

Energy Gateway South Transmission Project

SITING STUDY REPORT

Prepared for:

U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office



Prepared by:



December 2012

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List of Acronyms and Abbreviations

ACEC	Areas of critical environmental concern
AGRC	Automated Geographic Reference Center
Applicant	PacifiCorp, doing business as Rocky Mountain Power
APS	Arizona Public Service Company
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CDOW	Colorado Division of Wildlife
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
EHV	Extra-high voltage
EIS	Environmental impact statement
EPA	U.S. Environmental Protection Agency
EPG	Environmental Planning Group, LLC
FWS	U.S. Fish and Wildlife Service
GIS	Geographic information system
I	Interstate
ID	Interdisciplinary (Agency Interdisciplinary Team)
IPP	Intermountain Power Project
IRA	Inventoried roadless area
kV	Kilovolt
NAIP	National Agricultural Imagery Program
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NPS	National Park Service
NRA	National Recreation Area
NRCS	Natural Resources Conservation Service
PEIS	Programmatic environmental impact statement
POD	Plan of Development
Project	Energy Gateway South Transmission Project
TWE	TransWest Express
UDWR	Utah Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

VRM	Visual resource management
WGFD	Wyoming Game and Fish Department
WIA	Wyoming Infrastructure Authority
WSA	Wilderness study area
WVEC	West-wide Energy Corridor

1.0 INTRODUCTION

1.1 Introduction

This siting study report documents the chronological development of a network of reasonable and feasible alternative corridors and routes for the Energy Gateway South Transmission Project (Project), beginning in 2006 and continuing through the public and agency scoping process (2011) and initial environmental analysis (2012) phases of the Project under the National Environmental Policy Act of 1969, as amended (NEPA).

1.1.1 Project Description

The Project is proposed by PacifiCorp (doing business as Rocky Mountain Power [Applicant]) and would include an overhead, single-circuit 500-kilovolt (kV), alternating-current transmission line beginning at the planned Aeolus Substation near Medicine Bow, in Carbon County, Wyoming, and would extend approximately 425 miles south and west to the planned Clover Substation, near Mona, in Juab County, Utah. The Project also would include two series compensation stations at two separate points between the planned Aeolus and Clover substations to improve transport capacity and efficiency of the transmission line. Figure 1 presents the Project study area as of the date of this report.

1.1.2 Applicant's Need for the Project

The Applicant's need for the Project is tied to obligations as a regulated utility to provide increased capacity as required to serve growing loads; to provide safe, reliable electricity to its customers at a reasonable cost; to address constraints in the Applicant's existing transmission system; and provide electricity to the wholesale market when excess electricity exists or when required for other system-balancing alternatives. Through planning studies analyzing the electrical power systems, the Applicant determined that its existing system, last upgraded about 25 years ago, is fully utilized and needs to be upgraded. In 2007, the Applicant committed to expanding its transmission network to ensure sufficient capacity would be available to meet the needs of its new and existing customers. The Project is planned to meet the Applicant's customer load and growth needs for additional transmission.

The Applicant needs to make improvements to its bulk transmission network in order to reliably transport electricity from generation resources (owned generation and market purchases) to various load centers. Additional transmission infrastructure is needed to:

- Maintain compliance with mandated national reliability standards that require the Applicant to have a plan to: "operate to supply projected customer demands and projected Firm Transmission Services, at all demand levels over the range of forecast system demands..."¹
- Meet obligations and requirements specifically required under the Applicant's Federal Energy Regulatory Commission approved Open Access Transmission Tariff

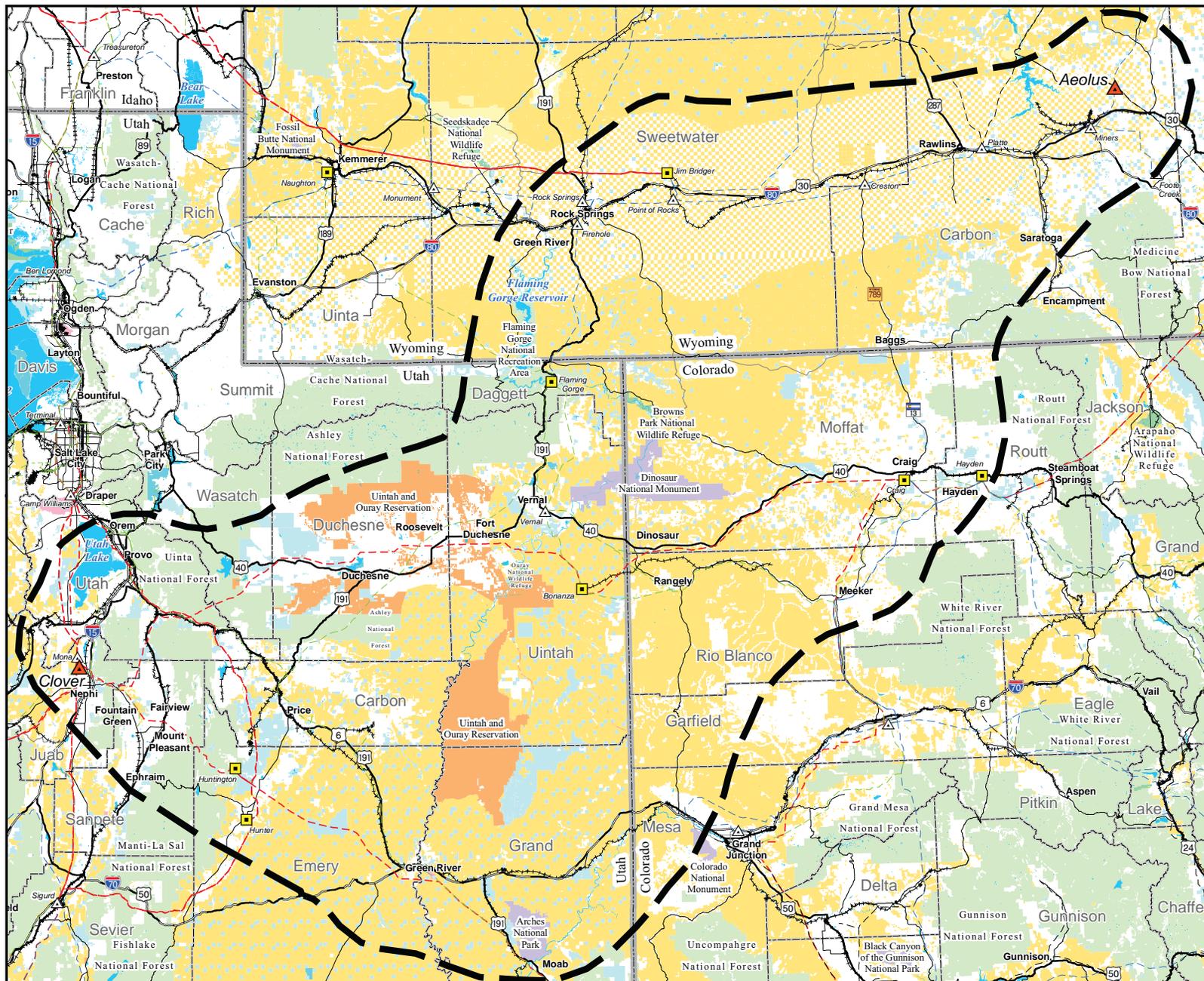
¹National Electric Reliability Council Transmission Planning Standard TPL-002-1

- Ensure customers have an adequate supply of reliable and low-cost energy
- Reliably deliver power to continuously changing customer energy supply demands under a wide variety of system operating conditions
- Supply all electrical demand and energy requirements of customers at all times, taking into account scheduled and unscheduled system outages
- Allow the Applicant to access energy available from existing markets and to sell excess generation to those existing markets when it is economic to do so for customers
- Support options for generation resource development, including economically feasible renewable generation as specified in the Applicant's current and future Integrated Resource Plans
- Meet the current and reasonably anticipated energy supply requirements, policies, rules, and laws at the federal level and in the states the company serves

In particular, the Project is needed to fulfill the following key responsibilities of the Applicant:

- **Serve Native Load:** The Applicant is responsible for providing electric service to 1.7 million retail customers in the states of California, Idaho, Oregon, Utah, Washington, and Wyoming. The Applicant has a legal obligation to ensure sufficient firm point-to-point and network transmission capacity is available to meet the electric demands of all its customers now and into the future.
- **Serve Third-Party Network Customers:** In addition to providing service to its native load customers, the Applicant also is required to provide transmission service to its third-party network customers, which in turn directly serve customers in these same states. The Applicant has a legal responsibility to provide reliable transmission service to third parties to the degree transmission capacity is available.
- **Ensure Reliability:** The Project is needed to improve the Applicant's ability to provide reliable electrical service to all its customers in a nondiscriminatory manner. The Project also is needed to provide redundancy during transmission and generation contingencies for other planned and existing transmission segments (Gateway West and Gateway Central, respectively), thereby providing operational flexibility for the bulk electric system, ensuring reliability, and supporting capacity ratings for each segment.
- **Access to Energy Resources:** The Applicant has a legal obligation to transport identified third-party network generation to serve network loads. The Project is needed to provide the Applicant with access to rich and diverse generation resources throughout its service territory needed to meet the growing electrical demands of its customers. In general, expansion of the transmission system is needed to accommodate a variety of future resource scenarios and plans.

FIGURE 1
PROJECT STUDY AREA



Project Features

- Project Area Boundary
- Planned Substation

Utilities

- Existing Substation
- Existing Power Plant
- 345KV Transmission Line
- 230 to 287KV Transmission Line
- 138 to 161KV Transmission Line
- 115KV Transmission Line

Transportation

- Interstate Highway
- U.S. Highway
- State Highway
- Railroad

Land Jurisdictions

- Bureau of Land Management
- Bureau of Reclamation
- Indian Reservation
- National Park Service
- State Land
- Private Land
- U.S. Department of Defense
- U.S. Fish and Wildlife Service
- U.S. Forest Service

Water

- Lake or Reservoir

Administrative Boundaries

- State Boundary
- County Boundary

SOURCES:
BLM State Office Colorado, 2008, Land Jurisdiction;
BLM State Office Utah, 2009, Land Jurisdiction;
BLM State Office Wyoming, 2009, Land Jurisdiction;
POWE Rmap Platts, 2007, Transmission Lines and Substations as digitized by EPG;
USDOT, 2008, National Transportation Atlas Database;
ESRI, 2008, Water Features; ESRI, 2008, County Boundary;
ESRI, 2008, State Boundary; AGRC, 2004, Cities

NOTES:
• Substation symbols do not necessarily represent precise locations.



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ENERGY GATEWAY SOUTH
TRANSMISSION PROJECT



Source: <http://www.esri.com>

- **Maximize Infrastructure Benefits:** When interconnected to the wider electric system in the west, Energy Gateway South would function as a fully interconnected electric-system element in the west-wide electric grid and would be expected to carry its full-rated capacity (1,500 megawatts of electrical power flow) across the system. When interconnected with other Gateway segments (Gateway West and Gateway Central), the Project would allow all Energy Gateway segments to achieve their fully rated capacities.

1.1.3 Federal Review of the Project

The alternative routes traverse federal lands (administered primarily by the Bureau of Land Management [BLM]) and U.S. Forest Service [USFS]), state lands, tribal lands, and privately owned lands in portions of 17 counties in the states of Wyoming, Colorado, and Utah. Therefore, the Applicant submitted an application, and a revision to the application, for a right-of-way across federal land (Application for Transportation and Utility Systems and Facilities on Federal Lands [Standard Form 299]). In compliance with NEPA, and the Federal Land Policy and Management Act of 1976, as amended, the BLM Wyoming State Office, the lead agency, in conjunction with multiple cooperating agencies, is preparing an Environmental Impact Statement (EIS) to analyze the potential environmental impacts resulting from and to address possible land use plan amendments for granting a right-of-way and special-use authorization for construction, operation, and maintenance of the Project.

1.1.4 History

The alternative routes, as they currently stand, are a result of environmental feasibility studies, a modified Project description, updated in 2008 and 2010, adjustments based on comments from agencies and the public, and environmental analyses that have resulted in refinement of the alternative routes.

Initial preliminary siting corridors were identified by the Applicant through a series of environmental feasibility studies beginning in 2006 that analyzed opportunities for and constraints to siting extra-high voltage (EHV) transmission lines in Wyoming, western Colorado, Utah, southern Idaho, and eastern Nevada.

Figure 2 is a timeline of the major milestones in the development of the Project and highlights the Applicant's development of alternative routes, as well as the BLM's review and oversight of the Project that have further refined these routes.

1.1.5 Purpose of the Siting Study Report

The purpose of this siting study report is to document the development of the alternative routes as they exist as of the date of this report. This siting study report will support the section of EIS Chapter 2 that describes the alternative routes by providing additional detail and background for readers to understand the development and evolution of the Project from its beginning to the current alternative transmission line routes that are being carried forward for analysis in the EIS.

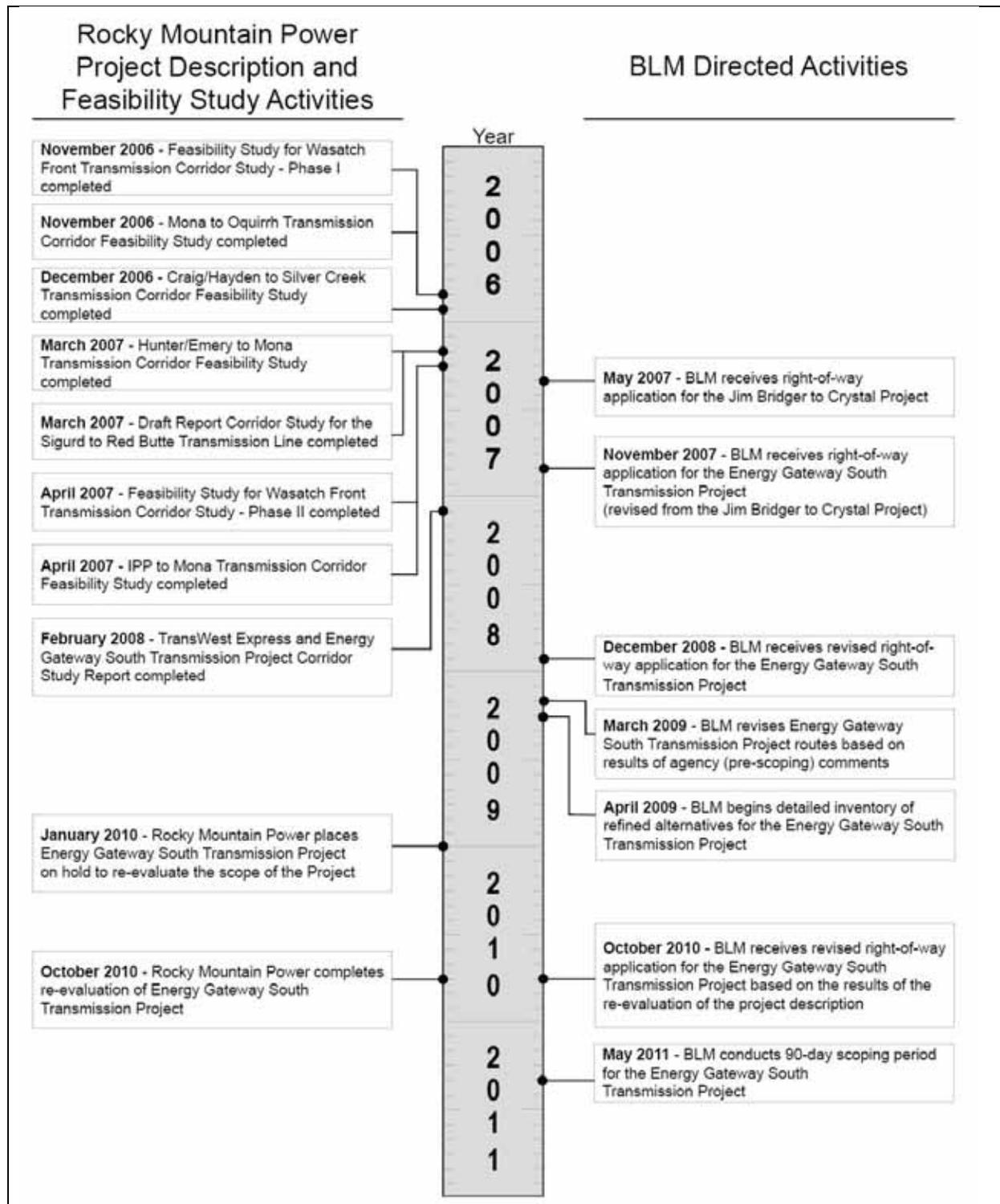


Figure 2 Timeline of Major Milestones

1.2 Report Organization

1.2.1 Organization

This report, organized in four primary sections, presents a comprehensive description of the methods and results used to identify and develop the alternative transmission line routes:

- **Section 1: Introduction** provides a description of the background and purpose of this siting study report, a brief explanation of the need for the Project, and a brief description of the major milestones of the alternative route development.
- **Section 2: Development of Alternative Routes** provides (1) a description of the overall process used to identify the preliminary siting corridors in the study area to identify reasonable and feasible alternative transmission line routes, along with a brief description of the regional environmental feasibility studies conducted during a period from 2006 through 2008; (2) a description of the preliminary alternative routes reviewed by the lead and cooperating agencies as part of commencing the EIS process (2009 through 2010); (3) a description of the preliminary alternative routes reviewed by the public during formal 90-day scoping period for the EIS (2011), and (4) description of the alternative routes reviewed by the agencies as the environmental studies were being conducted in preparation of the EIS (2012).
- **Section 3: Summary of Project Facilities** provides a description of the substation locations, series compensation stations, and alternative transmission line route segments as of the date of this report.
- **Section 4: Next Steps** provides a summary of the environmental analysis process, which includes environmental data inventory, impact assessment and mitigation planning, comparison of alternatives, selection of the preferred alternative(s), preparation of the EIS, finalizing the federal right-of-way application, and obtaining other permits and authorizations.

These four sections are followed by a list of references used to prepare this report and appendices containing supporting information.

1.2.2 Definitions

There are four terms used in this report to describe various stages of alternative route development that warrant clarification:

- **Preliminary siting corridor** – Typically a linear corridor up to 6 miles in width identified through an initial opportunity and constraint sensitivity analysis in which a new transmission line and ancillary facilities feasibly could be located.
- **Alternative route** – An alternative route is considered to be a feasible location for constructing and operating a new transmission line. As the EIS process progresses, additional findings of engineering and environmental studies may result in modifications to the route alignment.

- **Reference centerline** – A specific location on the ground (for an alternative route) that represents the approximate location of the transmission line right-of-way centerline, which has been refined in the preliminary siting corridor as described above through environmental resource studies and preliminary engineering studies. The reference centerline location may be modified as the EIS process moves forward based on additional findings of engineering and environmental studies.

- **Alternative route study corridor** – An area in which environmental data are collected, studied, and analyzed for the EIS for a specific alternative route. Typically 2 miles in width (1 mile each side of centerline) for most resources studied in the EIS; however, the width of the study corridor varies for each resource studied (e.g., visual resources includes up to 3 miles on each side of reference centerline for a total width of 6 miles, cultural resources includes up to 2 miles on each side of the reference centerline for a total width of 4 miles).

2.0 DEVELOPMENT OF ALTERNATIVE ROUTES

2.1 Introduction

This section is a description of the series of feasibility studies conducted from 2006 through 2008 by the Applicant as part of its long-range transmission system planning efforts that culminated in a network of reasonable and feasible transmission line alternative routes and series compensation station sites to study and analyze in detail for the EIS. The process of identifying the alternative routes is presented in four subsections, as follows:

- **Feasibility Studies** – A history of the feasibility studies that contributed to identifying preliminary siting corridors for the Project and the study approach used to identify the preliminary siting corridors that were refined into preliminary alternative routes submitted to the BLM in an application for right-of-way in December 2008.
- **Agency Review of the Preliminary Alternative Routes** – A description of the agency reviews that took place prior to scoping and resulting modifications to the preliminary alternative routes from January 2009 through October 2010 when the Applicant submitted a revised right-of-way application to reflect a project reduced in geographic scope.
- **Public Review and Comment on the Preliminary Alternative Routes** – A description of modifications to the preliminary alternative routes based on comments received from the public and agencies during the scoping process, which initiated the preparation of the EIS.
- **Review of Alternative Routes Through Environmental Studies** – A description of modifications to the alternative routes based on the results of the inventory of environmental resources, preliminary results of the assessment of potential impacts, and comparison of alternative routes.

Figure 2 (refer to Section 1.0) is a listing and timeline illustrating the major milestones, including feasibility studies and preliminary applications to the BLM and USFS for right-of-way and special-use authorization, respectively, associated with development of the alternative routes from 2006 through mid-2011. Figure 3 illustrates the progression of alternative route development.

2.2 Feasibility Studies

Starting in 2006, the Applicant began long-range transmission system planning studies to identify potential EHV transmission line projects that would be needed to meet projected electrical demand in the Applicant's service area over the ensuing 20 years. These potential projects would increase system reliability and meet the projected electrical demands of customers and load growth in their six-state service area, which includes Utah, Wyoming, Idaho, Washington, Oregon, and California.

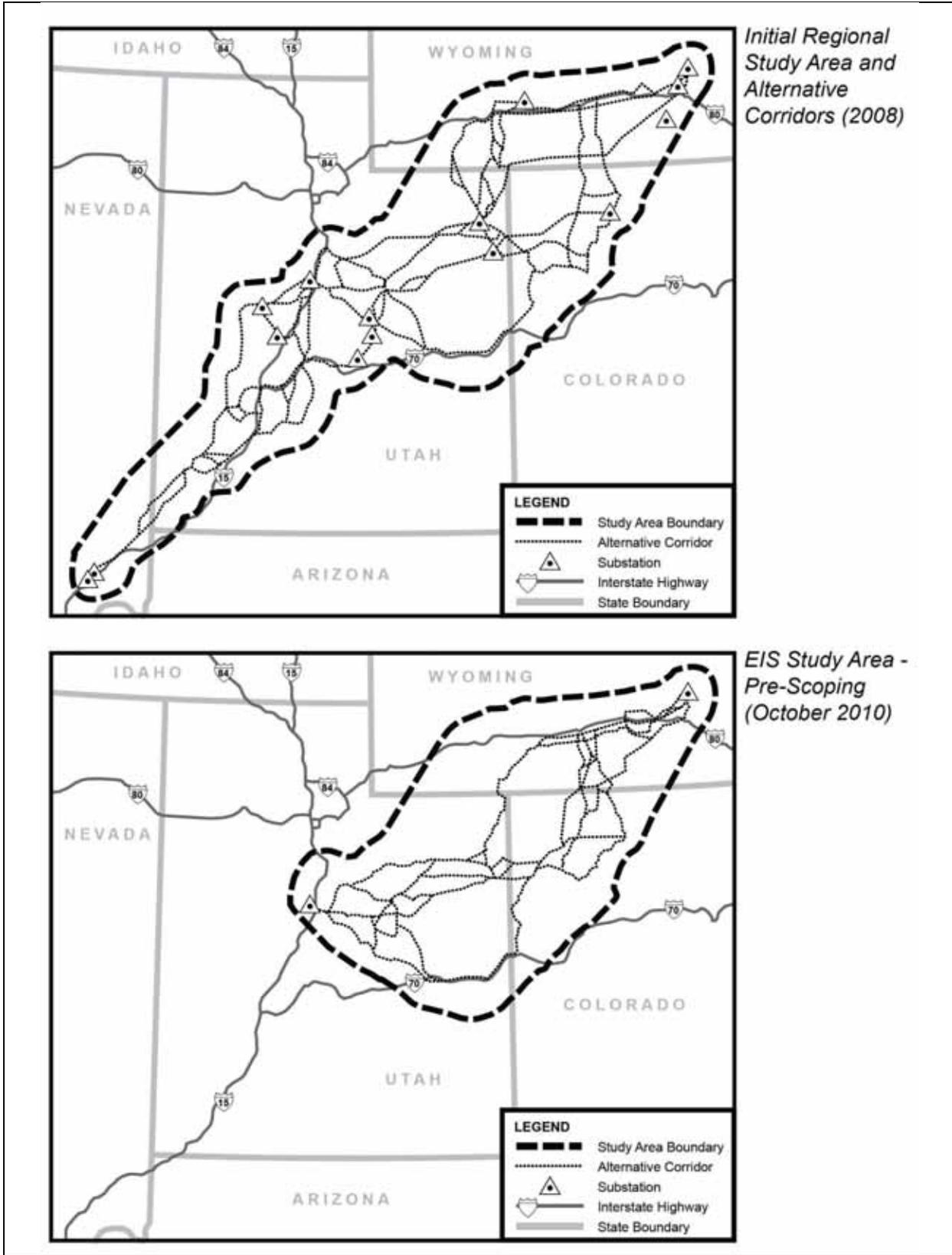


Figure 3 Progression of Study Area and Alternative Route Development

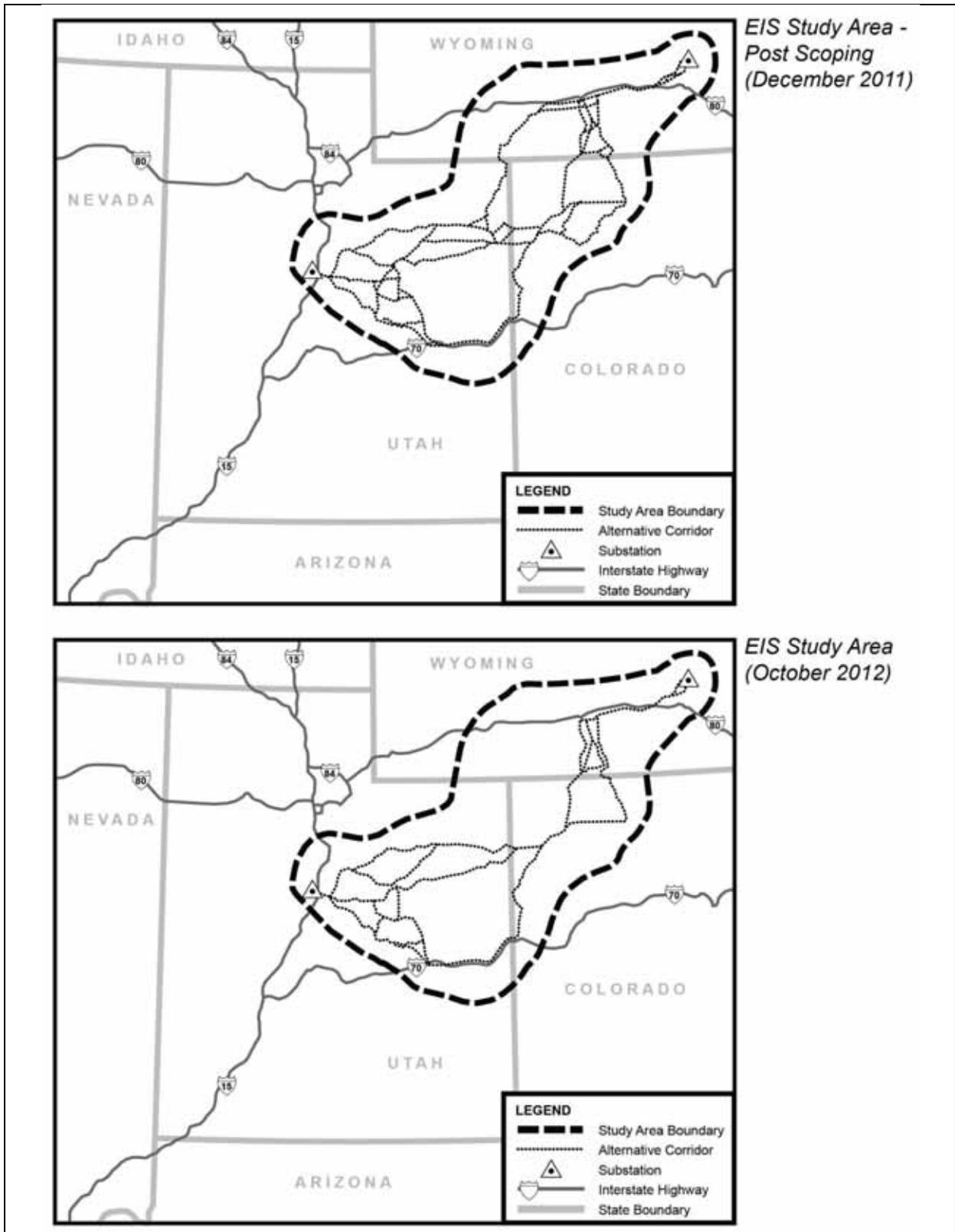


Figure 3 (continued) Progression of Study Area and Alternative Route Development

In August 2007, National Grid, Arizona Public Service Company (APS), PacifiCorp (i.e., Rocky Mountain Power), and the Wyoming Infrastructure Authority (WIA) entered into an interim agreement to work together and plan for development of new EHV transmission lines for the western United States. The project proponents' system studies concluded there was demonstrated need to get electrical power from Wyoming to energy-demand areas specifically in Utah, Nevada, Arizona, and Southern California. National Grid, as the lead developer, and APS, PacifiCorp, and the WIA began a study to meet this need, including identification of preliminary transmission line corridors that extend from eastern Wyoming through Colorado, Utah, Nevada, and Arizona. The interim agreement built on PacifiCorp's May 30, 2007, announcement to construct, by 2014, more than 1,200 miles of new 500kV transmission lines necessary to address the long-term growing energy needs of the six states it serves and to access planned renewable energy resources. The interim agreement also built on APS' feasibility study for the proposed TransWest Express (TWE) project completed on five preliminary alternatives that traversed Wyoming, Colorado, Utah, Nevada, and Arizona.

Rocky Mountain Power's proposed Energy Gateway South Transmission Project, a proposed transmission line from eastern Wyoming into Utah, terminating at the Crystal Substation in Nevada, had common aspects with a project proposed by APS in October 2005. At that time, APS announced plans to explore the feasibility of the TWE Project to meet its customers' long-term growth needs. In March 2006, APS signed a Memorandum of Understanding with WIA and National Grid to collaborate on this study. In December 2006, APS completed a feasibility report concluding that TWE potentially would create significant benefits for its customers.

In the interim agreement, the four parties agreed to work together on initial activities to co-develop these projects, with a decision on next steps to be made in 2008. The corridor study report (for TWE and Energy Gateway South Transmission projects) was a result of the combined efforts of the project proponents (National Grid, APS, Rocky Mountain Power, and WIA) to identify environmentally feasible corridors in the study area. The February 2008 report summarized the data inventory and preliminary siting corridor identification results for the study area in a consistent manner, while incorporating previous studies completed by each of the project proponents. The study also identified a range of preliminary alternative routes to carry forward in a preliminary application for right-of-way to be evaluated during the process in compliance with NEPA.

Following is a listing of the feasibility studies and right-of-way applications, including revisions that helped form the basis of the alternative routes that were included as part of the right-of-way application submitted December 17, 2008 (refer also to Figure 2):

- **Feasibility Study for the Wasatch Front Transmission Corridor Study – Phase I (November 2006)** – This feasibility study was performed in two phases: Phase I was completed in November 2006 and identified siting opportunities and constraints for EHV transmission facilities in northern Utah, extending west into eastern Nevada, and including southeastern Idaho. Phase II was completed in April 2007 (described below).
- **Mona to Oquirrh Transmission Corridor Feasibility Study (November 2006)** – This feasibility study identified siting opportunities and constraints for EHV transmission facilities in northern and central Utah.
- **Craig/Hayden to Silver Creek Transmission Corridor Feasibility Study (December 2006)** – This feasibility study identified siting opportunities and constraints for EHV

transmission facilities in northwestern Colorado, northeastern Utah, and southwestern Wyoming.

- **Hunter/Emery to Mona Transmission Corridor Feasibility Study (March 2007)** – This feasibility study identified siting opportunities and constraints for EHV transmission facilities in central Utah.
- **Draft Report - Corridor Study for Sigurd to Red Butte Transmission Line (March 2007)** – This feasibility study identified siting opportunities and constraints for EHV transmission facilities in southwestern and central Utah.
- **Feasibility Study for the Wasatch Front Transmission Corridor Study – Phase II (April 2007)** – Phase II of this study extended the study area defined in Phase I to the east to include portions of southeastern Idaho, southwestern Wyoming, northwestern Colorado, and eastern Utah.
- **Intermountain Power Project (IPP) to Mona 345kV Transmission Corridor Project Feasibility Study (April 2007)** – This feasibility study identified siting opportunities and constraints for EHV transmission facilities in central Utah.
- **Jim Bridger to Crystal 500kV SF 299 Right-of-way Application (May 2007)** – The application proposed to permit and construct a double-circuit 500kV transmission line from the Jim Bridger Power Plant Substation near Rock Springs, Wyoming, to the Mona Substation near Mona, Utah, and a single-circuit 500kV transmission line from the Mona Substation to the Red Butte Substation near St. George, Utah, with the project terminus at the Crystal Substation near Moapa, Nevada. The approximate length of the proposed project was 725 miles, with a 250-foot right-of-way. This right-of-way application would later be revised based on changes to the project description, and became the Energy Gateway South Project.
- **Energy Gateway South Transmission Project Right-of-way Application (November 2007)** – In November 2007, the Applicant revised its right-of-way application for the Jim Bridger to Crystal Project, modified the project description, and began referring to the project as Energy Gateway South. The Project would now originate at the proposed Aeolus Substation near Medicine Bow, Wyoming, and continue to the Mona Substation in central Utah as a double-circuit 500kV transmission line. From there, the proposed Project would continue on as a single-circuit 500kV transmission line to the Sigurd and Red Butte substations in southern Utah, and then on to the Crystal Substation in southern Nevada.
- **TransWest Express and Energy Gateway South Transmission Project Corridor Study Report (February 2008)** – As discussed previously, this joint study between National Grid, APS, Rocky Mountain Power, and WIA, included a detailed summary of the methods, analysis, and recommendations for advancing the Project, specifically further refinement and finalization of the preliminary siting corridors into specific alternative routes from the previous November 2007 right-of-way application. The preliminary corridors were reviewed and refined based on the U.S. Department of Energy (DOE) energy corridors released in the West-wide Energy Corridor (WWEC) Draft Programmatic Environmental Impact Statement (PEIS) in November 2007. The Final PEIS was not released until after this study in November 2008 (DOE 2008).

This study further refined the identification of alternatives through a four-step study approach of (1) defining the study area, (2) compiling data inventory, (3) identifying constraints and opportunities, and (4) defining general siting corridors and refining preliminary siting corridors into specific alternative routes.

- **Energy Gateway South Revised Right-of-way Application (December 2008)** – The December 17, 2008, right-of-way application was submitted to the BLM Wyoming State Office as an update of the routes based on the results of the February 2008 corridor study report and refined the alternative routes identified in the November 2007 right-of-way application.

The proposed double-circuit 500kV transmission line would begin at the planned Aeolus Substation and continue to the planned Mona Annex (now referred to as Clover) Substation near Mona, Utah. A proposed single-circuit 500kV transmission line would begin at the Mona Annex Substation and continue south to a proposed Sigurd Annex Substation near Scipio, Utah, and then on to the proposed Red Butte Annex Substation near Veyo, Utah. From the Red Butte Annex Substation, the proposed Project would continue to the terminus point at the existing Crystal Substation near Moapa, Nevada.

2.2.1 Study Approach

The February 2008 corridor study report defined the approach for identifying preliminary siting corridors. The approach for the regional studies consists of five major steps, as follows, and as shown in Figure 4.

1. Study area definition
2. Data inventory and mapping
3. Environmental sensitivity analysis (opportunities and constraints analysis)
4. Identification of preliminary siting corridors and series compensation station sites
5. Refinement of corridors

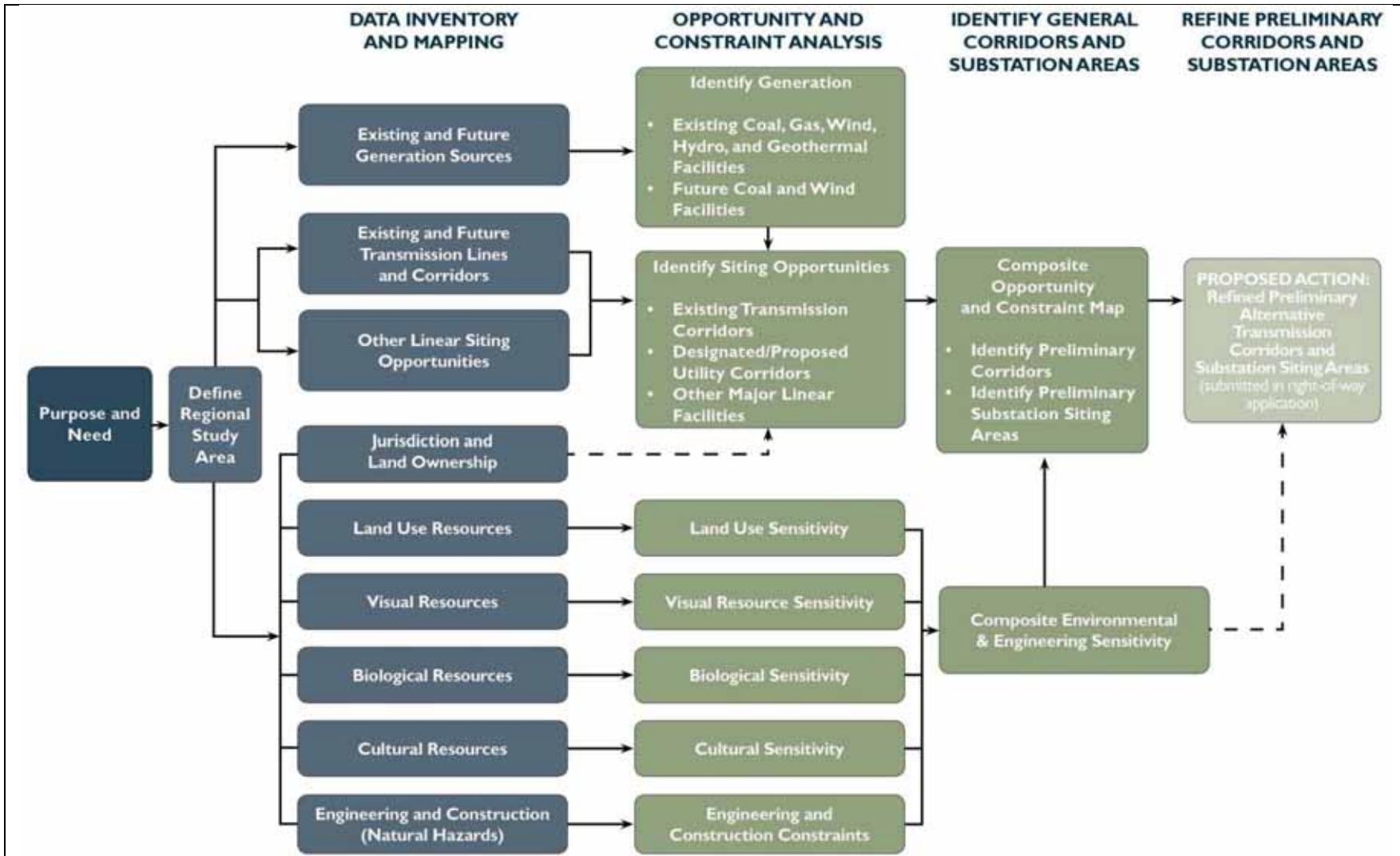


Figure 4 Regional Study Approach

2.2.1.1 Study Area Definition

To comprehensively examine all feasible siting corridors, a preliminary study area was developed (Figure 5). This study area included most of the state of Utah plus large sections of northwestern Colorado, southwestern Wyoming, southeastern Idaho, eastern Nevada, and north-central Arizona. The preliminary study area was established with the Project description, through review of previous studies conducted in this region and by considering the following criteria:

- Potential major substation interconnection points
- Existing designated utility corridors
- Existing EHV transmission lines
- Geography
- Land use designations (e.g., National Parks, wilderness areas)

As the Project description was defined further to connect northeastern Wyoming to the Las Vegas area, several siting corridors were investigated and recommended not to be carried forward. These siting corridors generally were longer, resulting in substantially higher costs and potentially higher environmental impacts than the alternative routes recommended to be carried forward. Some alternative routes did not meet the Applicant's need for the Project. The result of this initial analysis was the determination of a refined study area (Figure 6).

This refined study area generally was defined by potential terminal locations in Wyoming, Utah, Nevada, and Arizona and existing substations that could be expanded to allow the import and export of power from Wyoming into Utah, Nevada, and Arizona. The refined study area also was defined by the potential use of existing and future major linear corridors (e.g., siting opportunities), as well as known management areas that may present physical and legal barriers to development of a transmission line (e.g., siting constraints). The northern boundary of the study area was defined generally to include Casper, Wyoming, and the WYODAK, and Dave Johnston substations. The eastern boundary included potential siting corridors that traversed near the proposed Aeolus Substation near Hanna, Wyoming, and south into Colorado, near the Craig and Hayden substations, through central Utah, along the Interstate (I)-70 transportation corridor, and south near Red Butte Substation. The western boundary included potential corridors that traverse near the Jim Bridger Substation, along the I-80 transportation corridor in Wyoming, south near the Flaming Gorge Reservoir, and south of Salt Lake City, Utah. Continuing southwest through Utah and near existing corridors that connect the Mona and IPP substations to Las Vegas, Nevada, including the permitted Southwest Intertie Project route alignment along the eastern state line of Nevada. This study area included the Las Vegas metropolitan area as a potential terminus, as well as a crossing of Lake Mead into western Arizona. This extension into Arizona was included primarily for consideration by the other study proponents (APS, WIA, and National Grid) and was not a consideration for the Applicant. Generally, the study area boundary in Arizona included the I-40 transportation corridor through Flagstaff, Arizona, to the Cholla Substation, and south to the Phoenix metropolitan area and Pinnacle Peak Substation.

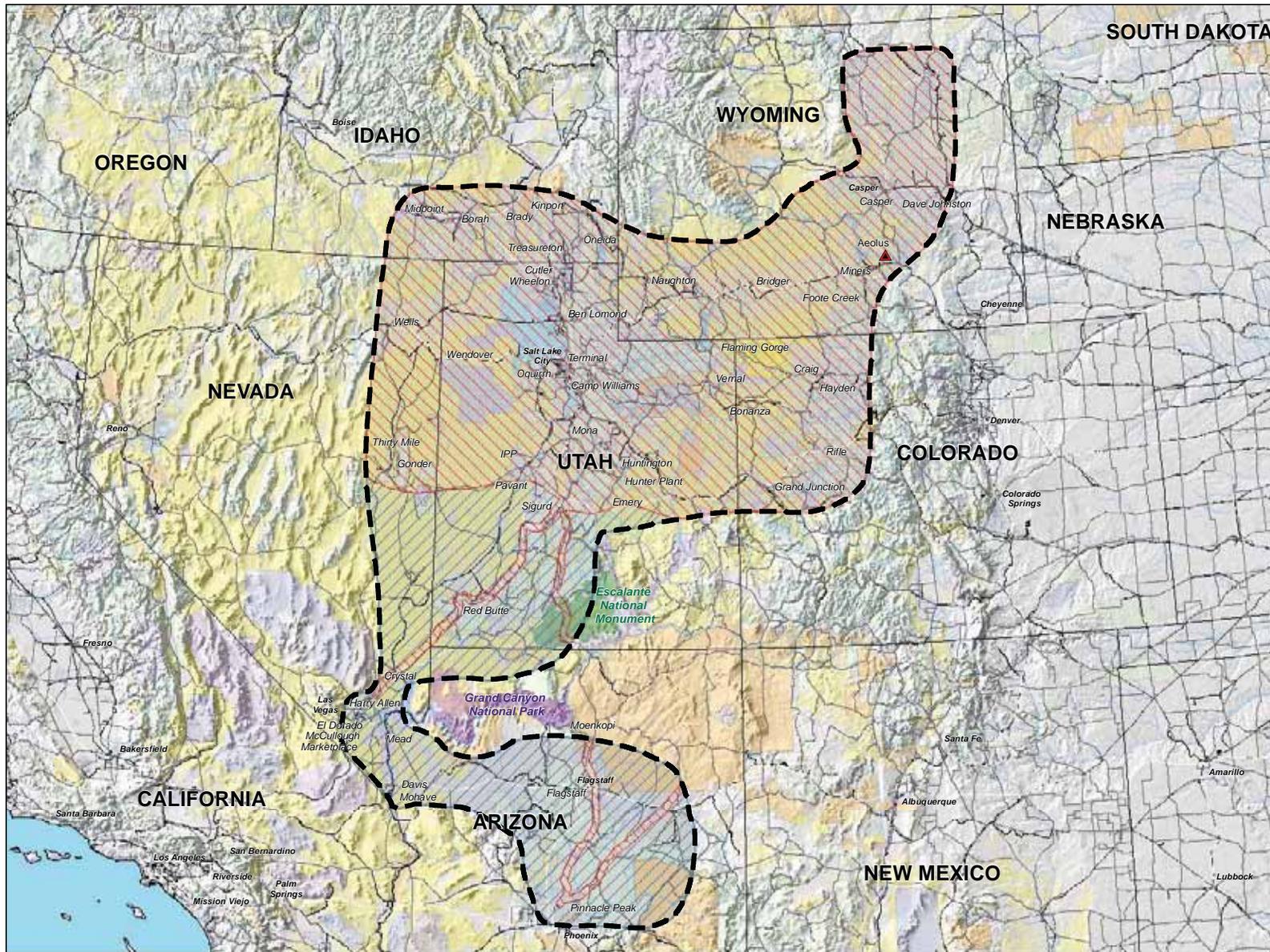


Figure 5
Preliminary Study Area
And Previously Conducted Studies

TransWest Express
and Gateway South
Transmission Projects

Legend

- Preliminary Study Area
- Substation
- New Substation
- Area Previously Studied
- Area to be Studied
- Bureau of Land Management
- Bureau of Indian Affairs
- U.S. Forest Service
- National Park Service
- Department of Defense
- U.S. Fish & Wildlife Service
- State/Private

Reference Features

- Interstate
- Highway
- Major Road
- Railroads
- Major River
- Major Lake
- Urban Area

Data Sources

Land Ownership: BLM Denver Service Center, 2006 BLM - National Atlas, 2006, EPG Inc, 2007

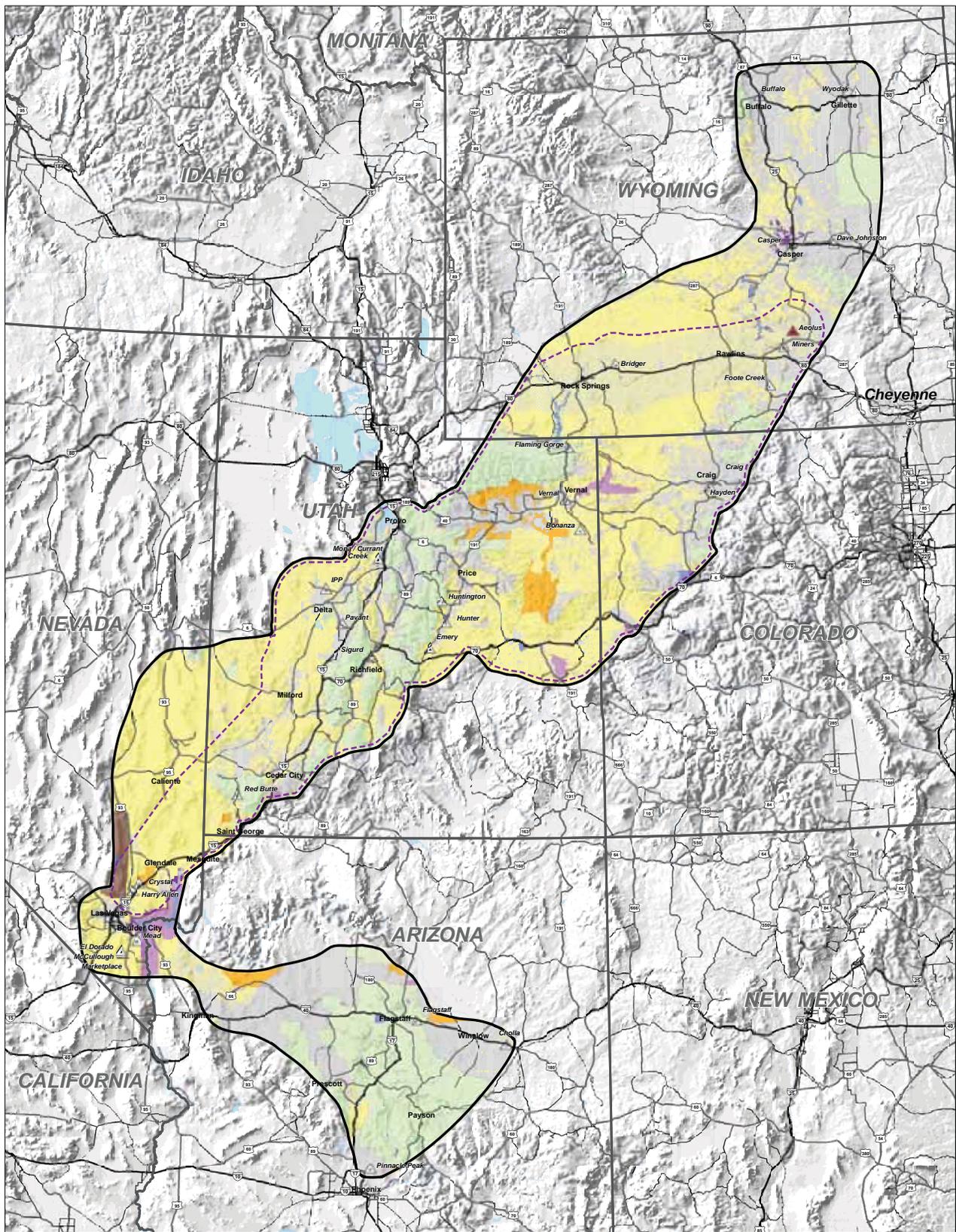
Transmission Line: POWERmap, powermap.platts.com©2007 Platts, A Division of The McGraw-Hill Companies

Note: Substation locations are schematics and do not necessarily represent precise locations.



Map Produced February 2008





- Legend**
- Bureau of Land Management
 - Bureau of Indian Affairs
 - U.S. Forest Service
 - National Park Service
 - Department of Defense
 - U.S. Fish & Wildlife Service
 - Bureau Of Reclamation
 - State/Private

- Reference Features**
- Interstate
 - Highway
 - Major Road
 - Railroads
 - Major River
 - Major Lake
 - State Boundary
 - TransWest Express Study Area
 - Gateway South Study Area
 - Substation
 - New Substation

Data Sources

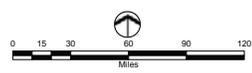
Land Ownership:
 BLM Denver Service Center, 2006 BLM - National Atlas, 2006, EPG Inc, 2007
 POWERmap, powermap.platts.com
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NOTE: Substation locations are schematics and do not necessarily represent precise locations.

Figure 6

Jurisdiction and Ownership

TransWest Express and Gateway South Transmission Projects



2.2.1.2 Data Inventory

Once the study area boundary was refined, an inventory of existing (secondary) data was conducted primarily for the following environmental resources: land use and recreation; cultural resources; biological resources; and visual resources. However, data for other resources that could arise as issues also were collected.

The data inventory included a combination of mapped, written, and tabular information (as appropriate for each element). Mapped information was based on best available geographic information system (GIS) digital data obtained from federal, state, and local agencies and organizations. The data were organized using the GIS database constructed for the study area and mapped at a scale of 1:2,000,000. For this regional phase of environmental studies, this scale provided sufficient detail to identify areas of opportunities for and areas of constraints to locating potential EHV transmission line routes.

Special database sets of secondary data inventoried included, but were not limited to, the following:

- Existing and known future linear facilities (e.g., transmission lines, sub-transmission lines, pipelines, railroads, highways) and substations
- Existing urbanized areas and other land uses (e.g., airports, cemeteries, schools)
- Land jurisdiction (e.g., BLM, USFS, tribal land, private/state land)
- Federally designated utility corridors
- WWEC Draft PEIS
- National Wild and Scenic Rivers
- National Recreation Areas (NRAs)
- Conservation areas and other special management areas, critical habitat areas, and wildlife refuges
- Cultural resource special management/status areas (e.g., National Historic Trails, National Register of Historic Places)

Data Source(s)

The BLM; USFS; U.S. Fish and Wildlife Service (FWS); National Park Service (NPS); U.S. Geological Survey (USGS); states of Arizona, Colorado, Nevada, Utah, and Wyoming; American Farmland Trust; U.S. Census Bureau; and U.S. Department of Defense (DOD) were key sources of GIS information. GIS base maps were prepared using the U.S. Department of Agriculture (USDA) National Agricultural Imagery Program (NAIP 2009). A list of data sources is presented in Table 1.

TABLE 1 ANALYSIS ATTRIBUTES AND DATA SOURCES	
Attribute	Source
Existing or Proposed Linear Corridors	
Draft West-wide Energy corridors	Argonne National Laboratory
Bureau of Land Management (BLM) and U.S. Forest Service (USFS) utility corridors	BLM field offices, USFS
Existing transmission lines 230-kilovolt and greater	Platts, National Geographic
Large-capacity pipelines	Platts, National Geographic
Large roads and highways	ESRI, Tele Atlas North America, Streetmap
Railroads	Federal Railroad Administration

TABLE 1 ANALYSIS ATTRIBUTES AND DATA SOURCES	
Attribute	Source
Land Use and Ownership	
U.S. Fish and wildlife Service (FWS) national wildlife refuges	FWS, BLM field offices
National Parks	BLM state offices (Wyoming, Utah, Colorado, Nevada) and field offices
BLM areas of critical environmental concern (ACECs)	BLM field offices
Wilderness study areas and designated wilderness areas	BLM field offices
Current and former Department of Defense (DOD) lands	BLM state offices (Wyoming, Utah, Colorado, Nevada) and field offices
State parks	BLM state offices (Wyoming, Utah, Colorado, Nevada) and field offices
Land administered by the USFS	BLM state offices (Wyoming, Utah, Colorado, Nevada) and field offices
American Indian reservations	BLM state offices (Wyoming, Utah, Colorado, Nevada) and field offices
Irrigated agriculture	National Agricultural Imagery Program (NAIP) aerial imagery
Grazing lease areas and areas where grazing is prohibited	BLM field offices, USFS
Airports and clear zones	Federal Aviation Administration, Bureau of Transportation Statistics
Designated recreation areas	BLM field offices, USFS
Undeveloped recreation areas	BLM field offices
Wild and Scenic Rivers	BLM field offices, USFS
Residential, cities, towns	NAIP aerial imagery
Active mining	BLM field offices, NAIP aerial imagery
Oil and gas fields	BLM field offices, USFS, state minerals agencies
Oil and gas fields (250-foot no-occupancy buffer)	Environmental Protection Agency (EPA), BLM field offices, Minerals Management Service
NAIP aerial imagery	U.S. Department of Agriculture (USDA)
Oil and gas leasing (potential development)	BLM field offices
Areas of controlled surface use and no surface occupancy	BLM field offices
Soils, Topography, Geology, Minerals, and Paleontology	
Prime and unique farmland	USDA, Natural Resources Conservation Service (NRCS)
Highly erodible soils or soils with very low revegetation potential	USDA, NRCS
Slopes greater than 15 percent	U.S. Geological Survey (USGS)
Slope instability	USGS
Faults, seismicity	USGS
Paleontological formation outcroppings	USGS
Water Resources	
Streams, springs, seeps	Automated Geographic Reference Center (AGRC)
Lakes and reservoirs	USGS, EPA, ESRI
Wetland Resources	
National Wetlands Inventory	FWS

TABLE 1 ANALYSIS ATTRIBUTES AND DATA SOURCES	
Attribute	Source
Special Status Species	
Designated critical habitat	FWS
Other important habitat for federal and state special status species	FWS, Colorado Division of Wildlife (CDOW), Utah Division of Wildlife Resources (UDWR), Wyoming Game and Fish Department (WGFD), Nevada Department of Wildlife (NDOW)
Fisheries streams	CDOW, UDWR, WGFD, NDOW
Sage-grouse wintering concentration areas	CDOW, UDWR, WGFD, NDOW
Sage-grouse core areas (conservation of breeding and nesting habitat)	CDOW, UDWR, WGFD, NDOW
Sage-grouse lek 0.25-mile radius no surface occupancy areas	CDOW, UDWR, WGFD, NDOW
Sage-grouse lek 0.65-mile radius seasonal restriction	CDOW, UDWR, WGFD, NDOW
Big game wintering and fawning areas	CDOW, UDWR, WGFD, NDOW
Raptor winter habitats	CDOW, UDWR, WGFD, NDOW
Raptor nests 0.50-mile buffer seasonal restriction	CDOW, UDWR, WGFD, NDOW
White-tailed prairie dog towns	CDOW, UDWR, WGFD
Black-tailed prairie dog towns	CDOW, UDWR
Black-footed ferret release sites	FWS, CDOW, UDWR
Pygmy rabbit locations	NDOW, UDWR, WGFD
Cultural Resources	
National Register of Historic Places listed or eligible sites	State Historic Preservation Office (Wyoming, Colorado, Utah, Nevada), NPS, U.S. Department of the Interior (USDI)
National historic districts	USDI, NPS, National Register of Historic Places
National historic trails and interpretive areas (0.5-mile buffer)	BLM field offices, NPS
Other historic trails (state-recognized) (0.5-mile buffer)	BLM field offices, NPS
Historic landscapes and national natural landmarks	BLM field offices, NPS
Visual Resources	
BLM visual resource management (VRM) Class I (requires a resource management plan amendment)	BLM field offices
BLM VRM Class II (requires an resource management plan amendment)	BLM field offices
BLM VRM Class III and IV	BLM field offices
Scenic overlooks (2.0-mile buffer)	NPS
Scenic highways and byways	Tele Atlas North America, ESRI, BLM field offices
Federally designated scenic areas	FWS, NRCS, USFS, NPS, BLM field offices
Visual management system and scenery management system	USFS

Linear Facilities

Linear features such as roadways (i.e., interstates, state routes, minor roads, and off-highway vehicle routes), transmission and distribution line right-of-ways, federally designated utility

corridors, existing highways (e.g., I-15, I-70, and I-80; highways 6, 13, and 789), pipelines, and railroads traverse the study area and can provide opportunities for siting a transmission line.

Designated Utility Corridors and West-wide Energy Corridors

Designated utility corridors analyzed for the Project included federally designated utility corridors in adopted resource management plans and the WWEC Draft PEIS energy corridors developed through collaboration among the DOE, USDI, USDA, and DOD to designate utility corridors on federal land in 11 western states. The WWEC Draft PEIS was prepared at the direction of Congress, set forth in Section 368 of the Energy Policy Act of 2005. Locating alternative transmission line routes in federally designated utility corridors, to the extent possible, should streamline the NEPA permitting process for rights-of-way across federal land(s). The 2008 Final PEIS study identified the four types of potential utility corridors:

- Multi-modal (suitable for all type of utilities)
- Electric-only, upgrade (only upgrades of existing lines allowed)
- Electric-only (suitable for overhead transmission lines)
- Underground-only (only pipelines and underground electric lines allowed)

The preliminary siting corridors were refined by identifying federally designated utility corridors throughout the study area and locating the siting corridors in federally designated utility corridors, to the extent possible. Generally, the designated utility corridors include existing transmission lines and other existing linear facilities. It was recognized during the development of preliminary siting corridors that other designated utility corridors in BLM resource management plans or USFS land management plans exist in the study area. In some cases, identifying preliminary siting corridors in these designated utility corridors was considered not suitable based on environmental, geographic, or engineering/electric system reliability concerns. Some of these designated utility corridors also may be designated for underground use only and would not allow for an overhead utility without an amendment of the land use management plan(s). In addition, the location of a designated utility corridor may not meet the need for the Project due to the inability to tie into the intermediate stations (series compensation stations) or terminal siting area.

Preliminary siting corridors identified for the Project considered the reliable operation and maintenance of the transmission system. Transmission reliability standards have moved from voluntary to mandatory under the provision of the Energy Policy Act. One of the outcomes of the Energy Policy Act was the designation of the North American Electric Reliability Corporation (NERC) as the electrical reliability organization with the authority to implement and monitor reliability rules for the power industry. The monitoring was delegated to the regional reliability councils, such as the Western Electricity Coordinating Council. The Western Electricity Coordinating Council may adopt additional requirements beyond those prescribed by NERC, but they must meet the NERC standards as a minimum. Part of the standards is a performance criterion that includes an element based on the separation of one transmission circuit from the adjacent circuit and the mutual impacts that may result from contingency events. While detailed engineering analysis would be performed at a later stage in the development of specific routes with the preliminary siting corridors, the concept of an appropriate separation from existing or planned facilities was generally included in the route analysis based on direction from Project Applicant system planners and engineers. Following the completion of the alternative corridors, mileages for all of the alternative corridors crossed by the Project were estimated for each land-

managing agency, and it was confirmed the majority of the federal land crossed by the preliminary siting corridors being considered is administered by the BLM.

Federal Lands

The total distance between the Aeolus Substation (Wyoming) and the Crystal Substation (Nevada) is approximately 725 miles, and would require crossing federally managed land primarily administered by the BLM and USFS for a majority of the route. Generally, the study area contained lands characterized as open range and undeveloped; however, incorporated cities and other populated areas are dispersed throughout the corridors. Table 2 below describes the federal jurisdictions in the Project area. The Project potentially would have crossed two Indian reservations (Uintah and Ouray Indian Reservation and Moapa Reservation).

TABLE 2 FEDERAL JURISDICTION AS OF DECEMBER 2008	
Federal Jurisdiction	Agency
Wyoming	
BLM field offices	Buffalo
	Casper
	Kemmerer
	Lander
	Newcastle
	Rawlins
	Rock Springs
DOD	Not applicable
USFS	Medicine Bow
	Thunder Basin Grassland
NPS	Not applicable
FWS	Not applicable
Colorado	
BLM field offices	Little Snake
	White River
	Grand Junction
DOD	Not Applicable
USFS	Rocky Mountain Region
NPS	Not applicable
FWS	Not applicable
Utah	
BLM field offices	St. George
	Richfield
	Moab
	Vernal
	Price
	Salt Lake
	Fillmore
	Cedar City
DOD	Not applicable
USFS	Manti-LaSal
	Ashley
	Fishlake
	Dixie
	Uinta
	Wasatch-Cache

TABLE 2 FEDERAL JURISDICTION AS OF DECEMBER 2008	
Federal Jurisdiction	Agency
NPS	Arches National Park
	Zion National Park
FWS	Not applicable
Nevada	
BLM field offices	Las Vegas
	Ely
	Caliente
DOD	Not applicable
USFS	Humboldt-Toiyabe
NPS	Great Basin National Park
	Lake Mead NRA
FWS	Not applicable

2.2.1.3 Environmental Sensitivity Analysis and Identification of Preliminary Siting Corridors

Identification of preliminary siting corridors was based on the environmental sensitivity of siting an EHV transmission line. For each environmental resource studied, the inventory data were evaluated to identify areas of constraint or difficulty, as well as areas of opportunity for siting EHV transmission lines. The preliminary siting corridors were 6 miles wide to allow for avoidance of sensitive areas.

Environmental Sensitivity and Constraints

For this study, constraints were defined as a measure of probable adverse response of each resource to direct and indirect impacts associated with the construction, operation, and maintenance of EHV transmission lines. Criteria used in making the determination of environmental constraints included consideration of the following:

- **Resource Value** – A measure of rarity, high intrinsic worth, singularity, or diversity of a resource in the area.
- **Protective Status** – A measure of the formal concern expressed for a resource either through legal protection or by assignment of special status designation.
- **Present and Future Use** – A measure of the level of conflict based on land management policies and/or use.

With consideration of these three criteria, the data gathered in the resource inventories were given a relative level of sensitivity associated with the introduction of new transmission lines. These four levels of sensitivity, mapped by resource, were used for this analysis:

- **Very High Sensitivity** – Areas where legal status (e.g., wilderness areas) or jurisdictional policy (e.g., active airports) would prohibit or most likely prohibit the location of transmission lines. For purposes of identification of preliminary corridors, areas of very high sensitivity were avoided.

- **High Sensitivity** – Areas determined to be less suitable because of unique, highly valued, complex, or protected resources and significant potential conflict with use. Locations of high-sensitivity areas were undesirable for siting the transmission lines; therefore, they were avoided to the extent possible.
- **Moderate Sensitivity** – Areas of potential environmental impact because of important, valued resources; resources assigned special status; and some conflict with use. Locations of moderate sensitivity were considered to be less desirable for siting transmission lines. Crossing areas of moderate sensitivity by alternative routes was minimized.
- **Low Sensitivity** – Areas where resource conflicts have been identified through the regional environmental study process as minimal. The areas of low sensitivity were least restrictive and are generally considered opportunities for siting a transmission line.

It is important to note that sensitivity levels do not constitute levels of impact.

Siting Opportunities

In addition to the identification of constraint areas, areas of opportunities for siting a transmission line also were identified. For this study, siting opportunities, in addition to areas of low sensitivity, typically include linear features such as existing and future overhead lines, designated utility corridors, existing interstate and intrastate highways, pipelines, and railroads. Where feasible and reasonable, these siting opportunities were used to the maximum extent possible.

Identification of Preliminary Siting Corridors

The environmental constraints and opportunities analysis assisted in determining preliminary siting corridors. After completing the sensitivity analysis for each environmental resource, a map showing a composite of the constraints identified was prepared that included an additional layer to display those areas and linear corridors identified as opportunities to potentially locate transmission lines. By overlaying these areas of constraints and opportunities, preliminary siting corridors were identified (Figure 7). A corridor width of approximately 6 miles was identified in the study area to allow for more detailed analyses to locate specific rights-of-way required to site EHV transmission lines during the NEPA process.

Other criteria or guidelines used to locate preliminary siting corridors included (1) minimizing locations through steep or rugged topography and (2) minimizing the overall corridor length.

2.2.1.4 Refinement of Corridors

Preliminary siting corridors were based primarily on avoiding areas of environmental constraint and using areas of opportunities, supplemented with general knowledge of the study area. To refine the initial corridors, additional information, such as jurisdictional boundaries, terrain, points of interconnection, and location of other facilities, were reviewed generally.

Completion of the corridors included incorporation of the WVEC PEIS draft corridors (dated November 2007), a limited field evaluation of corridors based on aerial overflights via small fixed-wing aircraft and helicopters, engineering and construction issues, and transmission system planning analysis. The refined corridors are displayed in Figure 8.

Electrical System Planning Criteria and Reliability Standards

In addition to the corridor analysis, review and screening of the preliminary corridors was performed by the Applicant with further consideration for the following criteria:

- Presence of designated or proposed utility corridors
- Presence of other existing linear facilities (e.g., transmission lines, pipelines)
- Substation interconnection requirements
- System planning criteria, including separation from existing and planned facilities (a distance equivalent to the “ruling span,” or the distance equivalent to the longest span of the existing or proposed line, which is approximately 1,500 feet)
- Construction, operation, and maintenance of facilities

The Applicant’s engineers (and the other project proponents at that time – National Grid, APS, WIA) reviewed the preliminary siting corridors and provided comments to adjust or refine the corridors based on these criteria.

2.2.1.5 Discussion of Preliminary Alternative Routes

The study identified a range of preliminary alternative routes that were submitted to the BLM in the December 2008 right-of-way application. These alternative routes are shown in Figure 9.

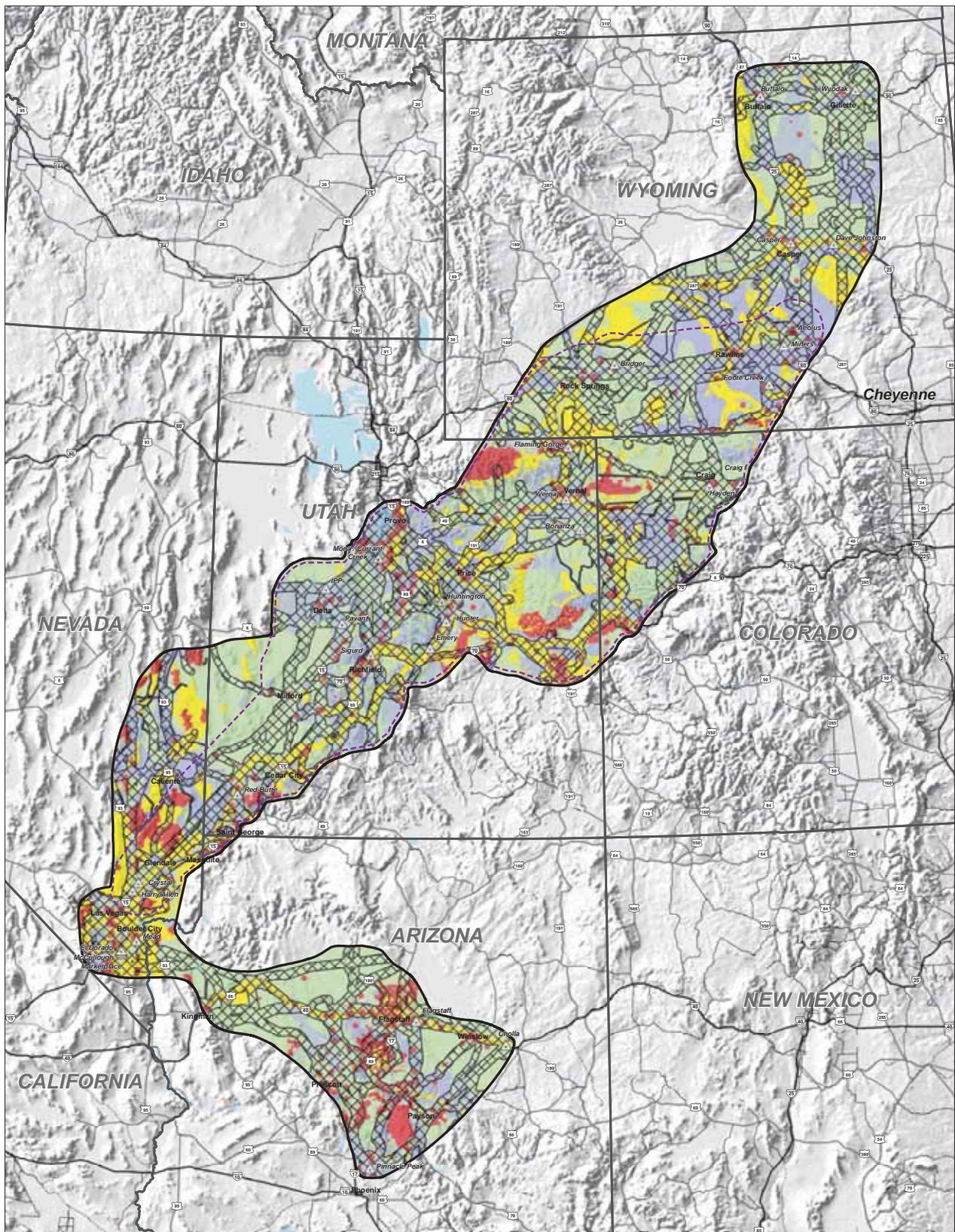
The following is a summary of the key issues and constraints associated with environmental factors for the study area. The study area was defined by four segments presented in the following from north to south substation points:

- Segment 1 – Aeolus to Mona
- Segment 2 – Mona to Sigurd Annex
- Segment 3 – Sigurd Annex to Red Butte Annex
- Segment 4 – Red Butte Annex to Crystal

Each segment is described in further detail in the following sections.

Segment 1 – Aeolus to Mona

The Wyoming portion of the Project is characterized generally as undeveloped agriculture and rangeland. Industrial facilities are scattered throughout (i.e., active coal mines, power plants, oil, and/or gas facilities). Conservation areas and other special management areas include the Flaming Gorge NRA, ACECs and wilderness study areas (WSA), national historic and scenic trails, and wildlife refuges. The Colorado portion of this segment is characterized generally as undeveloped agriculture and rangeland, with small areas of designated prime and unique farmland soils. The Utah portion is characterized generally as undeveloped agriculture and rangeland with large areas of designated threatened or endangered critical habitat on the western side of the Green River and in the vicinity of the Uintah and Ouray Indian Reservation.



Legend

- ⊠ Preliminary Corridor
- ▭ Terminal Siting Area
(Not displayed for graphical purposes)
- Environmental Constraints**
- Red Areas of very high sensitivity
- Yellow Areas of high sensitivity
- Blue Areas of moderate sensitivity
- Green Areas of low sensitivity

Reference Features

- ⚡ Interstate
- ⚡ Highway
- ⚡ Major Road
- 🚂 Railroads
- 🌊 Major River
- 🌊 Major Lake
- ▭ State Boundary
- ▭ TransWest Express Study Area
- ▭ Gateway South Study Area
- ⚡ Substation
- ⚡ New Substation

Data Sources

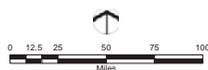
National Atlas, 2006, Enemrap, 2006
 EPIC Inc, 2007
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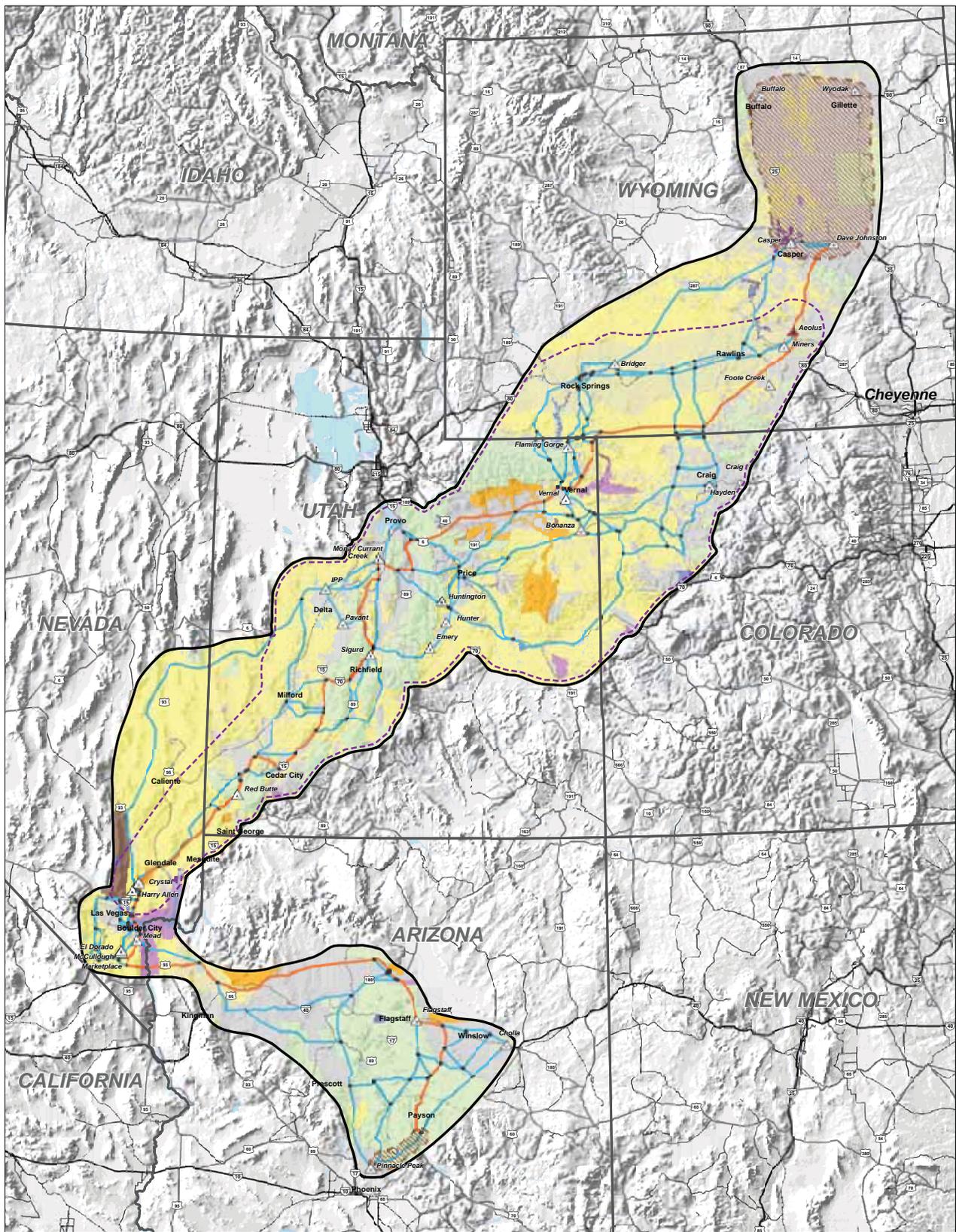
NOTE: Substation locations are schematics and do not necessarily represent precise locations.

Figure 7

Preliminary Corridors

TransWest Express and Gateway South Transmission Projects





- Legend**
- Terminal Siting Area
 - Preliminary Proposed Corridor
 - Preliminary Alternative Corridor
 - Link Number*
 - Link Node
 - Bureau of Land Management
 - Bureau of Indian Affairs
 - U.S. Forest Service
 - National Park Service
 - Department of Defense
 - U.S. Fish & Wildlife Service
 - Bureau Of Reclamation
 - State/Private

- Reference Features**
- Interstate
 - Highway
 - Major Road
 - Railroads
 - Major River
 - Major Lake
 - State Boundary
 - TransWest Express Study Area
 - Gateway South Study Area
 - Substation
 - New Substation

Data Sources

Land Ownership:
 BLM Denver Service Center, 2006
 BLM - National Atlas, 2006, EPG Inc, 2007
 POWERmap, powermap.platts.com
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NOTE: Substation locations are schematics and do not necessarily represent precise locations. Preliminary transmission line corridors generally follow existing or planned transmission lines; however, the existing transmission lines are not depicted on the map for graphical clarity.

*Not displayed for graphical purposes. Refer to 1:100,000 scale panels.

Map Produced February 2008

Q:\gateway\corridor_analysis\mxd\separate_mxd\Refined_Alternatives.mxd



Figure 8

Refined Proposed And Alternative Corridors

TransWest Express and Gateway South Transmission Projects



Key issues for this segment include separation from other existing and planned EHV transmission lines, avoidance of oil and/or gas extraction sites, and the core habitat of sage-grouse (including leks). To minimize effects on these key issues, the transmission line would maintain a minimum of 1,500 feet of separation from the I-80 corridor, Energy Gateway West Project, and Craig to Bonanza and Bonanza to Mona existing transmission lines.

This segment may conflict with residential areas near Baggs and Dixon in Wyoming, Craig and the City of Dinosaur in Colorado, and the cities of Roosevelt and Helper in Utah. This segment crosses inventoried roadless areas (IRAs) in the Ashley, Uinta, and Manti-La Sal National Forests.

Segment 2 – Mona to Sigurd Annex

This segment is characterized generally as undeveloped agriculture and rangeland and potentially crosses an IRA in the Fishlake National Forest. This segment also may have permitting issues through Millard County (zoning does not allow new transmission lines unless in designated utility corridors).

Key issues for this segment include maintaining at least a separation of 1,500 feet from the existing transmission lines, particularly those located in the IPP utility corridor.

Segment 3 – Sigurd Annex to Red Butte Annex

This segment is characterized generally as undeveloped agriculture and rangeland. The key issues with this segment include dispersed protected agriculture lands (primarily in the City of Beaver and Iron County), sensitive species habitat, and crossing of IRAs in the Fishlake and Dixie National Forests. On the Dixie National Forest, the Mountain Meadows National Historic Site, Mountain Meadows Massacre Site National Historic Landmark, and Old Spanish Trail are areas of concern in relation to the existing utility corridor through the forest. In addition, this segment contains issues associated with proposed wind and solar farms and views from residences in towns such as Richfield, Beaver, and Central.

Key issues for this segment include maintaining a separation of at least 1,500 feet from the existing transmission lines and gas pipelines generally located in the IPP utility corridor.

Segment 4 – Red Butte Annex to Crystal

The Utah and Nevada portion of this segment generally consists of undeveloped agriculture and rangeland containing several conservation areas and numerous special management areas (i.e., Beaver Dam Wash National Conservation Area, Beaver Dam Slope ACEC, and Valley of Fire State Park). This segment potentially crosses through the Moapa River Indian Reservation.

Key issues for this segment include desert tortoise and sensitive species habitat, and maintaining a separation of at least 1,500 feet from the existing transmission lines located in the IPP utility corridor.

2.3 Agency Review of Preliminary Alternative Routes

2.3.1 Results of Federal Agency Pre-scoping in 2009 and 2010

Consistent with 40 Code of Federal Regulations (CFR) 1501.1(b), which encourages “emphasizing cooperative consultation among agencies before the environmental impact statement is prepared...”, the BLM Project Managers planned and implemented a comprehensive program of internal agency “pre-scoping” prior to moving forward with scoping. The intent of this pre-scoping and scoping was to identify “at an early stage the significant environmental issues deserving of study and deemphasizing insignificant issues, narrowing the scope of the environmental impact statement accordingly” (40 CFR 1501.1(d)).

Following the Applicant’s original application submittal for right-of-way across federal lands in November 2007 and after the lead agency determination had been made; the BLM held agency meetings with relevant BLM district and field offices and USFS national forests in late February and March 2009. Additional meetings with the USFS were held in August and September of 2009. The purpose of these meetings was to introduce the Project, explain agency roles and responsibilities, describe the Project, review the areas of opportunities and constraints, discuss issues to be addressed, request information about other proposed projects in the area, and review the preliminary alternative routes.

Throughout 2009 and 2010, the Project team met with a number of field offices (as requested) in working sessions to review the alternative routes in more detail and received comments that would help refine the locations of the alternatives. Follow-up working sessions were conducted with the Little Snake Field Office in June 2009; with the Fillmore Field Office and Millard and Juab counties in August 2009; with the Price Field Office in September 2009; with the Price Field Office, USFS, U.S. Army Corps of Engineers, UDWR, the Governor of Utah’s Public Lands Policy Coordination Office in April 2010 (to discuss issues in Nine Mile Canyon); with Duchesne County in April 2010; and with the Rawlins Field Office and cooperating agencies in Wyoming in July 2010. The objectives of the agency meetings were to discuss the Project description (including the Applicant’s preliminary alternative routes) and Applicant’s need for the Project, BLM organization for preparation of the EIS, potential resource conflicts, and data needs. Some BLM field offices and cooperating agencies offered substantive reasons for eliminating certain alternative routes before beginning the EIS studies and analyses.

Following the agency pre-scoping meetings in 2009 (Section 2.4), the BLM established an Agency Interdisciplinary (ID) Team. The Agency ID Team is an interagency group of key specialists (resource and GIS) that have been tasked with participating in the NEPA process by providing information, giving direction on level of analysis, and reviewing documents related to the NEPA process and consultation. There are 28 cooperating agencies: 8 federal, 3 states, 13 counties, and 4 Wyoming Conservation Districts as follows:

- Federal
 - Forest Service
 - Bureau of Indian Affairs
 - Army Corps of Engineers
 - Army Environmental Center
 - Navy Region Southwest
 - Fish and Wildlife Service

- National Park Service
- Utah Reclamation and Conservation Commission
- State
 - Wyoming
 - Colorado
 - Utah
- Counties
 - Wyoming
 - Carbon
 - Sweetwater
 - Colorado
 - Mesa
 - Moffat
 - Rio Blanco
- Utah
 - Carbon
 - Duchesne
 - Emery
 - Grand
 - Juab
 - Sanpete
 - Uintah
 - Wasatch
- Wyoming Conservation Districts
 - Little Snake River
 - Saratoga-Encampment-Rawlins
 - Sweetwater County
 - Medicine Bow

Regularly scheduled conference calls for the Agency ID Team are conducted twice each month (more or less often as appropriate) to discuss the status of the Project and EIS. The first Agency ID Team conference call was held on May 12, 2009, to discuss the Project, agency roles and responsibilities, and preparation of the EIS, including the EIS schedule. Subsequently, the BLM organized the plan and schedule for initiating and conducting the NEPA process, including scoping; determining agency issues associated with the Project; identifying the federal, state, and local agencies to invite as cooperating agencies in the preparation of the EIS; and initiating coordination efforts with the FWS, the Wyoming, Colorado, and Utah State Historic Preservation Officers, and potentially interested American Indian tribes. The Agency ID Team has reviewed and provided input on the alternative routes since January 2009 and will continue to provide comments on the alternative routes throughout the NEPA process.

2.3.1.1 Bureau of Land Management

The study area included the jurisdictions of 16 BLM field offices, listed below. The BLM field offices that commented on the Project during pre-scoping are marked with an “*”.

- Wyoming Field Offices
 - Rawlins*
 - Rock Spring*

- Colorado Field Offices
 - Grand Junction*
 - Little Snake*
 - White River*

- Utah Field Offices
 - Cedar City
 - Fillmore*
 - Moab*
 - Price*
 - Richfield*
 - St. George*
 - Salt Lake City*
 - Vernal*

- Nevada Field Offices
 - Caliente*
 - Ely
 - Las Vegas

2.3.1.2 U.S. Forest Service

Comments on the Project during pre-scoping were received from the USFS, including the Ashley, Dixie, Fishlake, Manti-La Sal, Uinta-Wasatch-Cache national forests.

2.3.2 Other Input Affecting Route Revisions

In January 2010, the Applicant began re-evaluating the scope of the Project based on changes of the Project purpose and need, and requested BLM delay the Project until further notice. The BLM's efforts to initiate public scoping and detailed inventory of environmental baseline conditions for the alternative routes were put on hold.

In October 2010, based on the results of the Applicant's re-evaluation of the Project purpose and need, the Applicant modified the description of the Project and revised its right-of-way application to reflect the changes. The Project terminus was changed from the Crystal Substation in southern Nevada to the planned Clover Substation in central Utah, thereby eliminating the alternative routes in the southern portion of the Project. Figure 3 depicts the changes to the Project made in October 2010.

Avoidance of or minimizing effects on the greater sage-grouse has been an important issue expressed since early in the Project. The Wyoming Governor’s Executive Order 2011-5 was issued on June 2, 2011, with explicit direction for siting transmission lines, including designating utility corridors for locating transmission lines in core sage-grouse habitat. Additionally, for this Project, the BLM has coordinated with the wildlife agencies in the three states to identify sage-grouse habitat, core areas and priority habitats, and known locations of leks. The BLM and Applicant have refined the reference centerlines of the alternative routes to include alternatives that would locate the Project in utility corridors designated by the Wyoming Governor and adjacent to existing transmission lines or other linear infrastructure in core and priority sage-grouse habitat to the extent practicable. The BLM and Applicant also refined the reference centerlines of the alternative routes to avoid known sage-grouse leks to the extent practicable. Between 2009 and spring 2012, known lek locations were buffered by 0.65 mile, and these areas were avoided during the development of alternative routes to the extent possible, in accordance with agency policy. Beginning in Spring 2012, the alternative routes were revised by the BLM and Applicant using updated siting criteria provided by the states and local BLM field offices in relation to sage-grouse leks. Known lek locations were buffered by 0.6 mile in Wyoming and Colorado and 1.0 mile in Utah and these areas were avoided to the extent possible.

On December 22, 2011, the BLM issued Instructional Memorandum 2012-043, which implements interim policies and procedures for conserving sage-grouse while the BLM develops and decides how to best incorporate long-term conservation measures into applicable Land Use Plans. The BLM and Applicant are cooperating in the development of conservation measures to reduce, avoid, and compensate for impacts on sage-grouse and sage-grouse habitat that could occur due to implementation of the Project.

2.3.3 Documentation of Route Adjustments

This section documents the reasons for revisions to alternative routes for the Project between the time the right-of-way application was submitted in December 2008 and May 2010. Each of the major timeframes is outlined along with the key issues and conflicts identified that contributed to the addition, adjustment, or elimination of a route link.

2.3.3.1 April Through October 2009 Route Adjustments

Based on comments received from the agencies during pre-scoping meetings and work sessions, and review of updated data, alternative routes were adjusted for the reasons shown in Table 3. The potential conflicts identified include oil extraction sites, steep terrain, special management areas, IRAs, industrial, residences, an airport, and state parks.

Link	Reason for Addition, Adjustment, or Elimination
W20, W25, W491, W492, C28, C51, C195, C220, U30, U90, U435, U440, U522, U523, U539, U546, U620, U625, U650, U672, U675, U691, U920, U989, N74	Adjusted links to address rugged terrain
W23, W455	Eliminated links due to rugged terrain
W26, W493, W520, C102, C195, C196, U240, U435, U522, U524, U537	Adjusted links to avoid conflicts with oil and/or gas extraction site

**TABLE 3
APRIL THROUGH OCTOBER 2009 ROUTE ADJUSTMENTS**

Link	Reason for Addition, Adjustment, or Elimination
W21, W22	Eliminated links to avoid conflicts with oil and/or gas extraction site
W110, W300, W490, C33, C150, C151, C175, C181, U310, U320, U380, U391, U430, U431, U492, U539, U631, U730, U731, U700, U701, U706, U765, U770, U772, U777, U821, U875, U877, U893, U930, U989, U990, U991, U994, U996, U1115, U1116, N5, N7, N13, N74, N75, N76	Adjusted links as a result of other link adjustments
W300, W370, C15, C27, U410, U420, U490, U730, U703	Adjusted links to avoid conflicts with residences
W405	Eliminated link to avoid conflicts with residences
W370, U410, U490, U730, U703, U770, U931, U997	Adjusted links to avoid conflicts with agriculture
W310, W315, W320, W325, W380, C23, C29, C30	Eliminated links to avoid conflicts with agriculture and residences
W490, C196, C270, U1002, U1004, N7, N14	Adjusted links to avoid crossing special management areas
C50	Eliminated link to avoid conflict with oil and/or gas pipelines and special designated areas
C103	Eliminated link due to additional mileage included when other viable options are available and to avoid conflicts with private lands and sensitive areas
C152	Eliminated link due to additional mileage when other viable options are available and portion located outside of utility corridor
C10, C35, C40, C43	Eliminated links to avoid conflicts with Pole Gulch State Management Area
U536, U538	Eliminated links to avoid conflicts with existing transmission line and due to additional mileage when other viable options are available
U760	Eliminated link due to additional mileage when other viable options are available
U775	Eliminated link because other more viable options available
U870	Eliminated link to avoid crossing Fremont Indian State Park
U840	Eliminated link to avoid crossing Inventoried Roadless Areas
U841	Eliminated link due to additional mileage when other more viable options are available and significant portion located outside of utility corridor
W19, U390, U391, U650, U680	Adjusted links to avoid conflicts with existing or future transmission line projects
U1001	Eliminated link to avoid conflicts with existing transmission line projects
U524, U730	Adjusted links to avoid conflicts with industrial/airport
W18, W27, W109, W126, W128, W301, W101, W410, C13, C23, C29, C30, C31, C61, C101, C102, C104, C106, U402, U493, U722, U723, U874, U899, U970, U993, U1002, U1080, U1140, N4, N13, N30, N31, N32, N33	Added, adjusted, or eliminated links as requested by the BLM
W19	Adjusted link to avoid wind turbines
C31, C61	Added links to avoid sensitive areas (riparian, sensitive soils, sensitive plant species, etc.)
C85	Eliminated link to avoid sage-grouse leks

2.3.3.2 January Through May 2010 Route Adjustments

Newly updated NAIP imagery became available in December 2009. Review of the NAIP imagery led to additional adjustments of the alternative routes between January and May 2010 as shown in Table 4. The potential conflicts identified include: oil extraction sites, steep terrain, special management areas, IRAs, recreation, sage-grouse leks, National Monument, sensitive areas, and elimination of links due to BLM request.

TABLE 4 JANUARY THROUGH MAY 2010 ROUTE ADJUSTMENTS	
Link	Reason for Addition, Adjustment, or Elimination
W18, W20, W25, W453, W490, W491, W492, C15, C61, C102, C170, C187, C196, U90, U322, U682, U689, U690, U710, U777, U878, U897	Adjusted links to address rough terrain
W18, W20, W25, W109, W110, W111, W126, W127, W128, W453, C13, C15, C20, C180, C195, C200, U20, U241, U280, U310, U322, U400, U402, U435, U522, U537, U595, U875, U890	Adjusted links to avoid conflicts with oil and/or gas extraction site
W17, W20, W25, W27, W490, C27, C28, C101, C104, C105, C106, C151, C177, C180, C181, C186, U242, U260, U285, U321, U390, U391, U431, U432, U435, U460, U510, U539, U630, U639, U683, U684, U689, U691, U720, U721, U722, U723, U726, U770, U776, U875, U890, U892, U893, U895, U897, U988, U994, N32	Adjusted links as a result of other link adjustments
W20, W25, W370, C5, C13, C15, C33, C45, C61, C80, C100, C101, C102, C177, C187, C195, C196, U20, U90, U241, U320, U322, U401, U410, U420, U430, U460, U490, U522, U530, U539, U546, U590, U600, U620, U630, U631, U650, U680, U675, U704, U765, U880, U890, U895, U765, U896, U951, U970, U997	Adjusted links to avoid conflicts with residence(s)
W453, W490, W491, C101, C102, U90, U320, U420, U638, U690, U705, U710, U895, U896, U920, U930, U951, U989, U991, U997	Adjusted links to avoid conflicts with agriculture
W25, W490, W491, C196, U401, U630, U650, U490, U1002, U1003, U1004, N13, N14	Adjusted links to avoid crossing special management areas
W25, W26, W127, U280, U290, U310, U390, U675, U722, U723, U996, U1140, N4, N6, N13, N30	Adjusted link to avoid conflicts with existing or future transmission line project
U435, U490, U730, U890, U990, U991	Adjusted links to avoid industrial area
U630, U650, U730, U875, U890, U894, U1002, U1003, U1004, N13, N14	Added, adjusted, or eliminated links at BLM's request
U875, U890, U894, U991, U995	Adjusted links to avoid conflicts with sensitive areas (riparian, sensitive soils, sensitive plant species, etc.)
U20, U600, U650	Adjusted links to avoid conflicts with recreation areas
W19, W20, W25, W26, W111, W112, W127, W370, W453, W491, W492, W493, C5, C13, C45, C51, C61, C80, C150, C175, C177, U30, U90, U523, U524, U530	Adjusted link to avoid sage-grouse leks
U420, U431, U460, U621	Adjusted links to avoid crossing IRAs
W18, W19, W25, U724, U897	Adjusted links to avoid wind turbines
U672, U700, U704	Adjusted links to avoid conflicts with Kern River Pipeline

2.3.4 Preliminary Series Compensation Station Siting Areas

As mentioned previously, two series compensation stations are planned as an integral part of the transmission line to improve transport capacity and efficiency over long distances. Each of the two series compensation stations would be located in an area of approximately 140 acres. To identify potential locations for the series compensation stations, preliminary siting areas were identified along the alternative routes one-third of the route distance from the Aeolus Substation and one-third the route distance from the Clover Substation using the following criteria:

- Locate near existing roads for access
- Locate in areas of 0 to 3 percent slope
- Locate near existing power-distribution lines to provide electric service to the station
- Locate along centerline of alternative route or immediately adjacent (within 1 span between transmission line structures or 1,200 feet)
- Locate to avoid environmentally sensitive areas and other constraints

The preliminary siting areas for the series compensation stations are shown in Figure 9.

2.4 Public Review of Preliminary Alternative Routes

Based on the revised application for BLM right-of-way and USFS special-use authorization submitted in October 2010 by the Applicant, the BLM began preparing for the formal EIS scoping. The range of alternative routes at this time represented approximately 2,100 miles of alternatives for consideration. The studies undertaken between 2008 and 2010, combined with resource inventory data collected in 2009 and input received at agency scoping meetings, served to develop the preliminary alternative routes presented during the 2011 scoping. Figure 9 illustrates the routes presented during scoping for the EIS.

2.4.1 Results of Scoping 2011

A Notice of Intent to prepare an EIS and conduct scoping meetings for the Project was published in the *Federal Register* on April 1, 2011. BLM mailed the first in a series of newsletters to approximately 16,000 individuals, agencies, and interested organizations on the Project mailing list. This list included landowners within a 2-mile-wide corridor (1 mile on either side of the reference centerline). The BLM submitted news releases announcing the Project and scoping meetings to local and regional newspapers and radio and television stations. In addition, a legal notice was submitted for publication in local and regional newspapers. The announcements also posted on the BLM's Project website.

The BLM hosted 12 scoping meetings in May and early June 2011 with an attendance totaling 231 people (Table 5). The meetings were an opportunity for the BLM to inform those in attendance about the Project and the EIS process and to solicit input on the Project. An open-house format was used for the meetings. Information was presented on the purpose and need for the Project, description of the Project, and planning and permitting process. Representatives of the BLM, USFS, Applicant, and BLM's third-party environmental consultant, Environmental Planning Group, LLC (EPG), were present and available to explain the displays and answer questions. Comment forms and a Project area map were distributed to those attending to facilitate soliciting comments on the Project.

TABLE 5 SCOPING MEETING SUMMARY		
Date	Location	Attendance
May 10, 2011	Baggs, Wyoming	6
May 11, 2011	Rock Springs, Wyoming	11
May 12, 2011	Rawlins, Wyoming	25
May 17, 2011	Craig, Colorado	36
May 18, 2011	Rangely, Colorado	14
May 19, 2011	Grand Junction, Colorado	10
May 24, 2011	Roosevelt, Utah	29
May 25, 2011	Fort Duchesne, Utah	8
May 26, 2011	Nephi, Utah	38
May 31, 2011	Price, Utah	24
June 1, 2011	Mount Pleasant, Utah	20
June 2, 2011	Green River, Utah	10
Totals	12	231

Written comments were accepted at the scoping meetings, via electronic mail (email), and via U.S. mail at the BLM Wyoming State Office. The BLM received 168 submittals including the following:

- Letters from federal, state, and local agencies, special-interest groups, corporations, and individuals
- Comment forms
- Email messages

All submittals were reviewed and analyzed and a total of 522 comments were identified. The results of scoping, the comments, and the issues derived from the comments are described in more detail in the *Scoping Report for Energy Gateway South Transmission Project* (BLM 2011), which is available on the BLM Project website at www.blm.gov/wy/st/en/info/NEPA/documents/hdd/gateway_south/scoping.html.

2.4.2 Other Input Affecting Route Revisions

Based on comments received from agencies and the public, the BLM Project Manager prepared and submitted to the three BLM State Directors (Wyoming, Colorado, and Utah) recommendations for alternative routes to carry forward into the EIS studies and analyses. Some of the preliminary alternative routes were eliminated from further consideration in accordance with direction in 40 CFR 1502.14, which states an action alternative may be eliminated from detailed analysis if any of the following are true:

- It is ineffective (it would not meet the purpose and need)
- It is technically or economically infeasible (needs to be independently evaluated if this is something brought forward by the Applicant)
- It is inconsistent with management objectives for the area (not in conformance with the land use plan)
- It is remote or speculative
- It is substantially similar in design to an alternative that is analyzed in detail
- It would have substantially similar or greater effects than an alternative that is analyzed

Table 6 is a list of the addition, adjustment, or elimination of alternative route links or route segments based on the results of scoping. The BLM Colorado State Director submitted a memorandum, dated September 1, 2011, to the BLM Project Manager outlining the request for analysis of an alternative route that avoids crossing Colorado; specifically, that the western-most route in Wyoming and northeastern Utah that was previously recommended for elimination be carried forward into the EIS studies and analysis.

TABLE 6 ROUTE ADJUSTMENTS RESULTING FROM SCOPING	
Link	Reason for Addition, Adjustment, or Elimination
Carbon County, Wyoming: W19, W20	Links eliminated from further consideration because (a) inconsistent with management objectives and (b) would have substantially greater effects than an alternative that is analyzed. Additional issues – traverses sage-grouse core area; not in compliance with Wyoming Executive Order 2011-5; no support in scoping for including in analysis.
I-80 to Flaming Gorge route: W126, W453, W490, W491, W493, W492, W520, U20, U30, U90, U320, U321, U380, U322, W26, W129, W127	Route to be studied in detail – elimination of this route is <u>not</u> consistent with any of the elimination criteria. Additional notes – comments from BLM Colorado State Director and White River Field Office support consideration for analysis. BLM Rock Springs Field Office expressed resource concerns and management plan conflicts; route crosses sage-grouse core area; not in compliance with Wyoming Executive Order 2011-5.
Route north of Rawlins: W37, W38, W29	Links eliminated from further consideration because (a) inconsistent with management objectives and (b) would have substantially greater effects than an alternative that is analyzed. Additional notes – City of Rawlins provided information during scoping about development plans in that area and land constraints for this development; route crosses north of Ft. Steele area (received many scoping comments from residents); the route is not in a designated utility corridor nor does it follow existing linear facilities.
Route south of Rawlins: W28, W31, W33	Links eliminated from further consideration because (a) inconsistent with management objectives and (b) would have substantially greater effects than an alternative that is analyzed. Additional notes – conflicts with proposed wind farm
Routes through portion of Sierra Madre/Chokecherry wind farm and 5 miles south of I-80: W25, W34	Links eliminated from further consideration because of conflicts with proposed wind farm; also route not feasible if numbers 1 and 4, above, are eliminated.
Route through Duchesne and Roosevelt, Utah: U310, U390, U391, U410, U430, U420	Route to be studied in detail. Elimination of this route is <u>not</u> consistent with any of the elimination criteria.
Route through Nine Mile Canyon: U510	Links eliminated from further consideration because they would have substantially greater effects than an alternative that is analyzed. Additional notes – significant cultural and historical issues and wildlife issues; no support for including for analysis in scoping

TABLE 6 ROUTE ADJUSTMENTS RESULTING FROM SCOPING	
Link	Reason for Addition, Adjustment, or Elimination
Routes in Moffat County, Colorado: W412, C50, C28, C45, C51, C80	Links eliminated from further consideration because they are substantially similar in design to an alternative that is analyzed. Additional notes – crosses core sage-grouse habitat; recommended for elimination by BLM Little Snake Field Office, CDOW, and Moffat County; no support from scoping for including for analysis

2.5 Review of Alternative Routes Through Environmental Studies and Analyses

After adjustments resulting from scoping comments were made to the alternative routes, additional micro-adjustments were made to alternative routes based on results of environmental resource data collected in 2011 and early 2012. These route adjustments have been or are being reviewed with the Applicant's engineer to ascertain technical constructability and long-term maintenance issues, as well as to minimize risks associated with system reliability.

Collection and compilation of environmental resource data began in September 2011. A summary of the environmental process followed for the Project is provided in Appendix A. As more detailed data were received from the agencies and reviewed by the BLM's third-party contractor, portions of route links were micro-adjusted to avoid special land management designations or sensitive environmental resources to the extent possible.

As a result of a detailed study of the Old Spanish National Historic Trail conducted by the BLM (the results of which have not yet been released to the public), in November 2011, the BLM Price Field Office and Emery County coordinated with the BLM's third-party contractor to adjust route links in the San Rafael Swell area to avoid potential impacts on segments of the Old Spanish National Historic Trail.

In Spring 2012, the BLM Rawlins Field Office requested new route links be added to the alternatives considered between Dad and Baggs, Wyoming. The northern portion of the new route segment is west of and roughly parallels the alternative route along Wyoming Highway 789, which is in a designated utility corridor. North of Baggs, Wyoming, the route segment turns west and is north of and roughly parallel to an alternative route links W300 and W301.

Also in Spring 2012, the Applicant of the Energy Gateway South Project and Energy Gateway West Project and the applicant of the TransWest Express Project coordinated and agreed on colocation of their respective routes in the I-80 corridor in Wyoming.

Later in Spring 2012, through the process of assessing potential impacts of the Project, additional refinements to the routes were made to avoid or minimize crossing of sensitive environmental resources to the extent possible. At this point in the process, approximately 2,000 miles of alternative routes were carried forward for analysis.

Table 7 is a list of the adjusted route links and new route segments added in 2011 and 2012 as a result of environmental resource inventory and impact assessment as well as recommendations from the BLM Price Field Office and Emery County, and the BLM Rawlins

Field Office. A list of all the alternative route links and lengths of each link is provided by jurisdiction in Appendix B.

TABLE 7 ROUTE ADJUSTMENTS RESULTING AFTER SCOPING (SPRING 2012)	
Link	Reason for Addition, Adjustment, or Elimination
W15, W16, W21, W27, W102, W108, W116, W126, W127, W129, W492, W450, C61, C106, C196, U20, U401, U402, U410, U420, U431, U432, U460, U522, U523, U537, U548, U595, U600, U630	Reviewed and adjusted with the Applicant's engineer to improve constructability
W18, W26, W109, W110, U20, U30, U90	Adjusted links to avoid sage-grouse leks or core area
W23, W24, W30, W32	Applicants (Energy Gateway South and TWE projects) collaborated to collocate route segment in corridor
W24, U420	Adjusted link to avoid residence
W30	Adjusted link to avoid crossing North Platte River Special Recreation Management Area and Continental Divide National Scenic Trail Special Recreation Management Area
W108, W116, U431	Adjusted links to improve constructability and maintain 250-foot buffer from oil and gas wells
W125, W128, W491	Adjusted links to improve constructability, maintain 250-foot buffer from oil and gas wells, and maintain separation from several existing gas pipelines
W493, W52	Adjusted links to improve constructability and maintain separation from existing gas pipelines
W117, W120, W124, W122, W123, W311, C14	Added links proposed by the BLM Rawlins Field Office
C105, C175	Adjusted link to move reference centerline 1,500 feet from existing 345kV transmission lines and to avoid residences
C102	Adjusted link to follow existing 138kV transmission line, avoid residences, and improve constructability
C195	Adjusted link to avoid Canyon Pintado National Historic District
C196	Adjusted link to improve constructability in steep terrain, maintain (where possible) 250-foot buffer from oil and gas wells, and increase distance from Oil Springs and Demaree Wilderness Study Areas
U30	Adjusted link to be in utility corridor and avoid sage-grouse leks
U90	Adjusted link to be in utility corridor, avoid sage-grouse leks, and minimize effects on residences and agricultural areas
U320	Adjusted link to avoid or minimize crossing of agricultural lands and increase distances from residences
U321	Adjusted link to 0.5 mile west to parallel existing 138kV transmission line
U400	Adjusted link to improve constructability and avoid oil and gas wells where feasible
U401	Adjusted link to avoid Lears Canyon Area of Critical Environmental Concern and USFS inventoried roadless area

TABLE 7 ROUTE ADJUSTMENTS RESULTING AFTER SCOPING (SPRING 2012)	
Link	Reason for Addition, Adjustment, or Elimination
U402	Adjusted link to avoid crossing Pariette Wetlands Area of Critical Environmental Concern
U403, U406	Added link as alternative to Link U401 (now U405, U404, U401) to avoid cabins in Argyle Canyon
U410	Adjusted link to avoid crossing Uintah and Ouray Indian Reservation
U420	Adjusted link to avoid inventoried roadless areas, avoid Natural Resource Conservation Service Grasslands Reserve Program conservation easement, and increase distance from residential area
U423	Adjusted links to bypass residential areas surrounding Fruitland
U431, U630	Adjusted link to avoid inventoried roadless area
U432	Adjusted link to follow existing 138kV transmission line and improve constructability
U435	Adjusted link to improve constructability, avoid steep slopes, and avoid oil and gas wells
U488	Adjusted link to follow section line and avoid splitting parcels
U490	Adjusted link to minimize crossing Labyrinth Rim/Gemini Bridges Special Recreation Area
U493	Adjusted link to provide greater distance from oil and gas well pads
U497, U498	Added links to parallel 1,500 feet from TransWest Express project transmission line alignment
U539	Adjusted link to improve constructability, minimize effects of crossing quarry/gravel pit, and avoid sensitive plant species
U545	Adjusted link to avoid existing transmission lines, power plant, and improve constructability
U546	Adjusted link 0.5 mile to east to parallel existing 48kV transmission line and improve constructability
U620	Adjusted link to increase distance from residences
U621	Adjusted link to improve constructability and avoid sensitive plant species
U631	Adjusted link to increase distance from residences and to avoid Manti-LaSal National Forest unroaded/undeveloped area
U636	Added link to avoid residences and Hilltop Wildlife Management Area (near Milburn)
U639	Adjusted link to avoid inventoried roadless area
U650	Adjusted link to improve constructability and maintain 1,500 feet from existing transmission lines

After the impacts of the Project were assessed, the alternative routes were screened and compared to identify which of the alternative routes are environmentally preferable to analyze in detail in the EIS and which alternative routes would be recommended for elimination from further analysis in the EIS (in accordance with criteria set forth in 40 CFR 1502.14). The BLM Project Manager arranged a meeting in early October 2012 with the three BLM State Directors, BLM field office managers, and management representatives from the USFS to brief them on the results of the analyses (Figure 10). The managers concurred with the results. The

alternative routes to be carried forward for detailed analysis are shown in Figure 11. Table 8 is a list of adjustments made to the routes and the route segments recommended for elimination from further analysis in the EIS. Approximately 665 miles of alternative route segments were eliminated, leaving approximately 1,335 miles of alternative routes to carry forward into the EIS.

TABLE 8 ROUTE ADJUSTMENTS RESULTING AFTER SCREENING AND COMPARING THE ALTERNATIVE ROUTES (SUMMER 2012)	
Link	Reason for Addition, Adjustment, or Elimination
U524	Adjusted link to avoid residence.
C31, W410, W411	Adjusted link to maintain 1,500-foot separation from TransWest Express project transmission line alignment
C61	Adjusted link to reduce visual impacts on views from the Cross Mountain area, including the East Cross Mountain access point on the Yampa River
C91	Adjusted link to reduce visual impacts on views from the Cross Mountain area, including the East Cross Mountain access point on the Yampa River
C177	Adjusted link to avoid White River Riparian Area ACEC
W30, W111, W117, W118, W119, W121, 122, W123, W124, W299, W300	Adjusted link to improve constructability
W107, W112, W120, W301	Adjusted link to improve constructability and maintain 250-foot buffer from oil and gas wells
W108, W116, W125	Adjusted link to maintain 1,500-foot separation from TransWest Express project transmission line alignment and 250-foot buffer from oil and gas wells
W113	Adjusted link to maintain 1,500-foot separation from TransWest Express project transmission line alignment, 250-foot buffer from oil and gas wells, and improve constructability
W302	Adjusted link to improve constructability and avoid several crossings of an existing gravel road
W409	Adjusted link to maintain 250-foot buffer from oil and gas wells, increase separation from existing pipelines, and improve constructability
U401	Adjusted link to avoid USFS inventoried roadless area
U404	Adjusted link to avoid Lears Canyon Area of Critical Environmental Concern
U428	Added link at request of U.S. Forest Service Authorized Officer
U600	Adjusted link to avoid conflicts with USFS VQO Retention area, minimize visual impacts on The Energy Loop: Huntington/Eccles Canyons Scenic Byway, and improve constructability
U639	Adjusted link to avoid residence and improve constructability

**TABLE 8
ROUTE ADJUSTMENTS RESULTING AFTER SCREENING
AND COMPARING THE ALTERNATIVE ROUTES
(SUMMER 2012)**

Link	Reason for Addition, Adjustment, or Elimination
U650	Adjusted link to improve constructability and parallel Interstate 15 right-of-way
W17, W18	This route does not comply with the Wyoming Governor's Executive Order 2011-5 regarding greater sage-grouse core area protection. As a result of comparison of alternative routes, eliminated from further consideration because it would have substantially greater effects than an alternative that is analyzed. Crosses sage-grouse core area.
W23, W24	As a result of comparison of alternative routes, eliminated from further consideration because it would have substantially greater effects than an alternative that is analyzed.
W26, W129, W127	As a result of comparison of alternative routes, eliminated from further consideration because it would have substantially greater effects than an alternative that is analyzed.
W493	As a result of comparison of alternative routes, eliminated from further consideration because it would have substantially greater effects than an alternative that is analyzed.
W119	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
W112, W114	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
W122, W123, W311, C14	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
W301	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
C102, C107, C104, C180, C181	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
C150, C151	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.

**TABLE 8
ROUTE ADJUSTMENTS RESULTING AFTER SCREENING
AND COMPARING THE ALTERNATIVE ROUTES
(SUMMER 2012)**

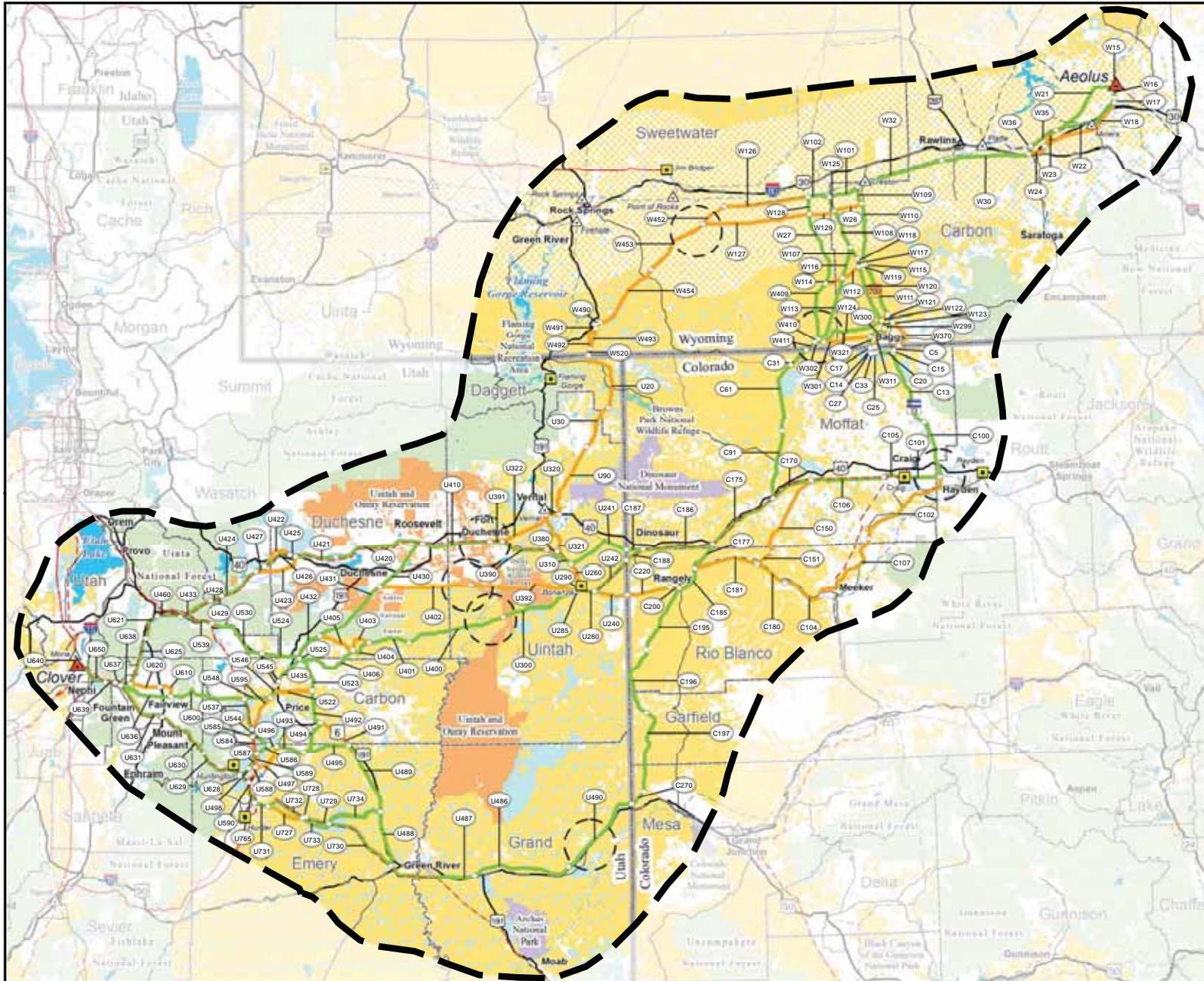
Link	Reason for Addition, Adjustment, or Elimination
C200, C220, U240	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U321, U380	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U260, U290	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U422, U423	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U403, U405	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U610, U620	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U392, U402	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U595	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U727	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U584, U589, U590	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U497, U588	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
W118, W115	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.

TABLE 8 ROUTE ADJUSTMENTS RESULTING AFTER SCREENING AND COMPARING THE ALTERNATIVE ROUTES (SUMMER 2012)	
Link	Reason for Addition, Adjustment, or Elimination
W370, C5, C15	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
U491	As a result of comparison of alternative routes, eliminated from further consideration because it would have similar effects as an alternative that is analyzed.
U522	As a result of comparison of alternative routes, eliminated from further consideration because it has substantially greater effects than an alternative that is analyzed.
W126, W452, W453, W454, W490, W491, W492, W520, U20, U30, U90, U320, U322	This route does not comply with the Wyoming Governor's Executive Order 2011-5 regarding greater sage-grouse core area protection. As a result of comparison of alternative routes, eliminated from further consideration because it would have substantially greater effects than an alternative that is analyzed. Crosses core area.

2.6 Revised Application for Grant of Right-of-way

It is anticipated that the Applicant will submit a revised right-of-way application with the adjusted route alignments in November 2012.

**FIGURE 10
ALTERNATIVE ROUTES
SCREENED AND COMPARED**



Project Features

- Project Area Boundary
- Planned Substation
- Alternative Route
- Alternative Route Eliminated from Further Consideration Based on Screening and Comparison
- Series Compensation Station Siting Area
- Link Number
- Link Node

Utilities

- Existing Substation
- Existing Power Plant
- 500KV Transmission Line
- 345KV Transmission Line
- 230 to 287KV Transmission Line
- 138 to 161KV Transmission Line
- 115KV Transmission Line

Transportation

- Interstate Highway
- U.S. Highway
- State Highway
- Railroad

Land Jurisdictions

- Bureau of Land Management
- Bureau of Reclamation
- Indian Reservation
- National Park Service
- State Land
- Private Land
- U.S. Department of Defense
- U.S. Fish and Wildlife Service
- U.S. Forest Service

Water

- Lake or Reservoir

Administrative Boundaries

- State Boundary
- County Boundary

SOURCES:
BLM State Office Colorado, 2008, Land Jurisdiction;
BLM State Office Utah, 2009, Land Jurisdiction;
BLM State Office Wyoming, 2009, Land Jurisdiction;
NAP, 2009, Series Compensation Station Siting Area as digitized by EPG;
POWERmap Plans, 2007, Transmission Lines and Substations as digitized by EPG;
USDOT, 2008, National Transportation Atlas Database;
ESRI, 2008, Water Features; ESRI, 2008, County Boundary;
ESRI, 2008, State Boundary; AGRIC, 2004, Cities

NOTES:
• The alternative routes shown on this map are preliminary and may be revised and/or refined throughout the development of the project.
• Substation symbols do not necessarily represent precise locations.
• Series compensation station siting areas are preliminary and do not represent precise locations.
Alternative routes last revised: October 11, 2012
Series compensation station siting areas last revised: August 30, 2011



Prepared by:

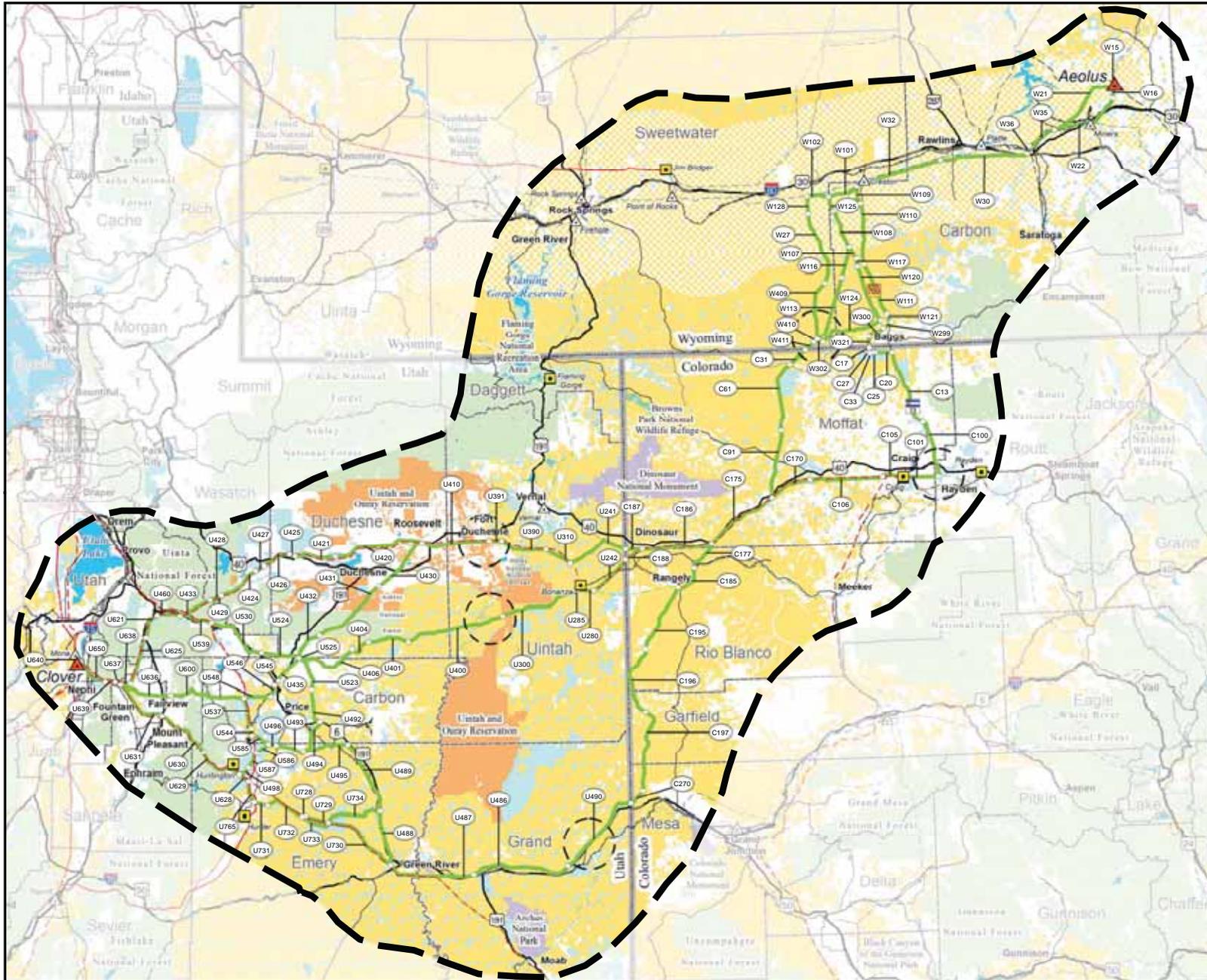


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**ENERGY GATEWAY SOUTH
TRANSMISSION PROJECT**



**FIGURE 11
ALTERNATIVE ROUTES TO
BE ANALYZED IN THE EIS**



Project Features

- Project Area Boundary
- Planned Substation
- Alternative Route
- Series Compensation Station Siting Area
- Link Number
- Link Node

Utilities

- Existing Substation
- Existing Power Plant
- 500KV Transmission Line
- 345KV Transmission Line
- 230 to 287KV Transmission Line
- 138 to 161KV Transmission Line
- 115KV Transmission Line

Transportation

- Interstate Highway
- U.S. Highway
- State Highway
- Railroad

Land Jurisdictions

- Bureau of Land Management
- Bureau of Reclamation
- Indian Reservation
- National Park Service
- State Land
- Private Land
- U.S. Department of Defense
- U.S. Fish and Wildlife Service
- U.S. Forest Service

Water

- Lake or Reservoir

Administrative Boundaries

- State Boundary
- County Boundary

SOURCES:
BLM State Office Colorado, 2008, Land Jurisdiction;
BLM State Office Utah, 2009, Land Jurisdiction;
BLM State Office Wyoming, 2009, Land Jurisdiction;
NAP, 2009, Series Compensation Station Siting Area as digitized by EPG;
POWERmap Plans, 2007, Transmission Lines and Substations as digitized by EPG;
USDOT, 2008, National Transportation Atlas Database;
ESRI, 2008, Water Features; ESRI, 2008, County Boundary;
ESRI, 2008, State Boundary; AGRIS, 2004, Cities

NOTES:
• The alternative routes shown on this map are preliminary and may be revised and/or refined throughout the development of the project.
• Substation symbols do not necessarily represent precise locations.
• Series compensation station siting areas are preliminary and do not represent precise locations.
Alternative routes last revised: October 11, 2012
Series compensation station siting areas last revised: August 30, 2011



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**ENERGY GATEWAY SOUTH
TRANSMISSION PROJECT**



3.0 SUMMARY OF PROJECT FACILITIES

3.1 Overview of Alternative Routes to be Addressed in the Environmental Impact Statement

As of the date of this report, the alternative routes being carried forward for detailed analysis in the EIS are as shown in Figure 11. These alternative routes represent approximately 1,335 miles of alternative routes for review and consideration. Further engineering refinement and adjustment of the routes will be ongoing through the EIS process for the Project.

3.2 Summary of Substations and Series Compensation Stations Locations

Aeolus Substation – This planned substation serves as the origination point of the Project and would be built as part of the Energy Gateway West Transmission Project in 2014. Major facility and equipment additions would be installed in anticipation of the Project.

Clover Substation – This planned substation (under construction as of the date of this report) serves as the terminus of the Project. This substation will be in-service as part of the Mona to Oquirrh Transmission Project in 2013 and will be designed to accommodate the equipment required to connect the Project into the substation.

Series Compensation Substation No. 1 – Series compensation stations are required to improve transport capacity and efficiency of the transmission line. A location for this series compensation station has not yet been identified but generally would be located approximately one-third the distance from the Aeolus Substation to the planned Clover Substation.

Series Compensation Substation No. 2 – A location for this series compensation station has not yet been identified but generally would be located approximately two-thirds the distance from the planned Aeolus Substation to the planned Clover Substation.

3.3 Summary of Transmission Line Segments

The alternative route transmission line segments are described in the following paragraphs and depicted on Figure 12.

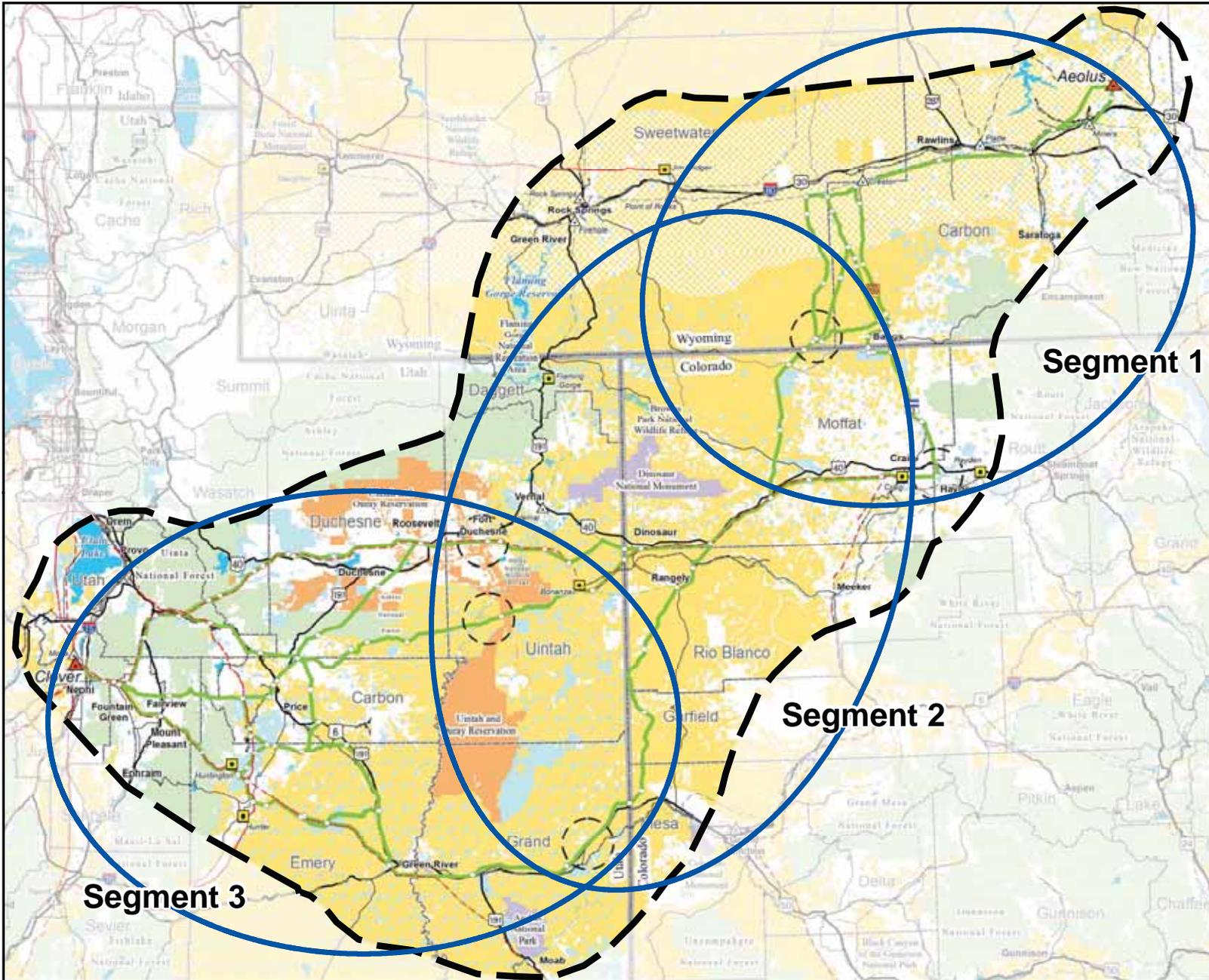
Segment 1: Aeolus to Series Compensation Substation No. 1 – Segment 1 is one single-circuit 500kV transmission line between the planned Aeolus Substation near Medicine Bow, Wyoming, and the proposed Series Compensation Substation No. 1. The line mileage is approximately 140 miles; however, this is dependent on the actual route selected. The 500kV line would be supported on steel-lattice towers typically between 145 and 180 feet tall.

Segment 2: Series Compensation Substation No. 1 to Series Compensation Substation No. 2 – Segment 2 is one single-circuit 500kV transmission line between the proposed Series Compensation Substation No. 1 and the proposed Series Compensation Substation No. 2. The

line mileage is approximately 140 miles; however, this is dependent on the actual route selected. The 500kV line would be supported on steel-lattice towers typically between 145 and 180 feet tall.

Segment 3: Series Compensation Substation No. 2 to Clover Substation – Segment 3 is one single-circuit 500kV transmission line proposed between the proposed Series Compensation Substation No. 2 and the planned Clover Substation (under construction as of the date of this report) ¹. The location of Clover Substation is near Mona, Utah. The line mileage is approximately 140 miles; however, this is dependent on the actual route selected. The 500kV line would be supported on steel-lattice towers typically between 145 and 180 feet tall.

**FIGURE 12
ALTERNATIVE ROUTE
TRANSMISSION LINE SEGMENTS**



- Project Features**
- Project Area Boundary
 - Planned Substation
 - Alternative Route
 - Series Compensation Station Siting Area

- Utilities**
- Existing Substation
 - Existing Power Plant
 - 500KV Transmission Line
 - 345KV Transmission Line
 - 230 to 287KV Transmission Line
 - 138 to 161KV Transmission Line
 - 115KV Transmission Line

- Transportation**
- Interstate Highway
 - U.S. Highway
 - State Highway
 - Railroad

- Land Jurisdictions**
- Bureau of Land Management
 - Bureau of Reclamation
 - Indian Reservation
 - National Park Service
 - State Land
 - Private Land
 - U.S. Department of Defense
 - U.S. Fish and Wildlife Service
 - U.S. Forest Service

- Water**
- Lake or Reservoir

- Administrative Boundaries**
- State Boundary
 - County Boundary

SOURCES:
 BLM State Office Colorado, 2008, Land Jurisdiction;
 BLM State Office Utah, 2009, Land Jurisdiction;
 BLM State Office Wyoming, 2009, Land Jurisdiction;
 NADP, 2009, Series Compensation Station Siting Area as digitized by EPG;
 POWREmap Plans, 2007, Transmission Lines and Substations as digitized by EPG;
 USDOT, 2008, National Transportation Atlas Database;
 ESRI, 2008, Water Features; ESRI, 2008, County Boundary;
 ESRI, 2008, State Boundary; AGRIC, 2004, Cities

NOTES:
 • The alternative routes shown on this map are preliminary and may be revised and/or refined throughout the development of the project.
 • Substation symbols do not necessarily represent precise locations.
 • Series compensation station siting areas are preliminary and do not represent precise locations.
 Alternative routes last revised: October 11, 2012
 Series compensation station siting areas last revised: August 30, 2011



Prepared by: **DRAFT**
 Printed: October 19, 2012

**ENERGY GATEWAY SOUTH
TRANSMISSION PROJECT**



4.0 REFERENCES

- Environmental Planning Group (EPG). 2008. TransWest Express Transmission Project and Gateway South Transmission Project Corridor Study Report.
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- _____. 2007. Wasatch Front Transmission Corridor Study Feasibility Study – Phase II.
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- _____. 2006. Wasatch Front Transmission Corridor Study Feasibility Study – Phase I.
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- _____. 2006. Craig/Hayden to Silver Creek Transmission Corridor Feasibility Study.
- GeoEngineers, Inc. 2007. Draft Corridor Study, Sigurd to Red Butte Transmission Line, File NO. 01456-052-00.
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- United States Department of Energy (DOE). 2008. Programmatic Environmental Impact Statement. Designation of Energy Corridors on Federal Land in the 11 Western States.
- United States Department of the Interior (USDI), Bureau of Land Management (BLM). 2011. Energy Gateway South Transmission Project Environmental Impact Statement Scoping Report.
- _____. 2009. Energy Gateway South Transmission Project Environmental Impact Statement Preparation Plan.

Appendix A – Summary of the Process

APPENDIX A – SUMMARY OF THE PROCESS

The EIS study process involves several steps to document baseline environmental conditions, conduct impact assessment and mitigation planning, screen and compare alternative routes, and then ultimately select a preferred alternative route for construction of the transmission line. A general process diagram of the steps and timeline of the process to select a preferred alternative route for construction is provided in Figure A-1, and each phase is summarized in this section.

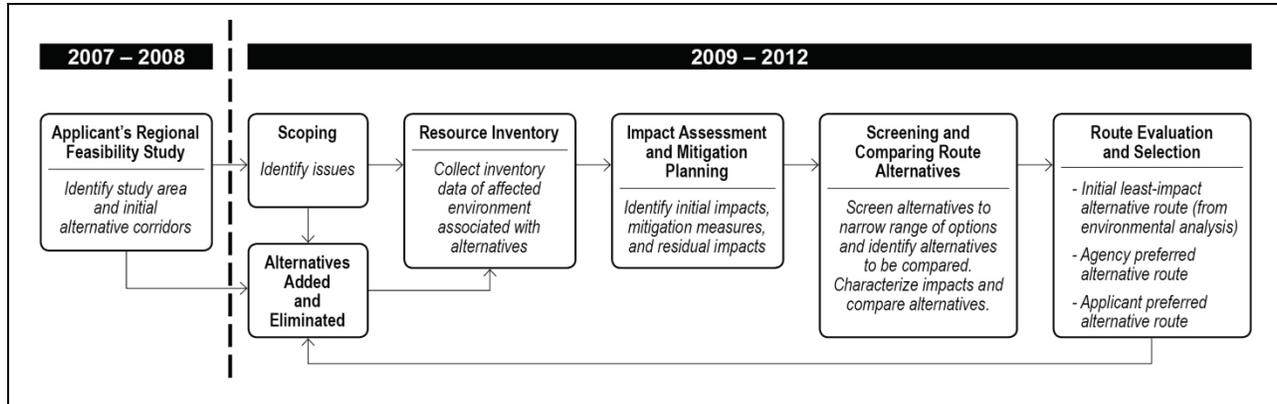


Figure A-1 Environmental Study Process

A.1 Resource Inventory

An inventory of data has been compiled to describe the existing condition of the natural and human environment in the areas that could be affected by the Project. Law, policy, and the issues identified through scoping guide what studies of the natural, human, and cultural environments that the BLM must conduct and address in an interdisciplinary manner in the EIS.

The studies are designed to develop an environmental database for each alternative route in sufficient detail to (1) predict potential or probable impacts on the environment brought about by implementation of the Project along each alternative route; (2) prepare realistic recommendations to reduce or eliminate impacts identified during analysis; (3) compare alternative routes and identify the least-impact route(s) for each environmental resource category studied, as well as for the environment as a whole; and (4) meet the environmental reporting requirements of the BLM, in coordination with its cooperating federal and state agencies, the state public service commissions, counties, and municipalities.

Secondary (existing) data were collected to update the existing database and compile new data for new or revised routes from September 2011 through April 2012 for the following resources and resource uses:

Natural Environment

- Climate and air quality
- Earth resources (geology, soils)
- Water resources (surface water and ground water)

- Biological resources (vegetation; wildlife and fisheries; threatened, endangered, or candidate species of plants and wildlife; other special-status species)

Human Environment

- Existing and planned land use
- Socioeconomics
- Environmental Justice
- Visual characteristics
- Noise
- Public health and safety
- Wildland Fire Ecology and Management

Cultural Resources

- Archaeological resources
- Historical resources
- Native American cultural resources

A.2 Impact Assessment and Mitigation Planning

The analysis of potential environmental effects predicts how a resource would be affected and the degree of change (impact) that could result from implementation of an action. Potential environmental effects on each resource were determined through a systematic analysis that includes assessing the impacts of each alternative route on the environment and how the impacts could be mitigated most effectively.

A.3 Comparison of Alternatives

Once the impacts along each of the alternative routes were analyzed, the routes were systematically screened and compared to identify which are the most environmentally preferable and to recommend for elimination from further consideration less preferable routes to the extent practicable (in accordance with criteria set forth in 40 CFR 1502.14).

A.4 Environmental Impact Statement

The findings of the studies and analyses will be documented in a Draft EIS. The Draft EIS will be made available for public and agency review. The availability of the Draft EIS will be announced in the *Federal Register* and advertised in local and regional media. Public comments will be accepted during the public review and comment period, which is a minimum of 45 days, during which public meetings or hearings will be held to receive comments on the adequacy of the Draft EIS. The BLM, in coordination with the cooperating agencies, will review the comments and prepare responses to each of the substantive comments. The Draft EIS may or may not be modified based on public comments. In any event, all comments and responses will be incorporated into the Final EIS.

The Final EIS will be made available to the public and agencies for a period of 30 days. If amendments to BLM resource management plans or USFS land and resource management plans are required to grant the right-of-way for the selected route, a concurrent 30-day protest

period and 60-day Governor's Consistency Review also will apply. The availability of the Final EIS will be announced in the *Federal Register* and advertised in local and regional media. Following the 30-day period (or 60-day period, if plan amendment[s] is necessary), the BLM and USFS will issue Records of Decision and will decide whether to deny the proposed right-of-way grant and special-use authorization, respectively, or grant the right-of-way and special-use authorization with modifications.

A.5 Plan of Development and Mitigation Plan

A mitigation plan is intended to provide a bridge from the EIS to the Plan of Development (POD) in that it will summarize the measures to reduce impacts (e.g., construction, operation, and maintenance practices) initially identified in the EIS and then developed in greater detail in the POD. The intent of this plan is to provide the BLM and cooperating agencies with an understanding of the types of mitigation that would be implemented during construction, operation, and maintenance of the Project and obtain consensus and approval of these practices. The POD is made a part of the Records of Decision and is incorporated into the BLM right-of-way grant and the USFS special-use authorization as part of the authorization. The POD is then used to guide construction, operation, and maintenance activities.

Appendix B – Jurisdictions Crossed by Alternative Route Links

Table B-1 Total Length of Alternative Route Links

Table B-2 Length of Alternative Route Links by Jurisdiction
and State

Table B-3 Miles Crossed by State and Jurisdiction

**TABLE B-1a
ALTERNATIVE ROUTE LINKS MILES CROSSED
WYOMING**

Link Number	Miles Crossed	Link Number	Miles Crossed	Link Number	Miles Crossed
W15	1.4	W107	3.9	W124	18.3
W16	3.1	W108	10.8	W125	4.3
W21	21.8	W109	4.8	W128	5.0
W22	19.9	W110	17.4	W299	2.8
W27	20.5	W111	15.5	W300	4.7
W30	24.4	W113	18.7	W302	2.5
W32	24.2	W116	8.8	W321	3.0
W35	8.4	W117	2.2	W409	16.6
W36	1.9	W120	16.1	W410	1.4
W101	8.4	W121	2.5	W411	3.2
W102	6.1				

**TABLE B-1b
ALTERNATIVE ROUTE LINKS MILES CROSSED
COLORADO**

Link Number	Miles Crossed	Link Number	Miles Crossed	Link Number	Miles Crossed
C13	21.5	C91	18.8	C185	8.3
C17	0.4	C100	16.2	C186	19.4
C20	4.7	C101	9.7	C187	4.8
C25	0.6	C105	6.2	C188	5.5
C27	1.4	C106	20.0	C195	19.5
C31	5.8	C170	12.0	C196	21.1
C33	0.9	C175	21.3	C197	24.1
C61	19.8	C177	8.7	C270	5.1

**TABLE B-1c
ALTERNATIVE ROUTE LINKS MILES CROSSED
UTAH**

Link Number	Miles Crossed	Link Number	Miles Crossed	Link Number	Miles Crossed
U241	18.1	U433	9.4	U585	5.1
U242	12.3	U435	8.8	U586	4.0
U280	4.3	U460	6.5	U587	5.0
U285	0.7	U486	27.8	U600	21.5
U300	22.3	U487	24.3	U621	7.7
U310	7.7	U488	15.2	U625	13.4
U390	12.8	U489	21.1	U628	3.0
U391	3.5	U490	25.7	U629	13.1
U400	27.5	U492	10.1	U630	16.0
U401	11.5	U493	8.0	U631	15.7
U404	6.2	U494	10.0	U636	15.2
U406	18.1	U495	12.8	U637	1.6
U410	19.1	U496	2.5	U638	4.1
U420	25.7	U498	3.3	U639	2.9
U421	11.8	U523	10.3	U640	2.5
U424	12.1	U524	10.4	U650	10.5
U425	1.7	U525	0.2	U728	0.9
U426	8.2	U530	17.6	U729	6.6
U427	2.7	U537	8.9	U730	21.9
U428	3.4	U539	9.5	U731	3.8
U429	3.8	U544	1.8	U732	11.3
U430	17.2	U545	1.6	U733	8.5
U431	22.2	U546	3.3	U734	16.4
U432	8.9	U548	7.4	U765	7.0

**TABLE B-2a
LENGTH OF ALTERNATIVE ROUTE LINKS BY JURISDICTION AND STATE
WYOMING**

Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles	
Wyoming									
W15	Private	1.4	W102	BLM	2.0	W121	BLM	1.4	
W16	BLM	1.6		State	0.5		State	0.2	
	Private	1.5		Private	3.6		Private	0.9	
W21	BLM	8.2	W107	BLM	3.9	W124	BLM	18.2	
	State	2.3	W108	BLM	5.8		Private	0.1	
	Private	11.3		Private	5.0	W125	BLM	2.3	
W22	BLM	5.8	W109	BLM	2.4		Private	2.0	
	State	1.0		Private	2.4	W128	BLM	2.0	
	Private	13.1	W110	BLM	11.1		Private	3.0	
W27	BLM	15.3		W111	Private	6.3	W299	BLM	2.0
	Private	5.2	BLM		12.4	State		0.8	
W30	BLM	9.8	W113	State	0.9	Private		0.02	
	State	2.0		Private	2.2	W300	BLM	3.5	
	Private	12.6	W116	BLM	18.5		Private	1.2	
W32	BLM	11.7		W117	Private	0.2	W302	BLM	2.5
	State	0.3			BLM	7.8	W321	BLM	2.0
	Private	12.2	State	0.3	Private	1.0			
W35	BLM	4.0	W120	Private	0.7	W409	BLM	16.6	
	Private	4.4		BLM	2.2	W410	BLM	1.4	
W36	BLM	0.4	W120	BLM	15.8	W411	BLM	3.2	
	Private	1.5		State	0.3				
W101	BLM	4.4		Private	0.03				
	Private	4.0							

**TABLE B-2b
LENGTH OF ALTERNATIVE ROUTE LINKS BY JURISDICTION AND STATE
COLORADO**

Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles
C13	BLM	8.1	C100	BLM	0.3	C186	BLM	14.0
	State	7.4		State	2.0		State	3.7
	Private	6.0		Private	13.9		Private	1.7
C17	Private	0.4	C101	State	1.2	C187	BLM	2.3
C20	BLM	1.2		Private	8.5		State	0.6
	State	3.0	C105	State	0.8		Private	1.9
	Private	0.5		Private	5.4	BLM	4.2	
C25	State	0.6	C106	BLM	8.4	C188	State	0.2
C27	State	0.2		Private	11.6		Private	1.1
	Private	1.2	C170	BLM	6.7		C195	BLM
C31	BLM	5.8		State	1.0	Private		2.5
C33	State	0.9		Private	4.3	C196	BLM	15.4
C61	BLM	16.8	C175	BLM	14.1		Private	5.7
	State	2.0		State	1.6	C197	BLM	15.9
	Private	1.0		Private	5.6		Private	8.2
C91	BLM	15.5	C177	BLM	8.4	C270	BLM	4.4
	State	1.0		Private	0.3		Private	0.7
		Private	2.3	C185	BLM	8.3		

**TABLE B-2c
LENGTH OF ALTERNATIVE ROUTE LINKS BY JURISDICTION AND STATE
UTAH**

Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles
U241	BLM	15.3	U427	State	1.2	U493	BLM	7.0
	State	2.8		Private	1.5		Private	1.0
U242	BLM	12.0	U428	USFS	3.4	U494	BLM	10.0
	Private	0.3	U429	USFS	3.8	U495	BLM	10.3
U280	BLM	3.5	U430	Indian Reservation	3.2		State	2.0
	State	0.8		Private	14.0		Private	0.5
U285	BLM	0.5	U431	USFS	9.9	U496	BLM	0.2
	State	0.2		Indian Reservation	4.6		State	2.0
U300	BLM	12.5		State	1.7	U498	Private	0.3
	Indian Reservation	2.8	Private	6.0	State		2.9	
	State	7.0	U432	BLM	0.1	Private	0.4	
U310	BLM	7.5		State	2.2	U523	BLM	1.1
	State	0.2		Private	6.6		State	0.2
U390	BLM	10.6	U433	USFS	8.3		Private	9.0
	State	1.4		State	0.9	U524	BLM	0.6
	Private	0.8		Private	0.2		State	2.8
U391	BLM	3.5	U435	BLM	0.1	U525	Private	7.0
U400	BLM	24.6		State	0.01		Private	0.2
	State	2.9		Private	8.7	U530	USFS	1.1
U401	BLM	11.2	U460	BLM	0.2		State	0.8
	State	0.3		State	2.4		Private	15.7
U404	BLM	4.8		Private	3.9	U537	BLM	2.1
	Private	1.4	U486	BLM	25.8		State	4.6
U406	BLM	2.7		State	1.1		Private	2.2
	State	1.2		Private	0.9	U539	USFS	7.2
	Private	14.2	BLM	17.0	State		0.8	
U410	BLM	0.2	U487	State	3.5		Private	1.5
	Private	18.9		Private	3.8	U544	BLM	1.6
U420	State	2.0		U488	BLM		11.8	Private
	Private	23.7	State		3.4	U545	BLM	0.4
U421	State	1.5	U489	BLM	17.3		Private	1.2
	Private	10.3		State	2.8	U546	BLM	0.7
U424	USFS	6.2		Private	1.0		State	1.4
	Private	5.9	U490	BLM	23.0		Private	1.2
U425	Private	1.7		State	2.7	U548	BLM	1.0
U426	State	1.2	U492	BLM	9.2		State	5.4
	Private	7.0		Private	0.9		Private	1.0

**TABLE B-2c
LENGTH OF ALTERNATIVE ROUTE LINKS BY JURISDICTION AND STATE
UTAH**

Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles	Link Number	Jurisdiction	Miles
U585	BLM	0.5	U630	USFS	8.5	U728	BLM	0.9
	State	3.3		Private	7.5	U729	BLM	1.4
	Private	1.3	U631	BLM	5.5		State	5.2
U586	State	4.0		State	1.1	U730	BLM	14.6
U587	State	5.0		Private	9.1		State	7.3
U600	USFS	7.7	U636	BLM	1.1	U731	BLM	1.8
	BLM	2.5		Private	14.1		State	0.2
	State	0.5	U637	BLM	1.6		Private	1.8
	Private	10.8		BLM	1.6	U732	BLM	9.8
U621	USFS	1.6	U638	Private	2.5		State	1.5
	BLM	0.1		BLM	0.1	U733	BLM	1.0
	State	1.8	U639	State	0.9		State	7.5
	Private	4.2		Private	1.9	U734	BLM	10.6
U625	State	4.1	U640	BLM	1.0		State	5.8
	Private	9.3		State	0.4	U765	BLM	1.8
U628	State	3.0		Private	1.1		State	1.7
U629	USFS	8.4	U650	State	0.3		Private	3.5
	BLM	0.1		Private	10.2			
	State	2.3						
	Private	2.3						

**TABLE B-3
MILES CROSSED BY STATE AND JURISDICTION**

Jurisdiction	Miles Crossed by Alternative Routes
Wyoming	
Federal	198.2
• <i>USDA Forest Service</i>	0.0
• <i>USDI Bureau of Land Management</i>	198.2
Indian Reservation	0.0
State	8.6
Private	95.9
Total Wyoming	302.7
Colorado	
Federal	166.8
• <i>USDA Forest Service</i>	0.0
• <i>USDI Bureau of Land Management</i>	166.8
Indian Reservation	0.0
State	26.2
Private	82.8
Total Colorado	275.8
Utah	
Federal	370.5
• <i>USDA Forest Service</i>	66.1
• <i>USDI Bureau of Land Management</i>	304.4
Indian Reservation (Uintah and Ouray Indian Reservation)	10.6
State	122.2
• <i>Utah Department of Transportation</i>	0.02
• <i>Utah Department of Natural Resources</i>	
○ <i>Utah Division of Forestry, Fire and State Lands</i>	0.5
○ <i>Utah Division of Wildlife Resources</i>	26.2
• <i>Utah School and Institutional Trust Lands Administration</i>	95.5
Private	252.7
Total Utah	756.0
Total miles crossed by alternative routes	1,334.5