3.3.4 Assumptions

In addition to the information obtained from the identified data sources, the following assumptions were used to define specific impact-causing parameters for transportation:

Past and Present Development:

- Existing railroad disturbance rights-of-way are assumed to be 100 feet in width.

RFD:

- It is assumed that the UP/BNSF rail capacity for the southern portion of the PRB would increase from 350 to 400 mmtpy in 2006; associated construction would include the addition of sidings and trackage parallel to existing facilities within the existing right-of-way.

- The construction right-of-way for the portion of the DM&E rail line in the Wyoming PRB study area would be approximately 78 miles long and 100 feet wide. Although the timing would depend on completion of additional environmental permitting and actual production and near-term forecasts from the southern portion of the PRB, it is assumed for this study that the new rail line would be operational by 2015.

- The construction right-of-way for TRRC's new rail line in the Montana PRB study area would be 130 miles long and 100 feet wide. It is assumed this new rail line would be operational by 2010. However, project financing and construction would be dependent on the development of the Otter Creek Mine which only would be developed under the upper production scenario. Under the lower production scenario, it is assumed that the rail line would not be constructed.

- It is assumed that the initial use of the rail line would be for the transport of coal from the Otter Creek Mine to a yet to be proposed power plant near Miles City, Montana.

3.4 Coal Technology

3.4.1 Past and Present Development

3.4.1.1 Wyoming

There are no existing coal technology projects in the Wyoming PRB study area. Although test facilities have been constructed by KFx at the Fort Union Mine (now part of the Dry Creek Mine), AMAX (predecessor to Foundation Coal West, Inc.) at the Belle Ayr Mine, and ENCOAL at the Buckskin Mine, no commercial production has occurred. These facilities either have been dismantled or are no longer in use.

3.4.1.2 Montana

Within the past 10 years, a coal processing facility used to reduce moisture content and remove sulfur was associated with the Rosebud Mine. However, this facility has been dismantled and removed from the mine site. Therefore, it is not considered further in this analysis.

3.4.2 Reasonably Foreseeable Development

3.4.2.1 Wyoming

KFx Coal Beneficiation Project. Components are being fabricated for the proposed KFx coal beneficiation project in anticipation of permit approval and projected construction in 2005 near the old Fort Union Mine (now part of the Dry Fork Mine). It is expected that the plant would process approximately 750,000 tons of coal per year. This operation has a high likelihood of proceeding with production given the technology being used and the forecast market conditions in the PRB. If the process and market prove competitive, the company has suggested that up to five additional units could be built in the PRB. However, pending the completion, testing, and successful marketing of the initial development, the likelihood for development of additional units is currently unknown. As a result, the potential development of additional units has been eliminated from further analysis in this study.

Rentech Inc. Coal Liquefaction Project. A study has been funded by the Wyoming Business Council to assess the feasibility of a liquefaction facility to produce low-sulfur diesel fuel from sub-bituminous coal. A presentation on this feasibility study was presented to the State of Wyoming Governor's Office and Business Council in April 2004. The location and schedule for construction of the conceptual facility has not been proposed. Published information indicates that production of 10,000 barrels per day of diesel fuel using 3 million tons of coal per year may be possible. The proposed process would use the historic Fishcher-Tropsch process that has been utilized to convert coal into liquids. Limited information is available on this proposed project. As a result, its likelihood for development is currently unknown, and it has been eliminated from further analysis in this study.

Arch Coal, Inc. and KFx Joint Venture. Arch and KFx are evaluating the possibility of jointly developing an 8 mmtpy coal beneficiation project at the Coal Creek Mine. The likelihood for this project is currently unknown, and it has been eliminated from consideration in this study.

Long-term Prospects. The Wyoming Business Council, Campbell County Economic Development Corporation (CCEDC), and Converse Area New Development Organization (CANDO) all are actively pursuing coal gasification development. While there appears to be substantial interest in these opportunities, it is unknown whether large-scale operations would be developed within the 2010 to 2020 timeframe, given permitting, engineering, and construction time requirements. CANDO specifically is pursuing the development of hydrogen-fueled power generation and coal gasification leading to production of pure hydrogen with CO_2 as a by-product. Although long-term prospects are uncertain, a recently completed feasibility study assessed the capacity of Converse County to meet the critical requirements for coal-based industrial development. CANDO is actively pursuing development in these areas. However, due to the lack of an identified project proponent with adequate financing to pursue such development, the likelihood for such development is currently unknown. As a result, coal gasification development is not considered further in this study.

3.4.2.2 Montana

There are no known proposed coal technology projects within the Montana PRB study area.

3.4.3 Data Sources

Information on KFx-proposed projects was based on KFx corporate information provided on the company's web site. The information for Rentech Inc. was based on a published news article and information available on their web site. Information regarding the long-term prospects for coal technology development was derived from a 2004 feasibility study and conversations with local economic development officials (City of Douglas 2004; Spencer 2004; Werner 2004).

3.4.4 Assumptions

- The KFx coal beneficiation project would be constructed in 2005 and would operate throughout the period of this study. The initial phase of the project would provide 25 permanent jobs.

3.5 Transmission Lines

3.5.1 Past and Present Development

Major transmission lines in the Wyoming PRB study area that support the regional distribution system are associated with the Dave Johnston power plant located near Glenrock, Wyoming, and the power plants operated by Black Hills Power and Light, which are located east of Gillette (**Figure 3-4**). These 230-kV transmission lines have been in place for several years, and their associated permanent disturbance is minimal. Distribution power lines associated with conventional oil and gas and CBNG development also occur within the study area. For purposes of this study, these power lines have been factored in proportionally on a per well basis as discussed in Appendix B.

3.5.2 Reasonably Foreseeable Development

It is estimated that during the time frame of this study one transmission line would be constructed running south to Colorado markets and one would be constructed eastward to mid-west markets. No specific proposals for RFD transmission line projects have been identified; however, transmission lines are a necessary supporting infrastructure for power generating facilities. As a result, it is assumed that they would be required as part of the overall system development for the RFD power plants identified in Section 3.2.2.1. Markets will dictate the size and location of such facilities, and these are not known as of this time. Based on the lack of information relative to specific RFD transmission lines, they are not analyzed further in this study.