimated to be 4,239,882 hours. Labor needs will be 100 to 200 workers early in construction, and up to 1,019 construction workers during peak construction. Unit 1 is anticipated to require 42 months of construction from April 2007 to December 2010. **Table 2** shows the number and types of workers required for construction during this period.

Basin Electric estimates, based on data provided by the State of Wyoming Department of Workforce Services, that local labor will provide 36 percent of the construction labor for the project. During peak construction, it is estimated that 22 percent of the jobs will be provided by local labor.

Based on prior large construction projects, it is assumed that 53 percent of the imported workers will relocate to the Area of Impact without other household members, and 47 percent will bring their families, with an estimated household size of 2.5 persons per household. At peak construction, this results in 371 imported workers coming to Campbell County alone, 329 import workers bringing families to Campbell County, 95 import workers living in surrounding counties, and 224 local workers.

During operation, an estimated 75 full-time workers for Unit 1 will be required. Basin Electric estimates that 50 percent of the operational labor force will be hired locally. It is estimated that 75 percent of the imported labor force will bring families. This results in 12 single persons and 38 persons bringing families (with an average family size of 2.5 persons) relocating to Campbell County. The total relocated persons for the operational workforce would be 107, occupying 51 households.

Wages for the construction workforce will be somewhat higher than local wages. The total annual operation labor cost is $7,601,984 for Unit 1.

5.4.10.3 Housing

Campbell County is experiencing growth as a result of the CBM industry and the continued expansion of coal mines; thus creating a demand for additional housing. Without the Dry Fork Station, it is estimated that the housing needs in Campbell County will exceed the capacity in 2010, with a total housing deficiency of 655 units, increasing to 2,438 units in 2020.

The project will import a total of 700 temporary construction workers to Campbell County, including an estimated 371 workers without families and 329 workers bringing families. It is estimated that 75 permanent jobs will be created to manage the operations of Unit 1. It is assumed that these workers will either be already housed or will try to purchase a house in the area.

5.4.10.4 Education

Currently, an additional 1,261 students would have to enroll in Campbell County School District for the student-teacher ratio to exceed that of the national ratio. It is estimated that an additional 164 school-age children will be enrolled in the school district at the peak of construction for Unit 1, which does not significantly alter the student-teacher ratio.

5.4.10.5 Public Safety

To determine whether the carrying capacity of public safety within Campbell County would be impacted by the project, the ratio of law enforcement officials and fire fighters in the county was compared with state and national standards. Without the project, the citizen to police ratio per 1,000 citizens in 2009 was projected to be 3.9, which is much better than the 2.5 ratio for Wyoming and the United States. Without the project, the citizen to fire fighter ratio per 1,000 citizens in 2009 was projected to be 6.5, which is much better than the 1.8 ratio for Wyoming and the United States. With the project, the citizen to police and citizen to fire fighter ratios per 1,000 citizens fall to 3.7 and 6.2, respectively. Neither ratio falls significantly with the addition of the 1,205 imported workers and associated household members; therefore, the project will have negligible impact on the level of public safety in Campbell County.

5.4.10.6 Health

Without the project, the physician-patient ratio of Campbell County Memorial Hospital does not meet the recommended ratios. The national standard is one physician to every 433 (according to the Bureau) or 514 persons (according to the Advisory Committee). The projected ratio in 2009 is one physician for every 890 people, which is higher than the ratio for Wyoming and the United States. The projected number of beds per person in Campbell County is also higher than that of Wyoming and the United States, with one bed for every 329 persons.

With the added population from the construction of the project, the ratio slightly changes for 2009 to one physician for every 917 persons and one bed for every 339 persons.

5.4.10.7 Municipal Services

The projected addition of 1,205 people during peak construction on Unit 1 in 2009 will not impact the carrying capacity of Gillette's municipal water supply. The peak demand by this additional population is projected to be 455.09 gpm. Adding this to the projected peak-day demand of the population in 2009, the total peak-day demand is expected to be 9,208 gpm, which is less than the system capacity of 12,865 gpm.

The projected wastewater flow with the added population due to the project will be approximately 2.7 mgd in 2009. This is lower than the facility's design flow capacity of 3.85 mgd. The total estimated population that the wastewater plant can serve is 38,000, whereas the total population in 2009 with the project is projected to be 24,373.

Electric power, natural gas, telephone, and cable services are readily available in Campbell County and the city of Gillette. These services have sufficient capacity to meet the additional population growth associated with the construction of the Dry Fork Station coupled with the current and future population growth of the county and city.

5.4.10.8 Roads and Highways

LOS describes the operating performance of an intersection or roadway. LOS is measured from A to F, with A representing the best performance, and F representing the worst performance. The SH 59 segment adjacent to the proposed site is expected to operate at acceptable LOS under existing and future a.m. and p.m. peak-hour traffic conditions with and without the project. The site access intersections are also expected to operate at LOS C or above. However, according to WYDOT and the American Association of State Highway and Transportation Officials (AASHTO) guidance acceleration and deceleration lanes should be considered at these site accesses. The WYDOT and AASHTO recommended acceleration and deceleration lanes as:

1) With a 65-miles-per-hour (mph) speed limit on SH 59, the recommended acceleration length for vehicles turning right (northbound) out of the site is 1,410 feet.
2) With a 65-mph speed limit on SH 59, the recommended deceleration length for northbound vehicles turning right into the site is 570 feet.

The traffic problems currently experienced on SH 59 south of Gillette will not be impacted by the project because the housing mitigation plan will primarily focus on providing housing for the project workers in Gillette.

5.4.11 Cumulative Impacts

Within the study area, development of CBM along with other proposed electric generation projects, have the potential for cumulative impact.

The Bureau of Land Management's (BLM) Final Environmental Impact Statement (FEIS) was completed for CBM development (*FEIS Powder River Basin Oil and Gas Project*). The peak of construction would be in 2007, and the expected number of workers was 2,660. It was

assumed that the majority, 85 percent, of the workers would live in Campbell County. Additionally, the FEIS assumed that the workforce would be hired locally. Because of this, the FEIS states that the demand for additional temporary or permanent housing in the Project Area likely may be met with the existing housing supply. However, the FEIS does state that the communities do have the potential to lack adequate housing particularly if currently planned developments are not constructed.

Figure 11 identifies four power plant projects and their proposed individual demand on the workforce. The greatest impact from overlapping projects is estimated to be in the third quarter of 2008, when approximately 1,330 construction workers will be needed for constructing the facilities. However, there will be little overlapping of demand for specific trades.

The impact of the Dry Fork Station Project on the population of Campbell County during the cumulative workforce peak is a temporary increase of 1,205 residents. An estimated 95 of those Dry Fork workers, some with families, would relocate to surrounding counties.

The impact of the operational workforce for the Dry Fork Station Project is anticipated to be a permanent increase to Campbell County's population of 80 new residents occupying 38 households. This is based on the estimated total operational workforce, minus those currently residing in Campbell County, plus family members.

To address these impacts, since June 23, 2005, Basin Electric has been monitoring the housing situation within the Study Area and working with state and local officials and developers to address the housing needs associated with the project.

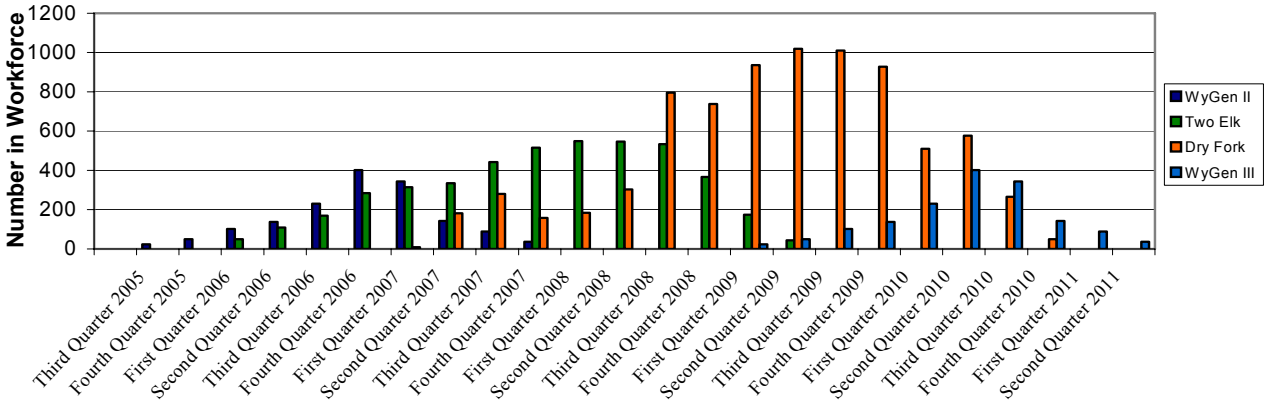


Figure 11 Project Workforce

5.4.12 Plans for Alleviating Impacts

It has been projected that the project will import a total of 700 workers into the primary Impact Area, including 371 workers without families and 329 workers bringing families. In addition, 75 permanent jobs will be generated to manage the operations of Unit 1.

Basin Electric has implemented a flexible housing mitigation plan that creates a variety of housing options to address the needs associated with relocating the temporary construction workforce. This plan was devised to accommodate both single workers and married workers relocating with their families. Given the competitive nature of housing in Campbell County, and the desirability of attracting and sustaining a qualified and reliable workforce, Basin Electric has prepared a plan that offers a variety of affordable housing options to address the needs of today's workers.

During the months of March and April 2006, work began on the acquisition of housing for the Dry Fork Station temporary construction workforce. Initial efforts included inquiries to all Gillette hotels and a number of hotels in smaller communities within easy driving distance of the Dry Fork Station. To provide housing for an estimated 200 construction workers during the peak construction period, Basin Electric contacted 102 hotels within a radius of 110 miles to determine availability and owner interest in providing accommodations for workers. Eleven hotels were selected from those offering accommodations, based on an evaluation of quality and cleanliness, rates and proximity to the construction site. Contracts are being developed to finalize these arrangements. Early indications are that there will be sufficient hotel rooms available to meet the project's anticipated need to house 200 single construction workers in this type of accommodation.

Based on contacts with labor groups, Basin Electric believes a large number of married construction workers will bring their recreational vehicles into the area while working on the Dry Fork Station. After consultation with Wyoming union business agents, the best estimate of need for this housing type is a minimum of 150 new RV spaces. Basin Electric is in negotiation with the Campbell County Cam-Plex Multi-Event center for the development of new, year-around RV spaces for use by the temporary construction workforce. The Cam-Plex staff and the Campbell County Land Board have expressed interest in permitting Basin Electric's investment and development of this addition to the Cam-Plex facilities, an investment that will remain as a benefit to the area for years to come.

Rental apartments or manufactured housing may be needed to house approximately 200 construction workers. Although there is a tight rental market in Gillette, rental apartments remain a viable housing option, one that will serve both single workers and married construction workers relocating with their families. Discussions have been held with local, state and out-of-state developers to explore options for partnering in the construction of new apartments and manufactured housing developments. Basin Electric will continue these discussions with the intention of providing rental accommodations for a portion of the temporary construction workforce.

The final portion of Basin Electric's housing strategy is to develop and maintain the option of providing a worker camp, also known as a "Base Camp," to house temporary construction workers. Basin Electric has researched Base Camp providers and has developed cost estimates for the provision of Base Camp accommodations for 150 to 400 temporary construction workers. Base Camp accommodations provide both room and board for the workers. A Base Camp can be specified, ordered and delivered in a relatively short time, so with the peak construction workforce not anticipated until 2009, it is not necessary to purchase Base Camp housing at this time. Basin Electric is in the process of locating a site for a Base Camp.

5.5 Public Involvement

Basin Electric engaged in a comprehensive and proactive public involvement process. Basin Electric first embarked on an eight-step siting and permitting process that not only identified 36 candidate sites but also a variety of engineering, environmental, and socioeconomic opportunities and constraints. Issues were catalogued and given to respective disciplines to resolve.

Since June 23, 2005, Basin Electric has been active in the communities that may be affected by the Dry Fork Station. Basin Electric representatives have participated in numerous informational meetings and presentations, served on committees, and actively sought out potentially affected municipalities, counties, state agencies, and other stakeholders.

The information presented in **Table 5** is a summary list of public involvement activities.

Table 5

Summary List of Public Involvement Activities

Date	Organization	Individual(s)	General Discussion
June 23, 2005	City of Gillette	Mr. Tom Langston	Housing in Gillette
June 28, 2005	Campbell County Chamber of Commerce	Members and Guests	Overview of Proposed Project
July 9, 2005	Department of Environmental Quality	Mr. Tom Schroeder	ISA Application
July 13, 2005	City of Gillette	City Council and four Staff	ISA Permit and Project Overview
July 13, 2005	Campbell County Economic Development	Ms. Susan Bigelow	Housing and ISA Permit
July 14, 2005	Campbell County	Staff Directors	General Overview of Basin Electric, Proposed Project, and ISA Permit
July 25, 2005	Campbell County Emergency Management	Emergency Management Staff and Mr. David King	Overview of Proposed Project, Security and Buffer Zone
July 25, 2005	Town of Moorcroft	Mayor and four Council members	General Overview of Basin Electric, Proposed Project, and ISA Permit
July 28, 2005	City of Gillette	City Administrator	Lance-Fox Hills Water Wells and Potable Water Line Extension
August 2, 2005	Crook County	Chairperson, two Commissioners and two staff members	General Overview of Basin Electric, Proposed Project, and ISA Permit

Date	Organization	Individual(s)	General Discussion
August 5, 2005	Campbell County Ambulance Service	Staff	General Overview of Basin Electric, Proposed Project, and ISA Permit
August 8, 2005	City of Gillette	City Administrator	Lance-Fox Hills Water Wells and Housing
August 8, 2005	Town of Wright	Chairperson, four Commissioners, two Staff, and 12 members of the Public	General Overview of Basin Electric, Proposed Project, and ISA Permit
August 10, 2005	Cam-Plex Manager	Mr. Dan Barks	Potential new Recreational Vehicle (RV) Park Development and Current Situation
August 15, 2005	Town of Pine Haven	Town Council and Staff	General Overview of Basin Electric, Proposed Project, and ISA Permit
August 16, 2005	Campbell County	Commissioners and Staff	General Overview of Basin Electric, Proposed Project, and ISA Permit
August 16, 2005	Town of Buffalo	Town Council	General Overview of Basin Electric, Proposed Project, and ISA Permit
August 22, 2005	Campbell County Housing Group	City Council, Media, Public, and Housing Consultant	Attended Overview of Housing Study by Consultant
August 30, 2005	Sheridan County	County Commissioners	General Overview of Basin Electric, Proposed Project, and ISA Permit

Date	Organization	Individual(s)	General Discussion
September 6, 2005	Johnson County	County Commissioners	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 6, 2005	Weston County	County Commissioners	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 6, 2005	Town of Newcastle and Weston County	Town Council and County Commissioners	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 7, 2005	Converse County	County Commissioners	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 20, 2005	City of Gillette	Housing Committee	Participated in Housing Committee Meeting
September 23, 2005	WREA Statewide	Mr. Shawn Taylor, Executive Director	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 24, 2005	Powder River Energy Annual Meeting	Cooperative Members	General Overview of Proposed Project and Q&A in Display Booth
September 26, 2005	City of Douglas	Mayor and four City Council members	General Overview of Basin Electric, Proposed Project, and ISA Permit
September 26, 2005	Town of Glenrock	Mayor and four Town Council members	General Overview of Basin Electric, Proposed Project, and ISA Permit

Date	Organization	Individual(s)	General Discussion
October 3, 2005	Town of Upton	Ms. Connie Montgomery	General Update of Dry Fork Station
October 3, 2005	Town of Sundance	Ms. Joanne Bruski	General Update of Dry Fork Station
October 3, 2005	Campbell County Emergency Management	LEPC and Planning Committee for FEMA Grant	Security and Buffer Zone Protection Program
October 5, 2005	Campbell County Economic Development Corporation	Ms. Susan Bigelow	Project Update
October 6, 2005	Campbell County Ambulance Service	Mr. Gregg Mentzel and Mr. Gene Balzer, CEO of County Hospital	Project Overview and Medical/Ambulance Service during Construction
October 6, 2005	Campbell County	County Assessor, Ms. Charlotte Terry, and Ms. Marilyn Mackey	Project Financing (Issuance of Bonds)
October 13, 2005	City of Sheridan	Mayor and Staff	Project Update and Overview of Basin Electric
October 18, 2005	Campbell County	County Commissioners	Project Update and Financing (Issuance of Bonds)
October 21, 2005	City of Gillette Housing Committee	Mr. Bret Jones, Committee Chair	Review of Housing Consultant's Draft Document
October 25, 2005	Campbell County Engineer	Mr. Mike Coleman, County Engineer	Project Update, Transmission routing, and Northern Drive Issues

Date	Organization	Individual(s)	General Discussion
November 1, 2005	City of Gillette Housing committee	Bret Jones leader of committee	City council workshop on housing with public and city council
November 7, 2005	City of Gillette Administrator and City Council	Bret Jones and Charles Anderson, city attorney; full city council plus public	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 9, 2005	Town of Moorcroft	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 14, 2005	Town of Wright	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 15, 2005	Campbell County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 15, 2005	Johnson County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation

Date	Organization	Individual(s)	General Discussion
November 15, 2005	Town of Buffalo	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 16, 2005	Town of Newcastle	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 16, 2005	Weston County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 17, 2005	Town of Sundance	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 17, 2005	Crook County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 21, 2005	Town of Douglas	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation

Date	Organization	Individual(s)	General Discussion
November 21, 2005	Converse County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 21, 2005	Converse Area New Development Organization	Director	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 21, 2005	Sheridan County	County Commissioners	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 22, 2005	Town of Pine Haven	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
November 28, 2005	Town of Glenrock	Town Council	PowerPoint presentation on DFS project including socioeconomic impact and 3D model presentation
December 1, 2005	Cities and Counties within the six-county Impact Area	Mailed to representatives	Early release of socioeconomic impact analysis released for informational purposes

Date	Organization	Individual(s)	General Discussion
December 5, 2005	Campbell County	County Commissioners	Discussion of RUS Environmental Impact Statement process.
December 6, 2005	City of Sheridan	City officials and general public	Dry Fork Station and Hughes Transmission Project Environmental Impact Statement Public Scoping Meeting
December 7, 2005	City of Gillette	City officials and general public	Dry Fork Station and Hughes Transmission Project Environmental Impact Statement Public Scoping Meeting
December 8, 2005	Johnson County Economic Development Group	Group officials	Power Point presentation on the Dry Fork Station
December 8, 2005	Gillette Cam-Plex	Dan Barks and staff	Discussions with the Gillette Cam-Plex for possible partnership on RV pads for temporary construction workforce.

Date	Organization	Individual(s)	General Discussion
December 15 – 16, 2005	Wyoming state agencies: Department of Workforce Services, Department of Transportation, Department of Fire Prevention and Electrical Safety, Department of Health, State Engineer's Office, Wyoming State Geological Survey, Department of Environmental Quality, Game and Fish Department, Office of Consumer Advocate, Industrial Siting Council, Public Service Commission, Attorney General's Office, Department of Revenue, and the Office of the Governor		Informational PowerPoint presentation on the Dry Fork Station
December 19, 2005	Crook County	Commissioners and Area Mayors	Discussion with county commissioners and mayors of four towns in Crook County regarding their concerns about the construction and operation of the DFS

Date	Organization	Individual(s)	General Discussion
January 3, 2006	Town of Hulett	Town Council	Informational PowerPoint presentation on the Dry Fork Station
January 4, 2006	Crook County	County Commissioners	Discussion on the Dry Fork Station
January 4, 2006	Campbell County School District	Dr Richard Strayhorn	Discussion with Dr. Strayhorn and staff on DFS
January 5, 2006	Wyoming Workforce Services	Management and staff	Begin to establish a working relationship between the two organizations
January 10, 2006	Campbell County Economic Development Corporation	Board of Directors	Informational presentation on the Dry Fork Station
January 10, 2006	Campbell County School District	School Board and Staff	Informational presentation to the Board of the Campbell County School District
January 13, 2006	Campbell County	Commission staff	Conference call with three commissioner staff and Steve Johnson to discuss bonding
January 17, 2006	Powder River Energy Corporation (PRECorp)	Directors	Informational presentation to the PRECorp Board

Date	Organization	Individual(s)	General Discussion
January 17, 2006	Department of Education and Wyoming Business Council	Agency representatives	Informational presentation on the Dry Fork Station to state agencies that did not attend the December presentations
January 20, 2006	Wyoming State Emergency Response Commission	Agency representatives	Informational presentation on the Dry Fork Station
January 30, 2006	Presentation to Union Representatives	Henry McCoy, Dave Clark, Mike McEwin, Harvey Humphrey	Dry Fork Station presentation and housing questions for union representatives
February 7, 2006	Campbell County	Campbell County Commissioners	Presentation by Bob Boettcher and Steve Johnson primarily on bonding
March 1, 2006	Wyoming Rural Electric Association	Board of Directors	Information presentation on the Dry Fork Station
March 2, 2006	Wyoming Partnership Office of Fannie Mae	Darwin Pace	Discuss the Gillette housing market and employer assisting housing
March 2, 2006	Wallick and Volk, mortgage company headquartered in Cheyenne	Ann Weber, Laura Edwards, and Michael Groff	Discussion on the housing situation in the Gillette-area and gain their perspective on housing opportunities in Gillette

Date	Organization	Individual(s)	General Discussion
March 6, 2006	Wyoming State Agencies: Department of Revenue, Department of Fire Prevention and Electrical Safety, Department of Transportation, Department of Workforce Services, Game and Fish Department, Department of Agriculture, State Engineer's Office, Public Service Commission	Wyoming State Agency Representatives	Present information on the revised peak construction workforce estimate
March 7, 2006	Wyoming State Agencies: Department of Health, Office of Consumer Advocate, Department of Environmental Quality, and the Office of the Governor	Wyoming State Agency Representatives	Information presentation on the Dry Fork Station
March 10, 2006	KFx Inc. (coal beneficiation company)	Keith Schick, Andy Clark, Robert Hanfling	Discussion of possible housing partnerships
March 21, 2006	Campbell County	County Commissioners	Presentation on environmental impact statement process
March 30, 2006	Wyoming Geological Survey	Agency Staff	Presentation on the Dry Fork Station

Date	Organization	Individual(s)	General Discussion
March 30, 2006	University of Wyoming	William Gern	Presentation on Dry Fork Station

5.6 Potential Environmental Impacts

5.6.1 Project Impacts

5.6.1.1 Introduction

Potential environmental impacts associated with the construction, operation, and maintenance of the project are discussed below. Resource data were collected and impact analyses were conducted to evaluate impacts on the natural environment. Methods of mitigating potential impacts will be implemented as part of the project and have been incorporated into the impact analysis. Unless otherwise stated, the area of analysis for the various resources evaluated consisted of the plant site and adjoining area.

As part of the overall permitting process for the project, RUS will be preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). This EIS will further address the proposed project, existing conditions, and environmental consequences.

5.6.1.2 Air Quality

BEPC has applied for a Prevention of Significant Deterioration (PSD) air permit from Wyoming Department of Environmental Quality (WDEQ), which has jurisdiction for regulation of air emissions in the state of Wyoming. The analyses required as part of this application demonstrate that the project will use Best Available Control Technology (BACT) to limit pollutant emissions to the maximum extent technically and economically feasible. Analyses also demonstrate that the impacts associated with the project will be well within state and federal ambient air quality standards. Construction of the project cannot begin until WDEQ issues a final air permit after appropriate United States Environmental Protection Agency (USEPA) and public comment periods. Furthermore, the project will be required to continuously demonstrate compliance with the terms of the permit, and will also be required to obtain an “operating” air permit from WDEQ after construction.

5.6.1.3 Noise

Noise impacts associated with the construction and operation of the project will be addressed in the EIS.

5.6.1.4 Cultural Resources

ACR Consultants, Inc. (ACR), of Sheridan, Wyoming, completed a Class I cultural resource file search and a Class III survey for the project. There should be no impacts to the National Register of Historic Places (NRHP)-eligible cultural properties as a result of construction-related or operational activities. The following is a summary of the cultural resource investigations conducted by ACR.

ACR surveyed 347 acres for the project. ACR anticipated finding prehistoric lithic scatters and/or habitation sites. Historic resources, campsites, and isolated cans or glass were also expected to be encountered during the current inventory. Four previously recorded sites and three isolated resources were recorded by ACR. The previously recorded sites consist of three lithic scatters and a dual component site. One site has been completely destroyed and another is 5 percent destroyed. The remaining two sites have been reduced in size. All of the sites encountered by ACR during this inventory are recommended not eligible for the NRHP.

The following summarizes the effects of the project on archaeological sites (ACR 2005).

Site 48CA920 This site is located outside all project areas and will not be impacted by the undertaking. ACR recommends the site not eligible for the NRHP, and ACR proposes no further work.

Site 48CA921 This site is within the Proposed Ash Disposal Area. The site is completely destroyed. ACR proposes no further work.

Site 48CA922 This site is within the Proposed Ash Disposal Area. ACR recommends the site not eligible for the NRHP, and ACR proposes no further work.

Site 48CA925 This site is within the Proposed Ash Disposal Area. The site is 75 percent destroyed and is recommended not eligible for the NRHP. ACR proposes no further work.

The project will not affect any known cultural resources. Cultural clearance for the project is recommended. However, should any additional cultural resources be discovered during construction, the Wyoming State Historic Preservation Officer will be immediately contacted at:

Wyoming State Historic Preservation Office
2301 Central Avenue, Barrett Building, Third Floor
Cheyenne, Wyoming 82002
307-777-6311

5.6.1.5 Geologic Hazards

Data from the U.S. Geological Survey was reviewed for the presence of faults that would be considered geologic hazards within the vicinity of the preferred site, Site H. The nearest fault is approximately 10 miles to the north of Site H. No impacts associated with geologic hazards are expected to occur as a result of project implementation. The project will not contribute to increased risks of seismic events, subsidence, flooding or landslides.

5.6.1.6 Land Use and Recreation

Land Use

The project site is currently used for livestock grazing. There will be a reduction or elimination of grazing on the project site.

Recreation

Information from the 2002 Digital Wyoming Atlas (University of Wyoming Department of Geography) was reviewed to determine the location of recreational areas. Five recreational areas exist within the larger region. A Comprehensive Planning Program prepared jointly by the city of Gillette and Campbell County (last updated March 1994) was also reviewed. The program identifies parks and recreation planning as an essential element determining the character and quality of an environment. Existing facilities are located primarily within or near the cities of Gillette and Wright. The closest large recreational area, Keyhole State Park, is approximately 40 miles from the project. Opportunities for dispersed recreation exist on federal and state lands in the larger region. Dispersed recreational opportunities include hunting, fishing, sightseeing, off-road vehicle use, and camping. Various coal mines offer tours between June and August. No recreational opportunities exist within the project site, and no impacts would occur to recreational opportunities as a result of project implementation.

Nearby recreational areas may see an increase in visitors from new residents employed for the project.

5.6.1.7 Visual Resources

Basin Electric analyzed and quantified the overall impact to visual aesthetics from SH 59, as this is the primary public viewing point in the area. Though the power plant would be visible from two points along SH 59, it would not significantly degrade the scenic quality of the area which is already affected by coal mines and transmission lines.

5.6.1.8 Mineral Resources

During the site selection process, coal mine data was obtained from the State of Wyoming and the BLM. Wyoming's Gap Analysis Program (1994) was used to identify mineral ownership across the Project Area. Basin Electric also updated the abstracts and paid for a comprehensive title opinion. The construction and operation of the project will not preclude access to, exploration of, or development of any mineral resources in the general Project Area. No such developments are currently proposed.

5.6.1.9 Soil Resources

The Soil Survey Geographic Database (SSURGO) for Campbell County, Wyoming, was used to confirm soil characteristics on the project site. Soils present on the site include 10 soil

complexes with mostly loam characteristics. No soils present on Site H meet the state and federal criteria of prime farmland soils. No soils exceed the K-factor limit of 0.37 set by the Natural Resource Conservation Service (NRCS) as a limiting factor for erosion hazard. Hydric soils are present in the southeast corner of the site, as described in the jurisdictional waters report (author and year). Wyoming does not maintain a list of soils of statewide concern.

No adverse impacts on soil resources will occur. Mitigation measures will be implemented during construction and operation of the project to ensure that excessive erosion and other adverse impacts on area soils will not occur.

5.6.1.10 Vegetation Resources

Data from the Wyoming GAP analysis project (WY GAP 2005) predicted the vegetation community on Site H to be Wyoming big sagebrush. Due to past land use, land cover on the site consists of grassland with scattered Wyoming big sagebrush communities. The sagebrush community is located primarily on the south side of the proposed site. The northern portion of the site is dominated by grasses, primarily smooth brome with sideoats grama, slender wheatgrass, buffalo grass, blue grama, western wheatgrass, threadleaf sedge, yarrow, scarlet globemallow, spiderwort, plain's prickly pear, fringed sage, snakeweed, Hood's phlox, and nodding onion.

Smooth brome and common dandelion were the dominant non-native species identified on the site. Mayweed chamomile was also observed on the site in some of the heavier grazed portions of the proposed project site.

The onsite vegetation reflects the historic land use of the property. The entire proposed site is currently being used for livestock grazing. Native vegetation communities (sagebrush/native grassland) have been converted to support such agricultural practices.

Impacts to vegetation would include permanent vegetation loss within the footprint of the project. In addition, temporary impacts would occur during construction activities. Revegetation with native species in these areas of temporary impact would minimize unnecessary vegetation loss. Mitigation will include measures to prevent infestations of weeds. The cessation of livestock grazing on the project site may benefit the vegetation resources in the long term.

5.6.1.11 Surface and Groundwater Resources

Surface Water

Surface water within the project site includes one perennial and one intermittent drainage. The perennial drainage is the Dry Fork of the Little Powder River (Dry Fork), and the intermittent drainage is a tributary to the Dry Fork. Both of these drainages intersect the southeast corner of the project site. The project includes a 300-foot buffered area of these features, and no surface water will be used for the project. No direct impacts to surface water features within the project site will occur.

Potential impacts to surface water from erosion and sedimentation will be prevented by measures to control runoff during construction and operation of the project. State 401 water quality certification and appropriate soil erosion and sediment controls will be implemented. A pollution prevention plan will be developed and implemented to minimize impacts on water resources during long-term operation of the project.

FEMA 100-year floodplain data identifies a 100-year floodplain in the southeast corner of the project site, outside of the area that would be used for construction of the project. The floodplain is associated with the Dry Fork drainage and would not be impacted by the project.

Groundwater

The project will include a well field to tap into the Lance-Fox Hills Aquifer system. The water from this aquifer is brackish and is not suitable for domestic or agricultural use without blending with less brackish water, such as that available from the Lower Fort Union Aquifer, which is a shallower aquifer system. Furthermore, the depth of the Lance-Fox Hills Aquifer renders the source generally uneconomical for most non-industrial uses.

A report was prepared to analyze water supply and yield (WWC 2005). The report documents the availability of groundwater for project use. The analysis used data collected from nearby wells in the same aquifer, including a pump test conducted for the project on a well owned by the Dry Fork Mine. Drawdown modeling indicated that there is sufficient groundwater within the Lance-Fox Hills Aquifer system to supply the needed 2,100 acre feet per year for 60 years.

As part of this industrial siting process, the WSEO has issued its final opinion regarding BEPC's proposed use of Lance-Fox Hills Aquifer water for the project (WSEO 2005). In this opinion, the State Engineer indicates its concurrence that sufficient water exists in the Lance-Fox Hills Aquifer to supply the necessary quantity of water to the project. The State Engineer will require a number of conditions to verify this opinion, including installation and testing of monitoring wells and pump testing of each production well installed for the project.

5.6.1.12 Wetland Resources

The U.S. Army Corps of Engineers (Corps) enforces Section 404 of the CWA, which regulates the discharge of dredged or fill material into all waters of the U.S., including wetlands. Such waters are known as "jurisdictional waters of the U.S." and have been defined to include not only obvious water bodies such as rivers, lakes, harbors, and bays, but also less obvious bodies of water such as intermittent streams and wetlands. It is acknowledged that if impacts, including discharge of dredged or fill material into jurisdictional waters (including wetlands), are proposed, a permit should be obtained from the Corps. If proposed impacts are less than ½ acre, authorization under a Nationwide Permit would likely apply. If impacts are greater than ½ acre, an individual 404 permit process would be necessary.

On May 24 and 25, 2005, a wetland delineation was conducted on the plant site in accordance with the Corps' official delineation procedure. The associated wetland report was accepted by the Corps in a letter dated September 9, 2005 (Burgan 2005). It was determined

that the Dry Fork and tributary system and any associated wetlands are considered “waters of the U.S.” and are under Corps jurisdiction. Dry washes in the northeast portion of the property are not considered jurisdictional.

The Dry Fork drainage supports a wetland system, including approximately 1.5 acres of wetlands within the project site. This wetland community is dominated by cattails, rushes, bulrushes, and sedges. The surrounding uplands consist of grasslands dominated by smooth brome, western wheatgrass, timothy grass, and bluegrass.

The unnamed tributary to the Dry Fork does not support significant wetland communities.

The project includes a 300-foot buffered area of wetlands. No project features will be located within this buffer zone, though some grading at the upper end may be necessary. Sedimentation and erosion control measures will protect the wetlands from impact. The project is not expected to impact wetlands. Construction will occur well outside of the wetland boundary. Erosion and sedimentation controls will be applied both during construction and during long-term operation to prevent runoff from degrading the wetlands. No CWA permits will be required.

5.6.1.13 Wildlife Resources

The grassland and sagebrush communities found on the project site provide habitat for various common wildlife species including pronghorn, mule deer, badger, coyote, various small mammals, and many avian species.

All wildlife species observed at the time of site visits were recorded. These species include meadowlarks, horned larks, lark buntings, a pair of kestrels, mourning doves, Brewer’s sparrow, badger, blackbirds, mule deer, and pronghorn. There were burrows onsite that most likely belong to cottontails, badgers, and coyotes.

Species observed in the surrounding wetlands and ponds include a nesting red-winged black birds, killdeer, a great blue heron, a turkey vulture, red-tailed hawk, and leopard frogs. The areas surrounding the proposed project site have been altered and disturbed by mining activities, so this wetland and creek provide nesting and foraging habitat for avian and aquatic species. The creek provides a watering source for big game species like pronghorn and mule deer. This stretch of the Dry Fork is known to support fish species including brook trout and longnose dace (GPR 1982).

The majority of birds that may potentially nest on the site are protected under the Migratory Bird Treaty Act (MBTA). If construction is to occur during nesting season for such species, pre-construction surveys will be conducted to ensure compliance with the MBTA.

Impacts on wildlife from the project will primarily consist of a temporary disturbance during construction activities. Wildlife will likely avoid the area during construction. Long-term impacts will be minimal, and will include a permanent loss of habitat within the 353-acre footprint of the project.

5.6.1.14 Threatened, Endangered, Proposed and Candidate Species

Those species classified as threatened or endangered are protected under the Endangered Species Act, enforced by the U.S. Fish and Wildlife Service (USFWS). Threatened or endangered species are considered "Federally listed" or "listed" once a final rule has been published in the Federal Register.

Endangered species are those plant and animal species, subspecies, or varieties that are in danger of extinction throughout all or a significant portion of their range. The threatened category comprises plant and animal species, subspecies, or varieties likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

Federal candidate species, subspecies, or varieties are those plant and animal species being considered for listing as endangered or threatened, but for which a proposed regulation has not yet been published in the Federal Register.

The USFWS was consulted regarding listed species within the Project Area. The USFWS identified the bald eagle, black-footed ferret, and Ute ladies'-tresses orchid as the only federally listed threatened and endangered species of concern within the Project Area. Known historic and recent occurrence data for these species were used in the evaluation of suitable locations for proposed facilities and infrastructure within the Project Area. Based on further evaluation including site visits, it was determined that none of the above listed species is likely to occur within the project site and therefore will not be impacted by the project.

The Wyoming Natural Diversity Database (WYNDD) provided occurrence data for both common wildlife species and species of state and federal concern that exist within the Project Area. These data sets were obtained in June 2004. Consultation with the Wyoming Game and Fish Department (WYGF) indicated that the primary WYGF species of concern within Campbell County is the greater sage grouse. The greater sage grouse was recently denied listing on the Endangered Species Act. The management of this species is under jurisdiction of the state wildlife agencies. This species is of high conservation concern in Wyoming. A survey for sage grouse was conducted on the morning of May 4, 2005. The entire proposed Project Area was surveyed using roads located within the Project Area. No leks (breeding grounds) were identified, and sage grouse were not seen on the property during the site visit. There is a lack of sagebrush and therefore suitable cover for sage grouse on the majority of the property. The southeastern portion of the site where sagebrush is prevalent was surveyed on foot after completion of the road survey to look for any further sign of grouse activity within these sagebrush patches. The site has been historically grazed and was actively grazed at the time of the site visit. The proposed Project Area does not have high-quality grouse habitat due to the sparse and sporadic occurrence of sagebrush onsite.

No impacts to federally listed or other species of concern are expected to occur as a result of project implementation.

5.6.2 Cumulative Impacts

5.6.2.1 Introduction

Cumulative impacts include incremental impacts resulting from the project, in addition to any impacts that would result from past, ongoing, or foreseeable future actions within the project site or the surrounding area. For purposes of cumulative impacts analysis, the analysis area is defined as the project site plus a 3-mile buffered area.

This analysis area contains three coal mines with active leases, several segments of a 69-kV transmission line, a state highway, and ranching operations.

5.6.2.2 Air Quality

The PSD air permitting process noted above includes cumulative analyses. Wherever impacts of the project are estimated to be greater than formally defined “insignificance” thresholds, cumulative analyses of the project plus surrounding sources are required. The application demonstrates that cumulative impacts of the project and surrounding sources are within allowable levels set by state and federal ambient air quality standards. WDEQ is reviewing this analysis under their jurisdiction for air quality permitting in Wyoming.

5.6.2.3 Noise

Noise levels at the property line will comply with standards for the surrounding land use. Internal noise levels will comply with occupational noise level standards. Noise levels emitted from equipment such as turbines and boilers will be abated to provide acoustic compliance and equipment performance warranty.

5.6.2.4 Cultural Resources

There are no known actions that will affect cultural resources within the project site. Within the larger cumulative analysis area, the proposed Hughes Transmission Line Project, existing and future mining operations, and other land uses may potentially affect cultural resources where such resources are present. However, mitigation and regulatory compliance measures will continue to minimize impacts on cultural resources from future activities.

5.6.2.5 Geologic Hazards

No project-related or other cumulative impacts related to geologic hazards will occur.

5.6.2.6 Land Use and Recreation

Land use in the larger area will continue to consist of a mix of mining, agriculture, and small-scale development. Recreation opportunities will continue in existing locations outside of the project site. No cumulative impacts will occur to land use or recreation within the project site.

5.6.2.7 Visual Resources

Cumulative impacts to visual resources are expected to continue in the general area of the project. These include the impacts that surrounding land uses have to visual resources in the vicinity of the project site. Existing mines and development currently affect scenic quality. The Hughes Transmission line will also affect the scenic value of the area. Additions to cumulative impacts from the project are minimal.

5.6.2.8 Mineral Resources

Coal mining operations in the area will continue to account for cumulative impacts to mineral resources in the larger area. The project will not contribute to cumulative impacts on mineral resources.

5.6.2.9 Soil Resources

Soil resources in the Project Area will be altered by construction related to the project, but these impacts will be minimized by mitigation measures. No other foreseeable action will contribute to cumulative impacts on soil resources within the project site. Within the larger cumulative analysis area, mining operations in the surrounding areas may potentially affect soil resources, though standard mitigation practices will keep future impacts to minimum levels, and past impacts are generally stabilized.

5.6.2.10 Vegetation Resources

Cumulative impacts on vegetation resources include impacts from the project described above in addition to impacts that have historically occurred from livestock grazing. The cumulative impacts from livestock grazing will decrease within the project site. Reclamation measures will keep impacts to vegetation resulting from the project to a minimum.

5.6.2.11 Surface and Groundwater Resources

Existing and future development, mining, livestock grazing, and transportation corridors all contribute to cumulative impacts on surface water through some level of increased sedimentation. Due to mitigation measures associated with the project, contributions to such cumulative impacts will be minimal to non-existent.

Cumulative impacts on groundwater include those from project use in addition to other groundwater use in the area due to mining, agriculture, or development.

5.6.2.12 Wetland Resources

Historically, the onsite wetland resources have been affected by livestock grazing. The project will not affect wetlands within or outside of the project site. Cumulative impacts to wetlands should decrease with implementation of the project and the resulting decrease in livestock grazing within the project site. Grazing and development will continue to affect

wetlands within the larger analysis area. Mitigation measures for the project and surrounding mining operations will keep cumulative impacts from such land use to a minimum.

5.6.2.13 Wildlife Resources

Habitat loss within the cumulative analysis area has occurred due to development, collisions with vehicles along transportation corridors, mining operations, and agricultural practices. Cumulative impacts to wildlife will continue as a result of future activities. Wildlife that occurs in the area currently coexists with such uses. Additions to cumulative impacts on wildlife resources from the project will be minor.

5.6.2.14 Threatened, Endangered, Proposed, and Candidate Species

Cumulative impacts on federally listed and other species of concern within the project site are minimal due to the lack of habitat and unlikely occurrence of such species within the area. Cumulative impacts from past activities have altered the landscape and decreased habitat for species of concern such as the greater sage grouse. Future human impacts in the area will continue to indirectly affect such species through habitat loss; however, increased awareness and implementation of mitigation practices will help minimize such losses.

5.6.3 Plans for Alleviating Impacts

Various mitigation measures will be implemented to alleviate impacts related to project construction and operation. These mitigation measures are described in the following paragraphs and are organized by resource topic.

Aesthetics

- Basin Electric and its contractors shall exercise care to preserve the natural landscape and shall conduct construction operations (including all construction-related activities and Basin Electric's designated access roads/trails and staging areas) to prevent any unnecessary damage to, or destruction of, natural features.
- Construction trails not required for maintenance access shall be restored to the original contour and made impassable to vehicular traffic. The surfaces of such construction trails shall be scarified as needed to provide a condition that will facilitate natural revegetation, provide proper drainage, and prevent erosion.

Air Quality

- Basin Electric and its contractors shall use such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.
- Construction-related dust disturbance shall be controlled by the periodic application of water to all disturbed areas along the right-of-way and access roads.

- Vehicles and equipment showing excessive emission of exhaust gases due to poor engine adjustments or other inefficient operating conditions, shall not be operated until corrective adjustments or repairs are made.

Biological Resources

- Removal of vegetation will be limited to that necessary for construction of the project.
- A 300-foot buffered area will be implemented around wetlands and surface water features. No project features will be placed within this buffered area, though some ground alteration (grading) may occur within the boundary. Erosion and sedimentation controls will be used to prevent runoff of particulates into wetlands and waterways.
- On completion of the work, all work areas, except any permanent access roads/trails, shall be regraded, as required, so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage and prevent erosion.
- All construction materials and debris shall be removed from the project site in a timely manner.

Cultural Resources

- Should any previously unknown historic/prehistoric sites or artifacts be encountered during construction, all land altering activities at that location will be immediately suspended and the discovery left intact until such time that Basin Electric is notified and appropriate measures are taken to ensure compliance with the National Historic Preservation Act and enabling legislation.

Wildlife Resources

To reduce employee-wildlife incidents, new construction workers will receive information on wildlife awareness during their new employee orientation program. The program will include, at a minimum:

- Information regarding restricts or the prohibiting of construction employees' access to sensitive wildlife activity areas:
- Information regarding applicable wildlife laws and resident hunting requirements;
- Information regarding policies and laws penalizing wildlife harassment and poaching;
- Statement prohibiting the possession of firearms on the site;
- Reporting procedures and requirements for vehicle collisions with wildlife;
- Reporting procedures and requirements for incidental observation of wildlife including threatened or endangered species, and;
- Posted and enforced speed limits to minimize wildlife vehicle collisions.

Fire Prevention/Control

- Construction vehicles shall be equipped with government-approved spark arresters.
- The contractor shall maintain in all construction vehicles a current list of local emergency response providers and methods of contact/communication.

Land Use

- The contractor shall limit movement of crews, vehicles, and equipment on the right-of-way and approved access roads to minimize damage to property and disruption of normal land use activity.
- The contractor shall maintain all fences and gates during the construction period. Any fence or gate damaged during construction will be repaired immediately by the contractor.
- The contractor shall eliminate, at the earliest opportunity, all construction ruts that are hazardous to agricultural operations and/or movement of vehicles and equipment. Such ruts shall be leveled, filled and graded, or otherwise eliminated in an approved manner. Damage to ditches, tile drains, culverts, terraces, local roads, and other similar land use features shall be corrected, as necessary, by the contractor. The land and facilities shall be restored as nearly as practicable to their original condition.
- Basin Electric Power Cooperative maintains all generation facilities and associated properties in a clean and usable condition. Power Plant structures that are no longer required for the operation of the power plant will be maintained in a clean and usable condition until such time as they are dismantled.

Noise

- Construction vehicles and equipment shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (e.g. mufflers, engine enclosures).
- Noise attenuating materials will be incorporated into the design of the plant equipment and structure to minimize impacts during operation.

Soils

Administered through project specifications and job supervision, erosion control measures will be implemented to minimize the impacts to soils during and post construction.

- An erosion control plan will be prepared by the contractor that addresses excavation, grading, and erosion control measures during and after construction.
- Limits of construction, areas to be distributed, will be defined and managed by onsite inspectors and construction managers.
- Periodic inspection will be made of erosion control measures by project managers, especially after storms. Measures will be repaired or replaced as necessary.

- Berms and other water channeling measures will be used to direct water to appropriate detention ponds.
- Barriers and other measures consisting of hay bales, silt fences, and straw mulches will be used to minimize and control soil erosion.
- All disturbed areas will be restored and reclaimed using certified weed-free native grasses.
- Side slopes created by grading will not exceed the soil characteristic limits, as prescribed by a soils engineer. As may be necessary, in steep slope conditions, a retaining wall may be installed.

Traffic

- The contractor shall make all necessary provisions for conformance with federal, state, and local traffic safety standards and shall conduct construction operations to offer the least possible obstruction and inconvenience to public traffic.

Water Quality

- Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminant debris, and other objectionable pollutants and wastes into flowing streams or dry water courses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.
- Borrow pits shall be so excavated that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent, undisturbed terrain into the pit or borrow area, giving a natural appearance. Waste piles shall be shaped to provide a natural appearance.
- Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or water courses shall not be performed without prior approval by the applicable land managing agency or landowner.
- Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other water course perimeters where they can be washed away by high water or storm runoff or can, in any way, encroach upon the actual water source itself.
- Waste waters from construction operations shall not enter streams, water courses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable

material. Settleable material is defined as that material that will settle from the water by gravity during a 1-hour quiescent period.

5.6.4 Mitigation to Local Governments

Basin Electric has pursued solutions to potential impacts associated with the Dry Fork Station. Research has been conducted and mitigation measures have been identified.

The Dry Fork Station Socioeconomic Impact Analysis has identified two areas of impact: housing and transportation.

Basin Electric has been working with local communities, developers, and other stakeholders in the development of housing options to address the shortage. Basin Electric is implementing a housing mitigation strategy and securing contracts with various housing providers to mitigate the housing impact associated with its project.

Two new accesses from and to the Dry Fork Station will connect the plant with SH 59 in compliance with WYDOT requirements. Basin Electric will build acceleration and deceleration lanes to allow traffic to maneuver into and from the site. The two access points will be approximately .25 miles apart. Onsite, new roadway will be constructed to accommodate the expected traffic leaving the site.

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Appendix A
Letters of Support

TOWN OF GUERNSEY

P.O. Box 667 • Guernsey, WY 82214
Phone (307) 836-2335 • Fax (307) 836-2601
TTY/TDD 800-877-9965

November 18, 2005

Wyoming Municipal Power Agency
PO Box 900
Lusk, WY 82225

Dear Larry;

The Town of Guernsey Mayor and Council are in full support and feel strongly that the negative short-term impacts involved with the construction of the Dry Fork Station will be far out-weighed by the long-term economic and social benefits to the area and to the state of Wyoming.

The conversion of our valuable coal resources to electrical power within the state supports the desires of Wyoming state and local officials to utilize our valuable minerals to create jobs for Wyoming residents and add to the tax base, both very desirable for the area and the state of Wyoming.

The Town of Guernsey appreciates the opportunity to meet with representatives of Basin Electric Power Cooperative and provide any input early in the planning process.

The Town Council of the Town of Guernsey believes that it would be beneficial to the citizens of Wyoming if the state's valuable coal reserves are converted to electrical energy within Wyoming, as this process provides additional long-term employment for Wyoming residents. The Town Council of the Town of Guernsey fully supports the efforts of Basin Electric to utilize these resources at the planned Fry Fork Station.

The Town Council of the Town of Guernsey will meet on their regular schedule date of December 6, 2005 in which a resolution to support the Dry Fork Station will be presented. A copy of this resolution will be immediately forwarded to you upon approval.

Sincerely,

Gary L. Anderson

Gary L. Anderson, Mayor
Town of Guernsey

The Town of Guernsey is an equal opportunity provider

RESOLUTION 05-006

A RESOLUTION BY THE TOWN COUNCIL OF THE TOWN OF GUERNSEY, WYOMING, DECLARING THEIR STATEMENT OF SUPPORT FOR THE DRY FORK STATION POWER PROJECT.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF GUERNSEY, WYOMING THAT; the Town Council supports economic growth in northeast Wyoming; and

WHEREAS, the Town Council of the Town of Guernsey, Wyoming encourages the productive use of Wyoming's bountiful coal reserves; and

WHEREAS, the conversion of Wyoming's bountiful sub bituminous coal reserves to electrical energy adds value to a natural resource and creates much needed jobs in Wyoming; and

WHEREAS, Basin Electric Power Cooperative has announced its intention to construct the Dry Fork Station, a coal-powered electric generation facility near Gillette; and

WHEREAS, the Dry Fork Station will provide 75 new, quality jobs; and

WHEREAS, the Wyoming Industrial Siting process provides for the allocation of a portion of sales and use taxes during the construction period to offset community impacts during construction; and

WHEREAS, The Town Council of the Town of Guernsey, Wyoming has deemed that the planned Dry Fork Station meets the goals of capital investment, economic diversification and job creation in northeast Wyoming.

NOW, THEREFORE, BE IT FURTHER RESOLVED by the Town Council of the Town of Guernsey, Wyoming is in full support of the planned Dry Fork Station project.

PASSED, APPROVED AND ADOPTED this 6th day of December, 2005.

Gary L Anderson

Gary Anderson, Mayor

Mike Pettigrew, Council

Sarah Sellars

Sarah Sellars, Council

Jim Barnes

Jim Barnes, Council

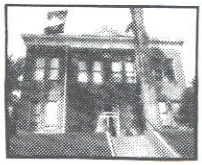
Shawn Kelley, Council

Attest:

Leslie Zynda, Clerk/Treasurer

Johnson County Commissioners

Buffalo, Wyoming 82834



76 North Main Street
Phone: (307) 684-7555
Fax: (307) 684-5146

Gerald E. Fink
James I. Mader
Robert L. Thompson

December 13, 2005

Curt Pearson, CCC
Basin Electric Power Cooperative
1717 East Interstate Avenue
BISMARCK ND 58503

Dear Mr. Pearson,

The information Basin Electric Power Cooperative has provided to the Johnson County Board of Commissioner regarding the proposed Dry Fork Power Plant has been very helpful. We feel the proposed power plant located in northeast Campbell County will have an impact on Johnson County.

Developing Wyoming's natural resources as well as providing new employment to Wyoming residents will be provided by the proposed Dry Fork Power Plant. Not only will the Dry Fork Power Plant draw some employees from Johnson County; Johnson County will also provide recreation opportunities such as camping, fishing, boating and hunting.

We look forward to the proposed Dry Fork Power Plant becoming a reality.

Sincerely,

Gerald E. Fink

Gerald E. Fink, Chairman
Johnson County Commissioner

A TOWN OF LINGLE RESOLUTION TO SUPPORT THE PLANNED DRY FORK STATION PROJECT

WHEREAS, the Town Council of the Town of Lingle, Goshen County, Wyoming ("Town Council"), supports economic growth, job creation and the productive use of Wyoming's coal reserves; and

WHEREAS, converting instate coal reserves into electrical energy will certainly add value to our natural resource and add jobs and economic benefit to the state; and

WHEREAS, Basin Electric Power Cooperative intends to construct the Dry Fork Station plant near Gillette and the Wyoming Industrial Siting process provides for the allocation of a portion of the sales and use taxes during construction of offset community impacts during construction; and

WHEREAS, the Town Council deems the planned Dry Fork Station meets the goals of capital investment, economic diversification, job creation and continued power being made available at reasonable prices to Wyoming Municipal Power Agency;

NOW THEREFORE, BE IT RESOLVED by the Lingle Town Council fully supports the planned Dry Fork Station project.

ADOPTED AND APPROVED this 7th day of December 2005.

Mayor George Siglin

Council Member

SEAL:

TOWN OF LINGLE, WYOMING
CORPORATE
SEAL

Council Member

ATTEST:

Council Member

Council Member

A RESOLUTION OF THE GOVERNING BODY OF THE TOWN OF LUSK, WYOMING COMMITTING ITS SUPPORT TO BASIN ELECTRIC POWER COOPERATIVE IN ITS CONSTRUCTION AND OPERATION OF THE "DRY FORK STATION" NEAR GILLETTE, WYOMING.

WHEREAS, the Town of Lusk is a Municipal Corporation existing under and by virtue of the laws of the State of Wyoming; and

WHEREAS, the Town of Lusk and its inhabitants have benefited greatly by the Town's membership in the Wyoming Municipal Power Agency (WMPA) which provides affordable electricity to them; and

WHEREAS, Basin Electric Power Cooperative has granted WMPA a right to participate in the "Dry Fork Station" an electricity generation plant to be constructed near Gillette, Wyoming and said participation will assure sufficient generation of electricity to enable WMPA to continue to meet the demand of its members; and

WHEREAS, said generation plant will utilize Wyoming coal, create Wyoming jobs and benefit Wyoming consumers;

NOW THEREFORE BE IT HEREBY RESOLVED that the Governing Body of the Town of Lusk, Wyoming fully supports the efforts of Basin Electric Power Cooperative in its efforts to construct and operate the "Dry Fork Station", and

BE IT FURTHER RESOLVED that the Town of Lusk respectfully requests the State of Wyoming to lend its support and assistance to this worthwhile project.

DATED this 6th day of December, 2005.

GOVERNING BODY OF THE TOWN OF LUSK, WYOMING:

Peter W. Pier
Mayor

(Seal)

ATTEST:

Kathy Hoskins
Town Clerk

Councilman

Councilman

Patricia L. Smith
Councilman

TOWN OF MOORCROFT
PO BOX 70
MOORCROFT, WY 82721
(307) 756-3526
FAX: (307) 756-3323
Email: townm@rtconnect.net

October 27, 2005

To Whom It May Concern:

The Mayor and Town Council of the Town of Moorcroft would like to express our support for the Basin Electric Power Cooperative's Dry Fork Power Plant Project.

We feel that this project would benefit the Town of Moorcroft and surrounding areas and we fully support the impact it would have on this community.

Respectfully,

Dick Claar, Mayor

Steve Blakeman, Council

Jay Kiplinger, Council

Dale Petersen, Council

Jim Rexford, Council

City of Newcastle

10 W. Warwick
Newcastle, WY 82701
307-746-3535

November 7, 2005

Curt Pearson
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

To Whom is May Concern,

As you may be aware the City of Newcastle has been contacted by Basin Electric Cooperative as part of their permitting process for their Dry Forks Project. Mr. Bob Boettcher and Mr. Curt Pearson have been diligent in their efforts to inform the City Council of Newcastle regarding the impacts on our city from the building of this power plant.

On behalf of the residents of the City, I and all the members of the Newcastle City Council realize that this power plant will have a certain socioeconomic impact on our city. We have already begun to see impact in the loss of workers to Campbell County industries and at times have trouble retaining an adequate workforce for our needs. At the same time we are realizing a greater need for housing which has an impact on the infrastructure of our city. We have recently begun needed infrastructure work to our streets that has been delayed for several years due to financial constraints. We also have added staff in our police department to handle the increased load from the influx of people we are beginning to see move into Newcastle.

At the same time, we see great opportunities through this to improve the future of Newcastle. Added people in our community will provide added business and financial opportunities to the businesses within our city. Therefore, we offer this letter of support on behalf of Basin Electric's proposal to build their Dry Forks Power Plant. We feel that even though our resources will be "stretched to the limit" this additional industrial site Basin Electric proposes will have a positive long-run effect on our city.

Sincerely,

Ed Wagoner

Ed Wagoner, Mayor
City of Newcastle

RESOLUTION 05-009

WHEREAS, the Town of Pine Bluffs supports economic growth in northeast Wyoming; and

WHEREAS, the Town of Pine Bluffs encourages the productive use of Wyoming's bountiful coal reserves; and

WHEREAS, the conversion of Wyoming's bountiful sub bituminous coal reserves to electrical energy adds value to a natural resource and creates much needed jobs in Wyoming; and

WHEREAS, Basin Electric Power cooperative has announced its intention to construct the Dry Fork Station, a coal-powered electric generation facility near Gillette; and

WHEREAS, the Dry Fork Station will provide 75 new, quality jobs; and

WHEREAS, the Dry Fork Station will provide the southern region of Wyoming, Pine Bluffs, with it's current use of electrical power needs and the future growth in the area; and

WHEREAS, the Wyoming Industrial Siting process provides for the allocation of a portion of sales and use taxes during the construction period to offset community impacts during construction; and

WHEREAS, the Town of Pine Bluffs has deemed that the planned Dry Fork Station meets the goals of capital investment, economic diversification and job creation in northeast Wyoming;

NOW, THEREFORE, BE IT RESOLVED that the Town of Pine Bluffs fully supports the planned Dry Fork Station Project.

Accepted and approved this 5th day of December, 2005 by the Pine Bluffs Town Council.

Leonard Anderson

Leonard Anderson, Mayor

Attest:

Dema Jo Gilbert

Dema Jo Gilbert, Clerk

Town of Pine Haven

24 Waters Drive
Pine Haven, WY 82721-9761

Telephone (307) 756-9807
Fax (307) 756-3378

December 1, 2005

Attn: Curt Pearson, CCC
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

Dear Mr. Pearson:

Enclosed please find a Resolution supporting your proposed Dry Fork Power Plant project.

If you have, any questions please call.

Thank You,

Judy Hurrle

Judy Hurrle, Clerk/Treasurer

Mayor - Dan Blakeman
Council Members:
Geri Beckley – Jerald Joslyn
Joe Slattery – Earl Ahlers
Judy Hurrle – Clerk/Treasurer
Carol Thomas – Deputy Clerk/Treasurer
Dwayne Ellerton – Public Works Operator

RESOLUTION 25, 2005

A Resolution supporting the proposed Basin Electric Dry Fork Power Plant.

WHEREAS, Basin Electric has proposed building the Dry Fork Power Plant approximately seven (7) miles northwest of Gillette..

WHEREAS, this Power Plant will be a benefit to Northeastern Wyoming and the Town of Pine Haven.

NOW THEREFORE, be it resolved by the Town of Pine Haven that we support the Basin Electric Dry Fork Power Plant.

Dated this 28 day of November 2005.

Town of Pine Haven

Dan Blakeman, Mayor

(Seal)

Attest:

Judy Hurrle, Clerk/Treasurer

A RESOLUTION IN SUPPORT OF THE PROPOSED DRY FORK STATION.

WHEREAS, the governing body of the City of Powell, Wyoming is a participating member with the Wyoming Municipal Power Agency (Agency) Joint Powers Board formed under the statutes of and existing wholly within the State of Wyoming, and;

WHEREAS, the Agency has informed its members that it no longer has sufficient generation resources to meet the existing electrical demand of its members, and;

WHEREAS, Basin Electric Power Co-operative has granted Agency the right to participate in the Dry Fork Station being constructed near Gillette, Wyoming in order to meets the Agency's present and future power supply responsibilities, and;

WHEREAS, the City of Powell believes that it is in the best interest of the citizens of Powell, for the Agency to develop coal resources within the State of Wyoming for use by and betterment of the people of Wyoming, and;

WHEREAS, the City of Powell believes that construction of the Dry Fork Station will provide positive economic development within the State of Wyoming.

NOW, THEREFORE, BE IT RESOLVED that the Governing Body of the City of Powell, Wyoming strongly supports the Basin Electric Power Co-operative in its efforts to design, construct and operate the proposed Dry Fork Station to be located near Gillette, Wyoming, and;

BE IT FURTHER RESOLVED that the Governing Body of the City of Powell, Wyoming, urges the State of Wyoming to facilitate the development of the Dry Fork Station to the extent possible and prudent, as being consistent with the best interest of the State and its citizens.

DATED this 5 day of December, 2005.

CITY OF POWELL, PARK COUNTY, WYOMING
MUNICIPAL
SEAL

CITY OF POWELL

BY: R. Scott Mangold, Mayor

ATTEST:

Andrea Bushman

POWDER RIVER ENERGY CORPORATION

221 MAIN STREET
P.O. BOX 930
SUNDANCE, WY 82729-0930
FAX: (307) 283-3527

200 GARNER LAKE ROAD
P.O. BOX 937
GILLETTE, WY 82718-0937
FAX: (307) 682-0733

1095 BRUNDAGE LANE
P.O. BOX 5087
SHERIDAN, WY 82801-1387
FAX: (307) 674-9018

1-800-442-3630

December 22, 2005

Bob Boettcher
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Dear Mr. Boettcher:

Powder River Energy Corporation strongly supports Basin Electric Power Cooperative in its efforts to design, construct and operate the Proposed Dry Fork Station. Unprecedented electrical growth related to energy development projects and growth of residential customers has created the need for this development.

Please find enclosed Powder River Energy Corporation's Resolution 2005-07 - In Support of the Dry Fork Station. Our board voted unanimously to support this endeavor at our December board meeting.

Sincerely,

Michael E. Easley
CEO

POWDER RIVER ENERGY CORPORATION

221 MAIN STREET
P.O. BOX 930
SUNDANCE, WY 82729-0930
FAX: (307) 283-3527

200 GARNER LAKE ROAD
P.O. BOX 937
GILLETTE, WY 82718-0937
FAX: (307) 682-0733

1095 BRUNDAGE LANE
P.O. BOX 5087
SHERIDAN, WY 82801-1387
FAX: (307) 674-9018

1-800-442-3630

Resolution 2005-07
In Support of the Dry Fork Station

WHEREAS, Powder River Energy Corporation is an electric distribution cooperative serving northeast Wyoming: and

WHEREAS, Powder River Energy Corporation and other electric cooperatives in the region are experiencing unprecedented electrical growth related to energy development projects and the influx of residential customers; and

WHEREAS, Powder River Energy Corporation is an all-requirements wholesale power customer of Basin Electric Power Cooperative; and

WHEREAS, Basin Electric Power Cooperative has announced its intention to construct the Dry Fork Station, a coal-fired electric generation facility near Gillette, Wyoming to provide power to its member cooperatives; and

WHEREAS, the conversion of Wyoming's bountiful sub bituminous coal reserves to low cost electricity adds value to a natural resource and creates economic growth in the area.

NOW THEREFORE BE IT RESOLVED, that the board of directors of Powder River Energy Corporation strongly supports Basin Electric Power Cooperative in its efforts to design, construct, and operate the proposed Dry Fork Station to be located near Gillette, Wyoming.

IN WITNESS THEREOF, I have hereunto set my hand and affixed the seal of the Corporation this 20th day of December 2005.

POWDER RIVER ENERGY CORPORATION

Tom L Dave
President

(corporate seal)

John P. Buell
Secretary/Treasurer

THE TOWN OF UPTON • UPTON • WYOMING 82730 •
PHONE 307/468-2441 BOX 203

November 8, 2005

To Whom It May Concern:

Bob Boettcher of Basin Electric Power Cooperative attended our council meeting on October 3, 2005 and presented information regarding a new power plant that the company would like to build north of Gillette, Wyoming. Having considered the information that Mr. Boettcher presented to us, Councilwoman Jennie Loberg made a motion at the November 7th meeting that the Town of Upton write a letter of support for this project, and Councilman Paul Douglas seconded the motion. All voted "aye".

The Town of Upton welcomes this business in our area. Therefore, please accept and consider this letter of support for the construction of the Dry Fork Station power plant located near Gillette, Wyoming.

Sincerely,

Ron Esquivel
Mayor
Town of Upton

COUNTY COMMISSIONERS
TED ERTMAN, CHAIRMAN
ALAN L. TODD GLEN HUTT
TOM W. BRUCE JACK STEPHENSON

CLERK OF COURT
SANDRA WALFORD
COUNTY ATTORNEY
DONALD B. HANSEN
COUNTY SHERIFF
BILL WARE

COUNTY CLERK
PAULETTE THOMPSON
COUNTY ASSESSOR
KURT KREMKE
COUNTY TREASURER
JOYCE AVERY

COUNTY OF WESTON

1 WEST MAIN STREET
NEWCASTLE, WYOMING 82701

November 1, 2005

Basin Electric Power Cooperative
Curt Pearson
Project Coordination Representative
171 E Interstate Ave.
Bismarck, ND 58503

Dear Mr. Pearson:

Weston County Commissioners support the Dry Forks Station project. This project is a construction project for a coal-powered electric generation facility to be located in Northeast Wyoming. Whereas, in the short term Weston County will feel the impact of the construction, we believe the long term benefits will also be shared by Weston County.

Weston County plans to participate in the Industrial Siting process and to request funding for the initial impact we anticipate we will see during the construction period. We also believe that some of the 75 new jobs will be filled by people who will locate in our county.

Thank you for the opportunity to comment on this project.

Sincerely,

WESTON COUNTY COMMISSIONERS

Ted J. Ertman
Chairman

RESOLUTION

A RESOLUTION OF SUPPORT BY THE TOWN OF WHEATLAND
FOR BASIN ELECTRIC POWER COOPERATIVE'S DRY FORK STATION

WHEREAS, the Town of Wheatland is located in Platte County, Wyoming, and

WHEREAS, the Missouri Basin Power Project, a 1650 MWN coal based power project operated by Basin Electric Power Cooperative is located approximately seven miles northeast of Wheatland, and

WHEREAS, the Missouri Basin Power Project has provided, and continues to provide, economic stability for the Town of Wheatland and Platte County, and

WHEREAS, Basin Electric Power Cooperative is a good corporate citizen through its continuing support of a variety of governmental, civic and individual projects, and

WHEREAS, the Town of Wheatland is a member of the Wyoming Municipal Power Agency (consisting of eight Wyoming communities), one of the owners of the Missouri Basin Power Project, and

WHEREAS, the Missouri Basin Power Project has created and continues to create excellent employment opportunities for the citizens of the Town of Wheatland and surrounding areas. The Dry Fork Station proposed by Basin Electric Power Cooperative will do the same in northeast Wyoming,

WHEREAS, Basin Electric Power Cooperative's construction of the Dry Fork Station will provide an additional source of energy for the Wyoming Municipal Power Agency, and

WHEREAS, the conversion of Wyoming's bountiful sub bituminous coal reserves to electrical energy adds value to a natural resource and creates much needed jobs in Wyoming;

NOW THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF WHEATLAND, WYOMING, that the Town of Wheatland fully supports the planned Dry Fork Station.

THIS RESOLUTION being approved by the governing body of the Town of Wheatland, Wyoming, on the 12th day of December, 2005.

Mayor

Councilperson

Councilperson

Councilperson

Councilperson

Attest:

Town Clerk-Treasurer

WYOMING MUNICIPAL POWER AGENCY
RESOLUTION 2005 – 4

Whereas, the Wyoming Municipal Power Agency (Agency) is a Joint Powers Board formed under the statues of and existing wholly within the State of Wyoming, and is the electric power supply agent for the Cities of Cody and Powell and the Towns of Ft. Laramie, Guernsey, Lingle, Lusk, Pine Bluffs, and Wheatland serving some 22,000 residents of the State, and;

Whereas, the Agency no longer has sufficient generation resources to meet the existing electric demand of its members, and;

Whereas, Basin Electric Power Cooperative has granted the Agency a right to participate in the Dry Fork Station being constructed near Gillette, Wyoming in order to meet our present and future power supply responsibilities, and;

Whereas, the Agency believes it is in the best interest of the citizens of our communities to develop coal resources within the State of Wyoming for use by and betterment of the people of Wyoming, and;

Whereas, the construction of Dry Fork Station provides positive economic development both short and long term for the Agency, its member systems, and the State of Wyoming.

Now Therefore Be It Resolved, that the Board of Directors of the Wyoming Municipal Power Agency strongly supports Basin Electric Power Cooperative in its efforts to design, construct, and operate the proposed Dry Fork Station to be located near Gillette, Wyoming, and;

Be it further resolved, that the State of Wyoming is urged to facilitate the development of Dry Fork Station, to the extent possible and prudent, as being consistent with the best interest of the State and its peoples.

WYOMING MUNICIPAL POWER AGENCY

Zane Logan

By: ZANE LOGAN, Chairman

ATTEST:

DOUGLAS WEAVER, Secretary
(Seal)

Wyoming Rural Electric Association

2312 Carey Avenue
Cheyenne, Wyoming 82001
(307) 634-0727 Fax: (307) 634-0728

December 15, 2005

Curt Pearson
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismark, ND 58503-0564

RE: Support for Dry Fork power plant project

Dear Mr. Pearson:

On behalf of the Wyoming Rural Electric Association's (WREA) board of directors I am writing in support of the proposed Dry Fork power plant in northeast Wyoming.

This proposed power plant is vital not only to the cooperative utilities served by Basin Electric but to the region, state of Wyoming, and the country as a whole.

WREA applauds your efforts in keeping the public informed and asking for their input at virtually every step of the way. This upfront and forthcoming approach should be a model for any future power plant development in Wyoming.

Best of luck with this endeavor and please let me know if there is anything WREA can do to support you in the future.

Sincerely,

Shawn Taylor
Executive Director
Wyoming Rural Electric Association

Town of Wright
P.O. Box 70
Wright, Wyoming 82732
(307) 464-1666

December 14, 2005

Curt Pearson, CCC
Basin Electric Power Cooperative
1717 East Interstate Ave.
Bismarck, ND 58503-0564

Dear Mr. Pearson:

On behalf of the Wright Town Council and myself, we want to express our support of Basin Electric Power Cooperative's efforts in building the Dry Fork Station. We feel strongly that the long-term economic and social benefits to the area and to the state of Wyoming will far out-weigh the negative short-term impacts involved with the construction of the Dry Fork Station.

The conversion of our valuable coal resources to electrical power within the state supports the desires of Wyoming state and local officials to utilize our valuable minerals to create jobs for Wyoming residents and add to the tax base, both very desirable for the area and the state of Wyoming.

The Town of Wright appreciates the opportunity to meet with representatives of Basin Electric Power Cooperative and provide input early in the planning process.

Sincerely,

Ralph Kingan

Ralph Kingan, Mayor

Affiliated with
AFL-CIO

WYOMING BUILDING
AND CONSTRUCTION TRADES COUNCIL

P.O. BOX 1807
ROCK SPRINGS, WY 82901-1807

TIM WELLS
President
(307) 382-2484
Fax: (307) 362-4156

wytrades@sweetwater.net

December 21, 2005

Dear Sir:

The Wyoming Building Trades Council heartily endorses the building of the Dry Fork Station Project. Basin Electric has estimated that up to 74% of the workforce would be provided by local workers. By utilizing the local workforce, this project will help the local economy and the local tax base as well as adding new apprentice training opportunities for the youth of the community. Local workingmen and women raise their families in the area and send them to local schools. They spend their money in the communities they work in. Basin Electric has been an excellent employer in the past and we are confident this will continue in the future. The Wyoming Building Trades Council sees this project as great opportunity for the State of Wyoming as well as its citizens.

We would like to request to be notified and participate in the ISC permitting process.

Sincerely;

Tim Wells

Tim Wells, President

Michael E. McEwin

Mike McEwin, Vice-President

CAMPBELL COUNTY
CHAMBER of COMMERCE
Working for You

November 15, 2005

Resolution of Support
For the
Basin Electric Power Cooperative – Dry Fork Station Power Plant and the Hughes Transmission Project

The Campbell County Chamber of Commerce Board of Directors, representing over 550 members, fully supports the proposed Basin Electric Power Cooperative – Dry Fork Station coal-fired power generating facility and the Hughes Transmission Project to be constructed in Campbell County, Wyoming.

This project fits within our Chamber mission by enhancing the business environment, promoting success, prosperity and economic vitality, and by improving the quality of life in Campbell County by providing additional employment opportunities, increased tax base, economic diversification and by adding value to our natural resources.

We, the Campbell County Chamber of Commerce Board of Directors hereby resolve on this 15th day of November, 2005, to fully support the project.

Kevin King, Public Policy Chairman &
Member of the Board of Directors

Attest:

Julie Simon, Interim President

ACCREDITED
CHAMBER OF COMMERCE
CHAMBER OF COMMERCE OF THE UNITED STATES

314 South Gillette Avenue • Gillette, Wyoming 82716 • Phone: (307) 682-3673 • Fax: (307) 682-0538 • E-Mail: frontoffice@gillettechamber.com

Campbell County
wyoming

OFFICE
500 South Gillette Avenue
Suite 1100
Gillette, Wyoming 82716
(307) 682-7283
(307) 687-6325 FAX

Administration ~ Grants

BOARD OF COMMISSIONERS
Marilyn Mackey, Chair
L. Alan Weakly
Craig Mader
Roy Edwards
Christopher Knapp

November 16, 2005

Curt Pearson
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, North Dakota 58503-0564

Dear Mr. Pearson:

The Campbell County Commissioners fully support Basin Electric Power Cooperative's proposed Dry Fork Station coal-powered electric generation facility. We believe that the negative short-term impacts involved with the construction of this facility will be far out-weighed by the long-term economic and social benefits to the area and to the state of Wyoming.

The conversion of our coal resources to electrical power within the state supports the desires of Wyoming local and state officials to utilize our valuable minerals to create jobs for Wyoming residents and add to the tax base.

The Board of Campbell County Commissioners unanimously approved a resolution of support for the Dry Fork Station at our November 15, 2005 meeting and are providing you with a copy of that resolution.

We appreciate the opportunity to meet with the representatives of Basin Electric Power Cooperative and provide input early in the planning process.

Sincerely,

Marilyn Mackey

Marilyn Mackey
Chair

cc Bob Boettcher

RESOLUTION OF SUPPORT
Dry Fork Station
Coal-Powered Electric Generation Facility

#1534

WHEREAS, the Board of Campbell County Commissioners supports economic growth in Campbell County; and

WHEREAS, the Board of Campbell County Commissioners encourages the productive use of Wyoming's bountiful coal reserves; and

WHEREAS, the conversion of Wyoming's bountiful sub bituminous coal reserves to electrical energy adds value to a natural resource and creates much needed jobs in Wyoming; and

WHEREAS, Basin Electric Power Cooperative has announced its intention to construct the Dry Fork Station, a coal-powered electric generation facility near Gillette; and

WHEREAS, the Dry Fork Station will provide 75 new, quality jobs; and

WHEREAS, the Wyoming Industrial Siting process provides for the allocation of a portion of sales and use taxes during the construction period to offset community impacts during construction; and

WHEREAS, the planned Dry Fork Station will benefit Campbell County with capital investment, economic diversification, and job creation.

NOW, THEREFORE, BE IT RESOLVED that the Board of Campbell County Commissioners fully supports the planned Dry Fork Station project.

RESOLVED this 15th day of November 2005.

BOARD OF COUNTY COMMISSIONERS
CAMPBELL COUNTY, WYOMING

Marilyn Mackey
Marilyn Mackey, Chair

Christopher R. Knapp
Christopher R. Knapp

Roy Edwards
Roy Edwards

L. Alan Weakly
L. Alan Weakly

Craig G. Mader
Craig G. Mader

ATTEST:

Marlene Lieber
County Clerk Deputy

Campbell County
Memorial Hospital
Dedicated to Caring for You

October 25th, 2005

Curt Pearson, CCC
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58501

Dear Mr. Pearson;

Thank you for visiting with me today and keeping me informed of the direction and progress of the Dry Fork Station. As you know, I have previously met with members of the Basin Electric Power Cooperative regarding our involvement in providing interim emergent and urgent care services during the construction phase of this facility and to be the community health care facility providing for the health of the continued workforce.

I greatly appreciate Basin Electric Power Cooperative's willingness to open communication regarding this project; the economic and environmental impact, and acceptance of personal and community input.

I support this project's intent of providing greater employment opportunity to residents of Northeast Wyoming, specifically Campbell County, with good paying and technically rewarding jobs.

Again, thank you for the opportunity for input and your commitment to our community and it's natural resources. I am

with best personal and professional regards,

Gene K. Balzer, Ph.D.
Chief Executive Officer

P.O. Box 3011
Gillette, WY 82717-3011
307.688.1000
www.ccmh.net

We've Got Energy.

Campbell County Economic Development Corporation
201 W. Lakeway Road, Suite 1004 – P.O. Box 3948 – Gillette, WY 82717
TEL 307-686-2603 FAX 307-686-7268
www.gillettewyoming.com – ccedc@vcn.com

RESOLUTION OF SUPPORT

Basin Electric Power Cooperative's Dry Fork Station
Coal-fired Power Generating Facility

WHEREAS, the Campbell County Economic Development Corporation supports economic growth in Campbell County; and

WHEREAS, the Campbell County Economic Development Corporation encourages added value to local coal reserves; and

WHEREAS, the Basin Electric Power Cooperative has announced its intention to construct Dry Fork Station, a coal-fired power generation facility near Gillette; and

WHEREAS, the Basin Electric Power Cooperative has requested a permit waiver from the State of Wyoming; and

WHEREAS, operation of the Dry Fork Station will provide 75 quality jobs in Gillette; and

WHEREAS, the Wyoming Industrial Siting process provides for impact assistance funds during the construction period to impacted communities to offset community impacts; and

WHEREAS, the Campbell County Economic Development Corporation has deemed that the proposed Dry Fork Station project meets the economic development goals of capital investment, economic diversification and job creation;

NOW, THEREFORE, BE IT RESOLVED by the Campbell County Economic Development Corporation to support the proposed project.

Passed, approved and adopted this 13th day of December, 2005.

Tom Hammerquist, CCEDC President

Attest:

Susan Bigelow, Executive Director

Come Join The Adventure!

CITY OF CODY
RESOLUTION 2005 – 11

Whereas, the City of Cody is an incorporated city within the State of Wyoming and is the electrical distribution provider for nearly 9000 residents and thousands of visitors, and;

Whereas, the City of Cody has been working cooperatively with other cities and towns to purchase power at a reasonable cost for distribution, and no longer has sufficient wholesale power supply to meet the existing electric demand of its residents, businesses and visitors, and;

Whereas, the City of Cody is a member of the Wyoming Municipal Power Agency, a Joint Powers Board formed under the statues of and existing wholly within the State of Wyoming, to supply electric power to the cities of Cody and Powell, and the Towns of Ft. Laramie, Guernsey, Lingle, Lusk, Pine Bluffs, and Wheatland serving some 22,000 residents of the State, and;

Whereas, the Agency no longer has sufficient generation resources to meet the existing electric demand of its members, especially the current and future needs of the City of Cody, and;

Whereas, Basin Electric Power Cooperative has granted the Agency a right to participate in the Dry Fork Station being constructed near Gillette, Wyoming in order to meet our present and future power supply responsibilities, and;

Whereas, the Agency believes it is in the best interest of the citizens of our communities to develop coal resources within the State of Wyoming for use by and betterment of the people of Wyoming, and;

Whereas, the construction of Dry Fork Station provides positive economic development both short and long term for the Agency, its member systems, and the State of Wyoming without harming the environment.

Now Therefore Be It Resolved, that Mayor Roger Sedam and the Cody City Council strongly supports Basin Electric Power Cooperative in its efforts to design, construct, and operate the proposed Dry Fork Station to be located near Gillette, Wyoming, and;

Be it further resolved, that the State of Wyoming is urged to facilitate the development of Dry Fork Station, to the extent possible and prudent, as being consistent with the best interest of the State and its peoples.

Dated this 6th day of December, 2005.

Roger Sedam
Mayor

Attest:

Kelly Jensen
Administrative Services Director

THE CITY OF CODY INCORPORATED 1901 WYOMING

City of Douglas Wy
HOME OF THE JACKALOPE

101 N. 4th Street
P.O. Box 1030
Douglas, WY 82633
307-358-3462
FAX: 307-358-6447

December 16, 2005

Bob Boettcher
NE Wyoming Generation Project Rep.
Basin Electric Power Cooperative
2201 S. Douglas Hwy., Suite 160
Gillette, WY 82718

RE: Support of Dry Ford Project

Dear Bob:

Enclosed you will find the original joint letter of support for the Dry Fork Station and Hughes transmission line from the Converse County Commissioners, Douglas City Council and Converse Area New Development Organization (CANDO). I have also enclosed a copy of the City's Resolution No. 1261, passed at their December 12th meeting, which expresses again the City's support of the Basin Electric Dry Fork Project.

Copies of these documents are being provided to Curt Pearson per your request. Should you have any questions or need additional information please do not hesitate to call.

Sincerely,

Bobbe Fitzhugh
City Administrator

BF/cle
Enclosures

Cc: Mayor/Council
Converse County Commissioners
Joe Coyne, CANDO

Board of Commissioners
Converse County, Wyoming

107 No. 5th St., Suite 114 • Douglas, WY 82633-2448 • 307-358-2244 • Fax 307-358-5998

Commissioners: Frank G. Eathorne, Jr., Chair • Sharon Kay Lovitt, Vice-Chair • Mark Cash, Member

December 7, 2005

Bob Boettcher
Project Representative – NE Wyoming
Basin Electric Power Cooperative
2201 S. Douglas Highway – Suite 160
Gillette, WY 82718

Dear Mr. Boettcher,

On behalf of the entities listed below, this letter is submitted to show our support for the Dry Fork Station and Hughes transmission line.

We in Converse County firmly believe that future growth and economic vitality for all communities in Wyoming hinges on adequate infrastructure and planning for the future. Both of your projects fall squarely into these critical elements by supplying electricity to a growing demand area and strengthening the transmission infrastructure across Northeastern Wyoming. In addition, these projects will present new good paying jobs and assist in helping other companies maintain and grow their employment as well.

We are confident that Basin Electric Power Cooperative will continue to be a good corporate neighbor in Wyoming and help mitigate any adverse affects that may develop as a result of this growth. We are pleased that your company has sent representatives to our county and communities to discuss the potential for impacts and are ready and willing to assist with mitigation efforts. Because the proposed development will have adverse impacts in Douglas and Converse County, our support of this project will be contingent upon a favorable determination by the Industrial Siting Council to allocate to Douglas and Converse County an adequate share of the impact dollars generated by this project. It is gratifying to see that your company recognizes the far-reaching impact that your projects have and that you will be considering our area for assistance.

Sincerely,

BOARD OF COUNTY COMMISSIONERS

Frank G. Eathorne | Sharon Kay Lovitt | Mark Cash

Frank G. Eathorne, Jr., Chair | **Sharon Kay Lovitt, Vice-Chair** | **Mark Cash, Commissioner**

Sherri Mullinnix

Sherri Mullinnix, Mayor of Douglas

Joseph A Coyne

Joe Coyne, Executive Director
Converse Area New Development Organization

RESOLUTION NO. 1261

A RESOLUTION OF SUPPORT FOR THE BASIN ELECTRIC DRY FORK PROJECT

WHEREAS, Basin Electric Power Cooperative has announced plans to construct a 376 megawatt coal-burning power plant in northern Campbell County; and

WHEREAS, the City of Douglas believes that future growth and economic vitality for all communities in Wyoming hinges on adequate infrastructure and planning for the future; and,

WHEREAS, Basin Electric Power Cooperative's proposed project will supply electricity to a growing demand area and strengthen the transmission infrastructure across Northeastern Wyoming; and,

WHEREAS, these projects present new good paying jobs and assist in helping other companies maintain and grow their employment as well; and,

WHEREAS, Basin Electric Power has met with Converse County governmental entities and has pledged to continue to be a good corporate neighbor and help mitigate any adverse affects that may develop as a result of this growth.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DOUGLAS, WYOMING, that the City supports the Basin Electric Dry Fork Station and Hughes transmission line proposed projects and authorizes the Mayor to sign a joint letter of support from Converse County and the Converse Area New Development Organization (CANDO).

BE IT FURTHER RESOLVED that the City of Douglas' support is contingent upon a favorable determination from the Industrial Siting Council to include Douglas and Converse County in the allocation of impact dollars generated by this project.

PASSED, APPROVED AND ADOPTED THIS 12th **day of** December, **2005.**

Sherri Mullinnix
Mayor

Attest:

Cheryl L. Ewing
City Clerk

CORPORATE SEAL

i:\comdoc\resolut\temp\admin\basin elec - dry fork support.doc

Town of Glenrock

Phone (307) 436-9294 • Fax (307) 436-5729 • Glenrock, Converse County, Wyoming 82637 • P.O. Box 417

5 December 2005

Mr. Bob Boettcher
Basin Electric Power Cooperative
2201 S. Douglas Hgwy. - Suite 160
Gillette, WY 82718

RE: DRY FORK STATION

Dear Mr. Boettcher:

We would like to thank you for the efforts made to educate us on the construction of this facility. We support this project and feel that any negative impacts involved will be short lived. The long-term economic benefits by far out-weigh any negative impacts to our community.

The Town of Glenrock appreciated the opportunity to meet with representatives of Basin Electric Power Cooperative and provide input in the planning process, and we support their efforts to construct a electrical power plant north of Gillette.

Sincerely,

Steve Cielinski
Mayor

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Appendix B
Wyoming State Engineer's Office, Final Opinion of Water Supply and Water Yield Analysis

State Engineer's Office

HERSCHLER BUILDING, 4-E CHEYENNE, WYOMING 82002
(307) 777-7354 FAX (307) 777-5451
seoleg@state.wy.us

DAVE FREUDENTHAL
GOVERNOR

PATRICK TYRRELL
STATE ENGINEER

FINAL OPINION

of

WATER SUPPLY AND WATER YIELD ANALYSIS

for

BASIN ELECTRIC'S PROPOSED COAL-FIRED POWER GENERATION PLANT

AT THE DRY FORK MINE,

CAMPBELL COUNTY, WYOMING

Prepared By:

Wyoming State Engineer's Office

Ground Water Division

July 2005

THE STATE ENGINEER'S ROLE IN INDUSTRIAL DEVELOPMENT AND SITING

If an applicant for an industrial siting permit plans to construct a facility which will use more than 800 acre-feet (260.7 million gallons) of water per year, the applicant must submit a water supply and water yield analysis to the State Engineer. The State Engineer will then review the analysis and "render a preliminary opinion as to the quantity of water available for the proposed facility" (W.S. 35-12-108(c)). This preliminary opinion will be made available for public comment and the State Engineer will consider submitted comments in preparing a final opinion. The State Engineer's final opinion will be binding on the Industrial Siting Council. If the State Engineer considers the water supply inadequate for the proposed facility, an industrial siting permit will not be issued.

The State Engineer's review is limited to questions of water supply and water yield. Industrial siting and development statutes prohibit the State Engineer from considering questions of interference or potential impacts to existing water rights (W.S. 35-12-108(g)). However, the State Engineer may attach conditions and limitations to well permits in order to efficiently administer underground water statutes (W.S. 41-3-909) and may require interfering appropriators to reduce withdrawals or otherwise mitigate impacts to other appropriators (W.S. 41-3-911). Under some circumstances, an applicant for an industrial siting permit may identify an adequate water supply but may not be able to exploit it as planned due to restrictions imposed by the State Engineer. In order to provide clarity to applicants and to other potentially affected appropriators, it is the policy of the State Engineer to include a discussion of the conditions and limitations that are likely to be imposed on the applicant's water well permits in the preliminary and final opinions.

INTRODUCTION

As part of the application process for an industrial siting permit, Basin Electric Power Cooperative ("Basin Electric") submitted to the State Engineer's Office (SEO) the report "Water Supply and Yield Analysis for Basin Electric Proposed Coal-Fired Power Generation Plant" ("Report") prepared by WWC Engineering. The Report was received on May 23, 2005 and formed the basis for the preliminary opinion. SEO's preliminary opinion was completed on July 25, 2005 and released for public comment. The Report and the preliminary opinion were advertised in The News Record, in Gillette. Public comments were accepted by SEO until September 20, 2005. This final opinion is a revision of the preliminary opinion and was prepared after reviewing the comments received.

WATER SUPPLY NEEDS

Basin Electric plans to construct a 390-megawatt capacity, coal-fired power generation plant at the Dry Fork coal mine on property owned by Western Fuels - Wyoming about 7 miles north of Gillette. Basin Electric estimated that the new facility will use no more than 2,100 acre-feet (684.3 million gallons) per year, which is equivalent to continuous pumping at 1,300 gallons per minute ("gpm"). The maximum instantaneous use, or peak water demand, was not specified. The project life is 60 years. The maximum total water use over the life of the facility is 126,000 acre-feet (41,057 million gallons).

POTENTIAL SOURCES OF WATER

Surface water supplies in the Gillette area are not dependable (Lowry and others, 1986). Several aquifers lie below the Gillette area but most are too deep for economic water supply wells (for descriptions, see Hodson and others, 1973). The Upper Cretaceous Pierre Shale (correlative with units such as the Bearpaw, Lewis, and Cody Shales) is a major aquitard over 3,000 feet thick. Formation tops reported on the Wyoming Oil and Gas Conservation Commission web site for oil and gas wells indicate the top of this unit lies at depths of 3,400 to 3,800 feet in the vicinity of the Dry Fork Mine. The most viable sources of water are limited to aquifers shallower than the Pierre Shale. From deeper to shallower, these include the Fox Hills – lower Lance aquifer in the Upper Cretaceous Fox Hills Sandstone and Lance Formation, the Tullock aquifer in the Tullock and lower Lebo members of the Tertiary Fort Union Formation, and the Tongue River – Wasatch aquifer in the Tongue River member of the Tertiary Fort Union Formation and in the Tertiary Wasatch Formation. These aquifers are separated by confining units in the upper Lance Formation and in the Lebo member in the middle of the Fort Union Formation (Hinaman, 2005).

The Tongue River – Wasatch aquifer is heavily utilized by domestic, stock, miscellaneous, industrial, and coal-bed methane wells in the Gillette area. The Tullock aquifer is an important source of water for the city of Gillette and nearby subdivisions. The Fox Hills – lower Lance aquifer is used by the City of Gillette, some coal mines, and the Wyodak power plant and is also used for water flood projects in oil fields near Gillette. In Gillette's Fox Hills – Lance wells, fluoride concentrations exceed maximum contaminant levels established by the Environmental Protection Agency and the water is also high in sodium, iron, and total dissolved solids. This, and temperatures in excess of 90°F, limit the usefulness of the Fox Hills – lower Lance aquifer.

PROPOSED DEVELOPMENT OF WATER

Basin Electric plans to obtain the water supply for the proposed power plant solely from the Fox Hills – lower Lance aquifer. In the Report, it was assumed that three new wells would pump continuously at 450 gpm each, for a total use of 1,350 gpm. Tentative well locations are: SE1/4 SW1/4, Section 13, T.51N., R.72W.; NE1/4 SW1/4, Section 17, T.51N., R.71W.; and SE1/4 NW1/4, Section 29, T.51N., R.71W. Construction of the proposed power plant is projected to begin in 2007 and operation to start in 2011. Presumably, the three new wells would be pumped continuously from 2011 through 2071.

The Fox Hills #1 well (Permit No. U.W. 142303), located in the SW1/4 NE1/4, Section 25, T.51N., R.72W., currently produces water from the Fox Hills – lower Lance aquifer for the Dry Fork Mine. This well is permitted to pump at up to 400 gpm and to produce up to 340 acre-feet per year (equivalent to 210 gpm of continuous pumping). The Report stated that it will not be used to supply the new power generation plant. According to the original permit conditions, the permit for the Fox Hills #1 well will be cancelled automatically on December 31, 2009 unless a request for extension is received by that date. However, drawdown models calculated by WWC Engineering assumed that the well would pump continuously at 375 gpm (605 acre-feet per year) for 60 years.

AVAILABILITY OF WATER IN PROPOSED SOURCE

Design of the three new wells will be similar to that of the Fox Hills #1 (Permit No. U.W. 142303) (Evers, 2005). The gamma-ray log received for this well can be used to identify clay-poor (hence, presumably sand rich) and clay-rich intervals but identification of formation or bed contacts is open to interpretation. Nonetheless, the driller's daily log provided by Western Fuels – Wyoming indicates that approximately 404 feet of screen and 1,506 feet of blank liner were hung in the well from a depth of 1,878 feet to a depth of 3,788 feet. Screened sections ranged from 11 to 66 feet thick. The total length of screen implies a saturated aquifer thickness of about 400 feet for the Fox Hills and Lance formations although it is not known if the well reached the bottom of the Fox Hills. An isopach map based on logs of oil wells indicates the Fox Hills Sandstone is approximately 200 feet thick in this area (DeBruin and others, 2003). The reported depth to the static water level in Fox Hills #1 was 485 feet. As the top of the uppermost screen is at 1,956 feet, there is about 1,450 feet of static head above the top of the aquifer (assuming the uppermost screened interval is at the top of the aquifer).

It is a straightforward calculation to estimate the volume of water that can be extracted from a confined aquifer given the available drawdown to the top of the aquifer and the storage coefficient. The storage coefficient for the Fox Hills – lower Lance aquifer under the Dry Fork Mine is not known but information provided by Hampshire Energy for a proposed well field southeast of Gillette suggests a likely range of .0001 to .0006 (State Engineer's Office, 1982). Taylor (1965) reported storage coefficients of .00062 and .00071 calculated from observation well data for pumping tests in southeastern Montana.

For storage coefficients of .0001 and .0006, the volume of water that can be extracted from a 1 foot by 1 foot column of Fox Hills – lower Lance aquifer by a 1,450 feet decrease in head is:

$$1{,}450 \text{ feet} \times .0001 = 0.145 \text{ feet and } 0.145 \text{ feet} \times 1 \text{ feet}^2 = 0.145 \text{ feet}^3, \text{ or}$$
$$1{,}450 \text{ feet} \times .0006 = 0.87 \text{ feet and } 0.87 \text{ feet} \times 1 \text{ feet}^2 = 0.87 \text{ feet}^3 .$$

The 126,000 acre-feet required over the life of the power plant amounts to 5,489 million cubic feet. The area required to supply that amount of water is:

$$5{,}489 \text{ million feet}^3 / 0.145 \text{ feet} = 37{,}855 \text{ million feet}^2, \text{ or}$$
$$5{,}489 \text{ million feet}^3 / 0.87 \text{ feet} = 6{,}309 \text{ million feet}^2 .$$

Circles with radii of 109.8 million feet (20,800 miles) or 44.81 million feet (850 miles), respectively, have such areas. Consequently, the Fox Hills – lower Lance aquifer cannot supply adequate water for the Basin Electric project if it remains confined.

When the potentiometric head is lowered below the top of an aquifer, the amount of water that can be extracted by wells is determined by the specific yield, which is orders of magnitude larger than the storage coefficient for a confined aquifer. Whereas the confined aquifer storage coefficient accounts for the volume change due to the expansion of water and of the aquifer framework due to a decrease in head (pressure), the specific yield accounts for the change in storage volume when water is actually drained from the aquifer and replaced by air. The specific yield can be almost as large as but cannot exceed the porosity of the aquifer.

Repeating the calculations above with a typical specific yield of 0.1 for 100 feet (i.e., 25% of the aquifer thickness) of drawdown below the top of the aquifer gives:

$$100 \text{ feet} \times 0.1 = 10 \text{ feet},$$
$$5{,}489 \text{ million feet}^3 / 10 \text{ feet} = 549 \text{ million feet}^2$$

$$\sqrt{549{,}000{,}000/\pi} = 13{,}200 \text{ feet (2.5 miles) radius.}$$

Before the dewatering could begin, the head would still have to be lowered 1,450 feet to the top of the aquifer and that would release :

0.145 feet x 549 million feet^2 = 79.6 million feet^3
(1,830 acre-feet, 595 million gallons), or
0.87 feet x 549 million feet^2 = 478 million feet^3
(10,970 acre-feet, 3,580 million gallons), of water.

These latter amounts are minor compared to the amount released by dewatering. A circle centered on the Dry Fork Mine property of Western Fuels – Wyoming with a radius of 2.5 miles extends about a mile beyond the property boundaries. The only other water supply wells completed in the Fox Hills – Lance formations that could fall within this circle are Amoco Production's Springen Ranch oil field water supply wells, which are apparently inactive at present. The actual cones of depression produced by pumping the proposed wells would not be a disk of uniform thickness as the above calculations assume. For the overlapping cones of depression produced by the proposed wells, the pumping water levels would be lowest close to the wells and would rise with distance away from the wells. To yield the same volume of water as the disk modeled above, the outer radius of the overlapping cones would extend well beyond 2.5 miles. However, because the model above required only 25% of the saturated thickness of the Fox Hills – lower Lance aquifer to satisfy Basin Electric's needs, it does not seem necessary to refine the model further.

The calculations above indicate that there is currently sufficient water in storage in the Fox Hills – lower Lance aquifer near the Dry Fork mine to supply the proposed power plant. No recharge is assumed or necessary. However, for Basin Electric to rely on aquifer dewatering, the pumps will have to be set below the top of the aquifer at depths of 2,000 feet or more. The pump in the Dry Fork Mine Fox Hills #1 well is at a depth of 1,100 feet. Increased withdrawals from the Fox Hills – lower Lance aquifer by other users could reduce the amount of water available to Basin Electric but there is currently no way to predict what those withdrawals might be. In 2004, the City of Gillette reported withdrawing only 71 million gallons (equivalent to 136 gpm of continuous pumping) of water from the Lance and Fox Hills formations. This number is unlikely to increase greatly due to well limitations and poor water quality. Black Hills Power and Light will probably drill Wyodak Well No. 15 (Permit No. U.W. 157640) in 2005 as additional supply for the Neil Simpson complex and for WyGen II, on which construction recently started. The well will produce from the Lance and Fox Hills formations and is permitted for an instantaneous yield of 700 gpm (annual use of 368.2 million gallons).

YIELD OF PROPOSED SOURCE

To estimate long-term well yields, the transmissivity and storage coefficient of the aquifer must be known. WWC Engineering conducted an 8-day pumping test of the Fox Hills #1 well at the Dry Fork Mine from March 29th to April 5th in order to determine transmissivity. Pumping rates were measured with a totalizing flow meter (Evers, 2005). The average discharge over the period of the constant-discharge test was 367 gpm. Drawdown was measured using a nitrogen-charged airline set at the pump depth and attached to a transducer. The recovery of water levels was observed for 26 hours after the cessation of pumping. WWC Engineering

reported a transmissivity of 2,382 gallons per day per foot ("gpd/ft"), or 320 ft^2/day, based on the Cooper-Jacob method of analysis of the drawdown data and a transmissivity of 2,010 gpd/ft, or 270 ft^2/day, based on the Theis recovery method of analysis for the recovery data. Recovery data were noisier than the drawdown data due to a stepped transducer response. Water temperature was 94°F at the start of the test and 98°F at the end (Evers, 2005).

The drawdown data are plotted on a logarithmic time scale in Figure 1. For the Cooper – Jacob method to apply, the data should be linear (see equation below, which is linear in *ln*(t)). Casing storage effects could account for the curvature at times earlier than about 30 minutes. Because the transmissivity is inversely proportional to the slope and the data displays a somewhat wavy appearance, transmissivities as low as 1,700 gpd/ft (230 ft^2/day) or as high as 4,200 gpd/ft (560 ft^2/day) can be calculated for selected intervals of time. However, the linear appearance of the data suggests 2,400 gpd/ft (320 ft^2/day) is a good estimate of transmissivity. The absence of flattening of the drawdown curve rules out significant leakage from aquifers above the screened interval.

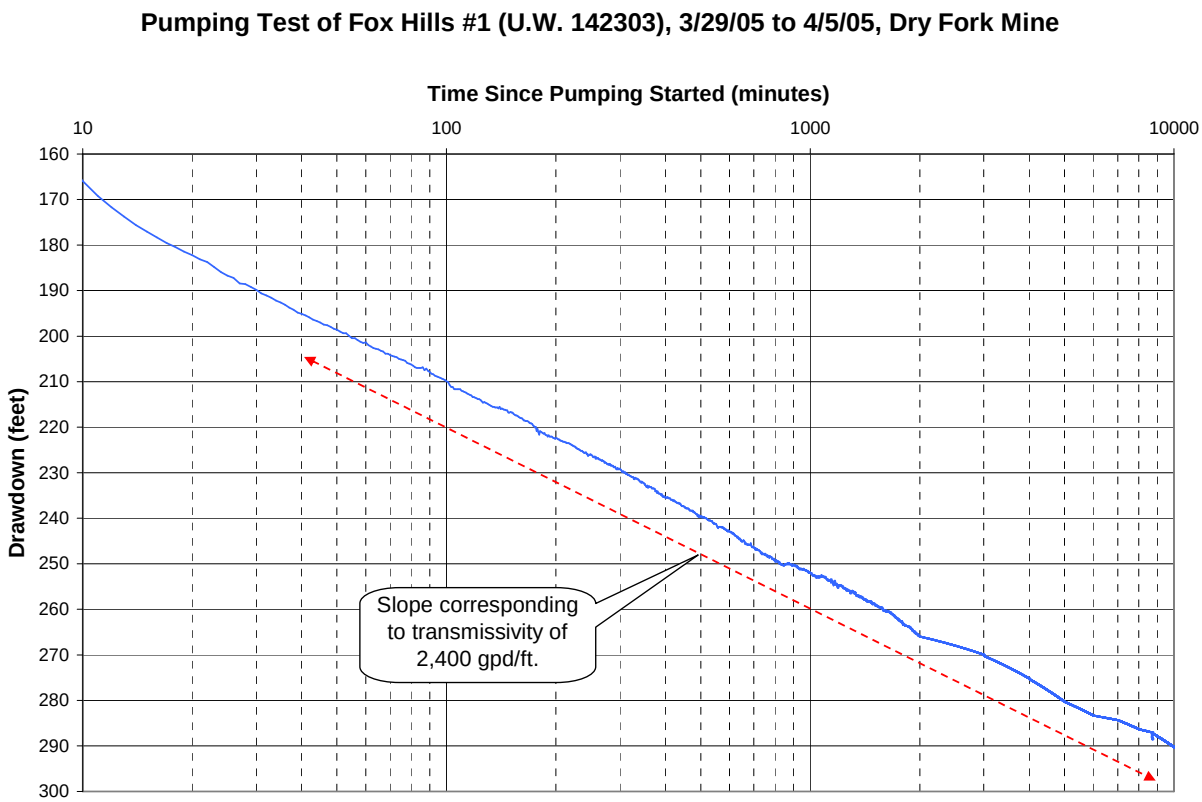

Figure 1. Pumping Test Results for the Dry Fork Mine Deep Well

Although it is reasonable to assume that any other well drilled on the Dry Fork Mine property would also have a transmissivity similar to 2,400 gpd/ft, the results of a single pumping test do not provide an estimate of the variability of transmissivity in the Fox Hills – lower Lance aquifer. Data was compiled from water well records in the State Engineer's Office to assess the variability of transmissivity. For some water wells, drawdown results are reported to the State Engineer on the Statement of Completion and Description of Well or Spring (Form U.W. 6). Applicants are requested to report the yield, the drawdown, and the duration of the test. Generally only one drawdown value is reported, unlike pumping test data which include

drawdowns measured at regular intervals. In some cases, the reported information is incomplete; in others, applicants reported depths to water as drawdowns (which, if taken at face value, sometimes imply a water level below the bottom of the well). In spite of its unreliability, this is the only information collected by the State Engineer that can be related to transmissivity.

Cooper and Jacob (1946) showed that for small values of u (i.e., small distances from the pumping well or times long after pumping started, u = $\frac{r^2 S}{4Tt}$), the Theis non-equilibrium well equation can be approximated by

s = $\frac{Q}{4\pi T}\ln(\frac{2.25Tt}{r^2 S})$, where s is drawdown, Q is discharge, T is transmissivity, t is time after pumping started, r is distance from the center of the pumping well, and S is the storage coefficient (for all variables in consistent units, such as feet, cubic feet per day, square feet per day, and days). For drawdowns measured in pumping wells, u is generally always small because r is very small. If discharge, drawdown, well diameter, and duration of pumping are known, the Cooper-Jacob equation can be solved iteratively for transmissivity at various values of the storage coefficient. This was done for both deep wells in the Lance and Fox Hills formations in the Gillette area and for shallow wells in the outcrop area of the Lance and Fox Hills formations on the east side of the Powder River Basin (Table 1). These data must be used with caution because transmissivity is calculated from only a single value of drawdown; casing storage effects and changes in pumping rates, if any, have not been accounted for; results are sensitive to errors in discharge and drawdown; repeat tests for the same well (denoted by “a” or “b” at the end of the permit number) can differ significantly; and these estimated transmissivities differ substantially from measured transmissivities calculated from pumping test data (refer to rightmost column).

Table 1. Transmissivities Calculated from Single Drawdown Values Reported on Statements of Completion

Permit #	Tn	Rg	Sec	Yield (gpm)	Well Depth (ft)	Static Depth (ft)	Specific Capacity* (gpm/ft)	T for S=.0005 (gpd/ft)	T for S=.00005 (gpd/ft)	Measured T (gpd/ft)
Deep wells near Gillette:										
P81533W	54	73	6	100	4100	600	1.10	1,797	2,107	
P77130W	52	70	5	45	2525	150	0.22	315	376	
P142303Wa	51	72	25	400	3820	485	1.79	3,233	3,737	2,380
P142303Wb	51	72	25	400	3820	485	1.91	3,721	4,256	2,380
P14810Wb	51	71	28	450	3620	2591	0.71	1,387	1,586	
P14810Wa	51	71	28	450	3620	2591	0.90	1,594	1,846	
P9928Wb	51	71	33	625	3685	2490	0.97	2,106	2,375	
P9928Wa	51	71	33	625	3685	2490	1.42	2,632	3,028	
P30594W	51	70	11	76	2600	457	0.17	259	306	
P2890W	51	70	13	74	2393	200	0.20	284	341	
P30207W	51	70	34	40	3000	600	0.40	659	771	
P108708Wa	50	72	13	500	4170	677	1.03	1,614	1,905	
P108708Wb	50	72	13	500	4170	677	0.87	1,643	1,888	
P60723Wb	50	72	22	550	4350	546	1.41	2,300	2,698	
P60723Wa	50	72	22	550	4350	546	1.62	2,456	2,917	
P89539W	50	71	13	31	3520	400	0.08	100	123	
P15581W, P91220W	50	71	22	70	3664	542	0.14	187	227	

Permit #	Tn	Rg	Sec	Yield (gpm)	Well Depth (ft)	Static Depth (ft)	Specific Capacity* (gpm/ft)	T for S=.0005 (gpd/ft)	T for S=.00005 (gpd/ft)	Measured T (gpd/ft)
P20832W, P91221W	50	71	27	80	2646	445	0.31	663	750	
P93206W, P142890W	50	71	27	150	2557	331	1.00	1,713	1,995	
P149556W	50	71	27	600	3654	440	1.44	2,695	3,098	1,810
P6114W	50	70	35	125	2908	310	0.31	542	630	
P60349W	49	71	12	23	2958	360	0.14	201	241	
P56965W, P148360W	49	70	31		3754	490	0.93	1,556	1,819	1,050
P93061W	48	70	26	60	5950	400	0.10	137	165	
P88919W	47	71	31	31	4721	600	0.06	87	105	
	Shallow wells on outcrop:									
P64544W	55	68	12	20	115	65	1.50	2,400	2,824	
P154148W	55	68	35	12	600	40	0.24	329	398	
P41049W	50	67	17	10	190	150	0.75	1,351	1,444	
P34191W	50	67	20	10	230	180	0.33	502	596	
P34667W	50	67	20	10	190	150	0.33	530	624	
P35043W	50	67	20	10	180	120	0.40	606	720	
P33820W	50	67	20	11	195	150	0.37	556	660	
P34788W	50	67	20	12	190	150	0.50	735	877	
P36985W	50	67	20	12	200	150	0.50	797	938	
P62966W	50	67	20	12	265	180	3.00	5,139	5,984	
P34339W	50	67	20	15	210	140	0.40	595	709	
P41662W	50	67	29	10	180	120	0.20	286	343	
P77893W	50	67	31	10	460	250	0.17	242	289	
P45044W	50	67	31	10	290	250	0.67	995	1,184	
P42845W	50	67	31	25	485	310	0.39	560	672	
P33471W	49	67	5	10	247	90	0.50	825	966	
P34649W	49	67	5	13	190	150	0.50	826	967	
P37884W	49	67	5	12	225	160	0.67	1,090	1,279	
P59099W	49	67	5	20	245	56	0.75	1,322	1,533	
P36321W	49	67	6	20	260	180	0.45	688	816	
P58763W	49	67	6	12	230	138	1.00	1,464	1,748	
P62560W	49	67	8	18	160	58	0.21	340	400	
P38426W	49	67	29	5	183	70	0.60	827	998	
P27243W	48	66	18	5	328	160	0.18	250	302	
P7776P	48	66	33	7	153	75	0.43	577	700	
P135082W	48	66	34	3	265	180	1.00	1,464	1,748	
P94820W	47	66	14	16	320	180	0.80	1,258	1,485	
P8941P	47	66	26	4	184	70	1.00	1,452	1,737	
P40513W	46	65	3	5	193	85	0.38	513	623	
P94278W	45	65	12	12	180	60	0.60	892	1,062	
P39351W	44	65	1	25	230	170	1.33	2,213	2,589	
P30422W	44	65	26	5	260	100	0.80	1,140	1,367	
P8932P	44	64	24	4	185	100	0.90	1,295	1,551	
P13297W	44	63	31	5	94	25	0.22	275	338	
P100048W	44	63	31	23	335	80	0.50	693	836	
P8943P	43	65	31	4	224	160	0.14	180	221	
P59040W	42	65	14	25	680	140	0.21	315	374	
P2602W	42	65	35	5	174	120	0.67	934	1,125	

Permit #	Tn	Rg	Sec	Yield (gpm)	Well Depth (ft)	Static Depth (ft)	Specific Capacity* (gpm/ft)	T for S=.0005 (gpd/ft)	T for S=.00005 (gpd/ft)	Measured T (gpd/ft)
P49850W	42	64	9	65	675	310	0.21	263	324	
P19985P	42	64	25	7	273	232	0.95	1,349	1,620	
P31779W	42	63	6	3	405	250	0.30	390	477	
P19986P	42	63	21	10	226	90	0.83	1,166	1,404	
P35982W	42	63	36	10	159	9	0.63	878	1,057	
P27244W	41	63	18	5	336	250	0.14	173	214	
P102481W	38	62	21	10	250	51	0.12	149	183	
P102482W	38	62	21	5	270	69	0.18	303	353	
P62657W	37	63	17	20	160	15	0.63	918	1,096	

*Specific capacity is the discharge divided by the drawdown and can also be used to estimate the long-term yield of a well.
Results for tests with pumping durations less than 2 hours or where (drawdown + static water level) is greater than the well depth have been excluded.

In spite of the shortcomings, the data in Table 1 do demonstrate that transmissivity (and specific capacity) in the Lance and Fox Hills formations varies by more than a factor of 10. These estimates of transmissivity are influenced both by well construction and by actual variations in aquifer transmissivity. As the range of likely transmissivities is quite large, the transmissivity of Basin Electric's new wells cannot be reliably predicted in the absence of an understanding of the causes of these variations. However, Basin Electric is confident that wells constructed similarly to the Dry Fork Mine Fox Hills #1 will have similar transmissivities (Evers, 2005).

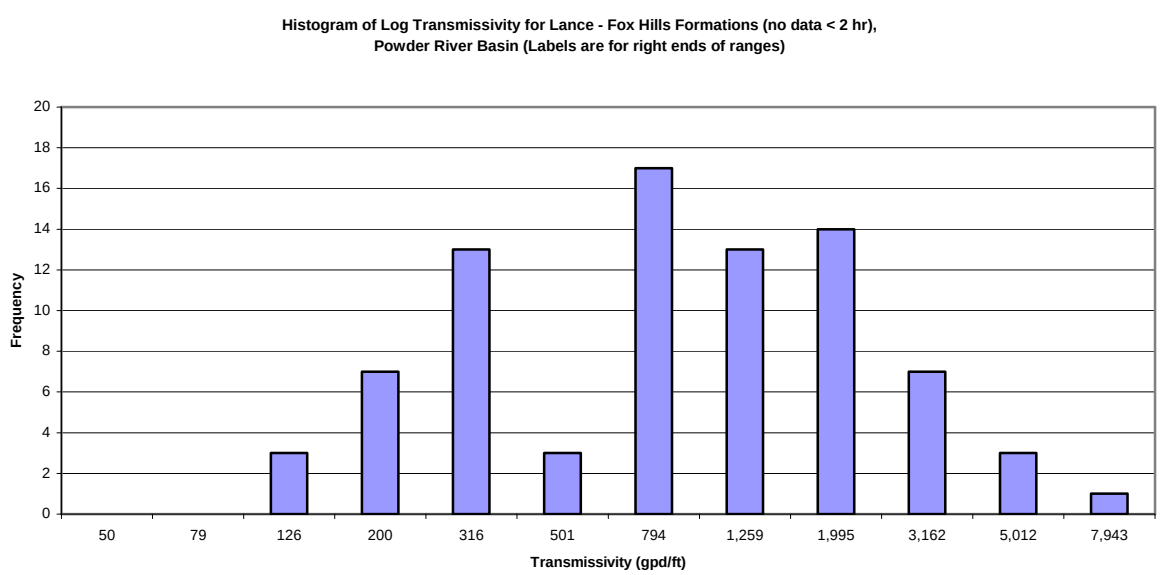

Figure 2. Transmissivities of Fox Hills - Lance formations in the Powder River Basin, Wyoming

The data in Table 1 have a bimodal logarithmic distribution (Figure 2). The low-transmissivity population is significantly less numerous than the high-transmissivity population. The bulk (over 70%) of the high-transmissivity group and over 50% of all the estimated transmissivity values are between 500 and 2,000 gpd/ft (67-267 ft^2/day). If the estimates are consistently biased, as suggested by comparison with measured transmissivities, then the range

of most likely values would be more like 330 to 1,300 gpd/ft (44-174 ft^2/day) for a storage coefficient of .0005 or 300 to 1,180 gpd/ft (40-158 ft^2/day) for a storage coefficient of .00005. The transmissivity observed in the Dry Fork Mine Fox Hills #1 well is beyond the upper end of both these ranges. Taylor (1965) reported transmissivities of 320 to 3,700 gpd/ft (43-495 ft^2/day) (also a bimodal distribution) for the Fox Hills – lower Hell Creek (correlative to the Lance Formation) aquifer in southeastern Montana and Robson (1983) reported a range of transmissivities from 370 gpd/ft to 2,240 gpd/ft (49-299 ft^2/day) (with extremes of 40 gpd/ft, 5.3 ft^2/day, and 7,500 gpd/ft, 1003 ft^2/day) for the Fox Hills – Laramie (correlative to the Lance Formation) aquifer in the Denver Basin. WWC Engineering chose 800 gpd/ft (107 ft^2/day) to 2,010 gpd/ft (269 ft^2/day) as the likely range of transmissivities for its drawdown models.

The storage coefficient of the Fox Hills – lower Lance aquifer in the Gillette area has not been measured. In Hampshire Energy's water supply and yield analysis and in the subsequent hearing, consultants for Hampshire Energy argued that the most likely range was .0002 to .0006. Confined aquifers typically have storage coefficients of .001 to .00001 (Driscoll, 1986). WWC Engineering chose a storage coefficient of .0005 for its drawdown models.

To verify the drawdowns predicted by WWC Engineering, the Ground Water Division calculated drawdowns for three of the same time intervals (3,650, 10,950, and 21,900 days) at two wells: the existing Dry Fork Mine Fox Hills #1 and one of the proposed Basin Electric wells, BEFH-1, which is located in SE1/4 SW1/4, section 13, T.51N., R.72W. Parameters used in the drawdown calculations are listed in Table 2. In addition to the drawdown calculations for a storage coefficient of .0005, the Ground Water Division made additional calculations using a storage coefficient of .0001.

Table 2. Drawdown Model Parameter Values for Existing Wells

Permit No.	Well Name	WWC Engineering Choices			SEO Choices		
		Discharge (gpm)	Distance* (feet)	Transmissivity (gpd/ft)	Discharge (gpm)	Distance* (feet)	Transmissivity (gpd/ft)
142303	Dry Fork Mine Fox Hills #1	375	5	2,010	375	0.5	2,400
30005	Gillette FH-3	50	31,100	1,500	25	29,700	1,500[1]
60723	Gillette FH-4	105	27,400	2,460	100	26,200	2,420[1]
108708	Gillette FH-5	25	21,400	1,610	25	21,000	1,800[1]
20832	Wyodak #11	15	37,200	660	0	NA	NA
142890	Wyodak #13	110	36,900	1,710	100	37,100	1,200
149556	Wyodak #14	180	37,600	2,700	250	37,800	1,800
157640	Wyodak #15	0	NA	NA	350	37,800[2]	1,800
56965	Hampshire Energy HE-1	60	76,700	1,560	200	76,600	1,000
89539	Record Unit WSW #1	60	36,700	100	60	37,000	100
various	oil field water flood wells	0	NA	NA	728[3]	58,800[4]	700

*Distance of well from Dry Fork Mine Fox Hills #1 (to illustrate differences in estimated distances); for each pumping well, WWC Engineering calculated drawdowns at a hypothetical observation well 5 feet away whereas SEO calculated drawdowns within the pumping well at a nominal distance of 0.5 feet, i.e., within a well with a diameter of 1 foot.

[1]Wester-Wetstein & Associates (1998).

[2]Wyodak #15 has not yet been completed so it is assumed to be about as far from Dry Fork Mine FH-1 as Wyodak #14.

[3]Weighted cumulative discharge using weights of $\log(1/r^2)$ for 13 wells in apparently active water flood operations within 80,000 feet of the Dry Fork Mine wells; the drawdown predicted from the weighted cumulative discharge differed by 5 feet (for T=2,010 gpd/ft) to 10 feet (for T=800 gpd/ft) compared to results for each well modeled individually.
[4] Average distance to the 13 known water flood wells.

Both WWC Engineering and the Ground Water Division used the Theis non-equilibrium well equation to calculate expected drawdowns due to continuous pumping over various periods of time. Tables 3 and 4 give a comparison of the results. The Theis method is generally considered to overestimate drawdown because all the water pumped is assumed to come from storage and the aquifer receives no recharge over the period of pumping. Drawdowns in the proposed Basin Electric well are about twice as great for a transmissivity of 800 gpd/ft as for 2,010 gpd/ft, and 20-35% more for a storage coefficient of .0001 as for .0005. Different drawdowns due to different transmissivities in the proposed wells are less in the Dry Fork Mine well, whose transmissivity is known and which is more than 7,000 from the proposed wells. Drawdown differences due to different storage coefficients are about the same in both wells. The factor of three difference between drawdowns calculated at the proposed well with a transmissivity of 2,010 gpd/ft, a storage coefficient of .0005, and the WWC Engineering choices for the other parameters and those calculated with a transmissivity of 800 gpd/ft, a storage coefficient of .0001, and the SEO choices for the other parameters indicates that well performance cannot be predicted reliably given current understanding of the aquifer.

The Theis method to predict drawdowns assumes that the aquifer is laterally infinite. To assess whether this assumption is valid, the time it would take a 0.1 feet drawdown to propagate to the outcrop of the middle Lance Formation about 115,000 feet east of the Dry Fork Mine was calculated. For a storage coefficient of .0005, it takes about 4 years for the drawdown to reach 0.1 feet at 115,000 feet from one pumping Basin Electric well if the transmissivity is 2,010 gpd/ft and about 9 years if the transmissivity is 800 gpd/ft. Consequently, the Theis equation cannot accurately predict drawdowns over the life of the project.

In the water supply analysis above, it was assumed that there is about 1,450 feet of available drawdown above the top of the aquifer. Many of the calculated drawdowns in Tables 3 and 4 exceed that amount. Once the potentiometric surface is lowered to the point that the aquifer is unconfined, a storage coefficient of .0005 or .0001 is no longer applicable. The rate of drawdown would be much less in an unconfined aquifer than in a confined aquifer. Thus, drawdowns in excess of about 1,450 feet cannot be considered valid.

Table 3. Predicted Drawdowns in a proposed Basin Electric well, BEFH-1

Transmissivity for new wells	Aquifer Storage Coefficient	Parameters for other wells estimated by	Drawdown @10 years	Drawdown @30 years	Drawdown @60 years
2,010 gpd/ft	.0005	WWC Engineering	800 (800)	940 (940)	1,040(1,040)
800 gpd/ft	.0005	WWC Engineering	1,640(1,640)	1,910(1,910)	2,090(2,090)
2,010 gpd/ft	.0001	WWC Engineering	(1,020)	(1,200)	(1,330)

800 gpd/ft	.0001	WWC Engineering	(2,040)	(2,360)	(2,560)
2,010 gpd/ft	.0005	SEO	930	1,160	1,350
800 gpd/ft	.0005	SEO	1,930	2,290	2,560
2,010 gpd/ft	.0001	SEO	1,300	1,640	1,880
800 gpd/ft	.0001	SEO	2,490	2,960	3,270

(Numbers in parentheses were calculated by the Ground Water Division using the parameters, other than storage coefficient, chosen by WWC Engineering.)

Table 4. Predicted Drawdowns in the Dry Fork Mine well, Fox Hills #1

Transmissivity for new wells	Aquifer Storage Coefficient	Parameters for other wells estimated by	Drawdown @10 years	Drawdown @30 years	Drawdown @60 years
2,010 gpd/ft	.0005	WWC Engineering	760 (730)	900 (880)	1,010 (990)
800 gpd/ft	.0005	WWC Engineering	1,040 (990)	1,320(1,260)	1,500(1,450)
2,010 gpd/ft	.0001	WWC Engineering	(960)	(1,160)	(1,290)
800 gpd/ft	.0001	WWC Engineering	(1,400)	(1,720)	(1,930)
2,010 gpd/ft	.0005	SEO	800	1,050	1,240
800 gpd/ft	.0005	SEO	1,060	1,430	1,700
2,010 gpd/ft	.0001	SEO	1,190	1,530	1,770
800 gpd/ft	.0001	SEO	1,630	2,100	2,420

(Numbers in parentheses were calculated by the Ground Water Division using the parameters, other than storage coefficient, chosen by WWC Engineering.)

The results of the water yield analysis indicate that the performance of the proposed Basin Electric wells cannot be reliably predicted due to the large uncertainties in the values of aquifer parameters. New wells may or may not be able to pump at 450 gpm for 60 years. If the transmissivity determined in the pumping test of the Dry Fork Mine Fox Hills #1 well extends over a large region and the construction of the new wells is as effective as that of the Dry Fork Mine Fox Hills #1, then three new wells would be adequate to meet Basin Electric's needs. However, the transmissivity of the Dry Fork Mine Fox Hills #1 is unusually high compared to other wells in the Fox Hills and Lance formations. If other deep wells at the Dry Fork Mine have more typical values of transmissivity, then Basin Electric might have to drill more wells to produce the needed amount of water. Costs would increase with an increase in the number of wells but whether such increases could threaten the viability of the project is not known.

CONDITIONS AND LIMITATIONS FOR NEW WELL PERMITS

In approving an application to appropriate ground water, the State Engineer may attach conditions and limitations to the use of the well in order to administer the laws, to prevent pollution of aquifers, to prevent the waste of water, and to monitor water resources. The following conditions and limitations are routinely attached to industrial wells:

- Annual volumetric use will be capped. The cap is typically the anticipated need. For this project, the cap would apply to all wells producing from the target aquifer for the same use rather than to each well individually.
- A flow meter will be installed to measure well production.
- Pumping and static water levels will be measured on a regular basis. The frequency of measurement can be tailored to conform to the anticipated pattern of well use.
- A report of well production and water levels will be submitted to the State Engineer annually.
- The appropriator can request that conditions be modified or waived.

The following conditions and limitations are routinely attached to deep wells that traverse more than one aquifer:

- Water can be produced from only one aquifer. In this case, production would be limited to the Fox Hills – lower Lance aquifer.
- The well will be cased with new casing and the annulus will be cemented from the top of the target aquifer to the land surface. A minimum annulus thickness may be required to ensure a competent cement seal. A cement bond log may be required.

Because little information is available for the Fox Hills – lower Lance aquifer in the Powder River Basin, the following conditions and limitations will ensure that the State Engineer manages the aquifer appropriately and can respond to complaints of interference:

- Lithologic and resistivity logs will be required. The appropriator will supply copies of these and any other logs when the Statement of Completion is submitted.
- Monitor wells will be constructed near half of the production wells. Two monitor wells will be constructed near the first production well. One will be used to monitor water levels in the Fox Hills – lower Lance aquifer and one to monitor water levels in the upper Lance confining unit. For every second additional production well (i.e., the third, fifth, etc.), one additional Fox Hills – lower Lance monitor well will be constructed nearby. One additional upper Lance monitor well will be constructed adjacent to the fifth production well, if that many production wells are drilled. Water levels will be measured regularly and reported annually to the State Engineer.
- Pumping tests (aquifer tests) will be conducted for each production well and water levels will be measured in the pumping well and in at least one observation well (observation well data is necessary in order to determine the storage coefficient). Test methods will be approved by the State Engineer prior to starting the test.

The conditions and limitations that will actually be attached to the permits for the new water supply wells drilled by Basin Electric may differ from those above depending on further review by SEO and on any alternatives proposed by Basin Electric.

FINAL OPINION

The final opinion is unchanged from the preliminary opinion. Based on the information summarized above, it is the final opinion of the State Engineer that sufficient water exists in the Fox Hills – lower Lance aquifer to supply up to 126,000 acre-feet of water to Basin Electric's 390 MW power plant over a period of 60 years (2,100 acre-feet each year). Although the anticipated long-term yields of 450 gpm for 3 wells seem optimistic, Basin Electric could extract

the same amount of water with more wells pumping at lower rates. The Dry Fork Mine property could probably accommodate more than 3 wells yielding less than 400 gpm which could still produce up to 126,000 acre-feet of water over the life of the project.

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APPENDIX A

Comment Letters

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Appendix C
Dry Fork Station Plant Site Plan

	LEGEND	EMISSION LOCATION
1	TURBINE BUILDING	—
2	BOILER BUILDING	X
3	CHIMNEY	X
4	SWITCHYARD	—
5	COAL STORAGE SILOS	X
6	AIR–COOLED CONDENSER	—
7	NOT USED	—
8	NOT USED	—
9	NOT USED	—
11	STORM WATER POND	—
12	OVERPASS	—
13	FD FANS	—
14	FLUE GAS DESULFURIZATION SYSTEM	X
15	BAGHOUSE	X
16	LIME HYDRATOR BUILDING	X
17	ID FANS	—
18	ID FANS VFD	—
19	SCR	—
20	LIME SILO	X
21	ADMINISTRATION BUILDING	—
22	BLOWER BLDG/ELECT. BLDG	X
23	FGD WASTE/FLY ASH SILO	X
24	BOTTOM ASH STORAGE	X
25	AUX BOILER	—
26	AUX BOILER CHIMNEY	X
27	AUXILIARY COOLING TOWER	X
28	TRUCK HOPPER	—
29	GAS METERING/GAS HEATER	X
30	OVERLAND CONVEYOR	—
31	TRANSFER HOUSE	X
32	EMERGENCY OVERLAND CONVEYOR COAL PILE	X
33	COAL HANDING OFFICE	—
34	EMERGENCY SILO UNLOADING PILE	X
35	CRUSHER HOUSE	X
36	AMMONIA STORAGE	—
37	CEMS	—
38	N2/H2 STORAGE	—
39	CO2 TANK	—
40	GENERATOR STEP–UP TRANS. (GSUT)	—
41	UNIT AUX.TRANSFORMER (UAT)	—
42	SPARE	—
43	RESERVE AUX. TRANSFORMER (RAT)	—
44	SUBSTATION TRANSFORMER (SST)	—
45	DIESEL GENERATOR	X
46	WASTE WATER POND	—
47	CONDENSATE TANK	—
48	SERVICE WATER PUMP HOUSE	—
49	SERVICE WATER/F.P. TANK	—
50	SERVICE/ELECTRICAL/ MAINTENANCE/ADMIN BUILDING	—
51	FIRE PROTECTION PUMP HOUSE	X
52	CARBON INJECTION SILO	X
53	OIL/WATER SEPARATOR	—
54	STRMWTR RUNOFF POND (EXIST)	—
55	LEACHATE COLLECTION POND	—
56	GENERATOR STEP–UP TRANS. (SPARE)	—
57	UNIT AUX.TRANSFORMER (SPARE)	—
58	PLANT WAREHOUSE	—
59	CONSTRUCTION WAREHOUSE	—
60	CONSTRUCTION TRAILERS	—
61	CONSTRUCTION PARKING	—
62	DIESEL AND GAS TANK/FILLING STATION	—
63	TRUCK LIME UNLOADING BUILDING	X
64	MECHANICAL SHOP	—
65	GUARD HOUSE	—

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Dry Fork Station Plant - Site Plan

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