November 2008

Programmatic Environmental Impact Statement, *Designation of Energy Corridors on Federal Land in the 11 Western States* (DOE/EIS-0386)

Final
Volume I: Summary and Main Text

Lead Federal Agencies

U.S. Department of Energy

U.S. Department of the Interior, Bureau of Land Management

Cooperating Federal Agencies

U.S. Department of Agriculture, Forest Service

U.S. Department of Defense

U.S. Department of the Interior, Fish and Wildlife Service

COVER SHEET

Responsible Agencies: U.S. Department of Energy (DOE) and U.S. Department of the Interior (DOI), Bureau of Land Management (BLM) are co-lead agencies; the U.S. Department of Agriculture, Forest Service (FS); Department of Defense (DOD); DOI, U.S. Fish and Wildlife Service; the Coeur d'Alene Tribe; the California Energy Commission; the California Public Utilities Commission; the State of Wyoming; and the Lincoln, Sweetwater, and Uinta counties and conservation districts in Wyoming are cooperating agencies.

Title: Final Programmatic Environmental Impact Statement (PEIS) for the Designation of Energy Corridors on Federal Land in 11 Western States (DOE/EIS-0386).

Location: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Contacts: *For further information about this PEIS, contact:* LaVerne Kyriss, Document Manager, Office of Electricity Delivery and Energy Reliability (OE-20), DOE, Washington, DC 20585; phone: (720) 962-7170; fax: (720) 962-7494; or visit the PEIS website at: http://corridoreis.anl.gov.

For general information on the DOE's National Environmental Policy Act (NEPA) process, contact: Carol Borgstrom, Director, Office of NEPA Policy and Compliance, Office of the General Counsel (GC-20), DOE, 1000 Independence Ave., SW, Washington, DC 20585-0103; phone: (202) 586-4600 or leave a message at (800) 472-2756.

For general information on the BLM's NEPA process, contact: Ron Montagna or Kate Winthrop, BLM, WO-350, MS 1000 LS, 1849 C Street, NW, Washington, DC 20240; phone: (202) 452-7782 or (202) 452-5051, respectively.

Abstract: The Energy Policy Act of 2005, enacted August 8, 2005, directs the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior (the Agencies) to designate, under their respective authorities, corridors on federal land in the 11 western states for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities (energy corridors).

The Notice of Intent to prepare this PEIS was published on September 28, 2005 (70 FR 56648). The Agencies held public scoping meetings throughout the 11 western states in October and November 2005. The EPA Notice of Availability (NOA) of the draft PEIS was published in the *Federal Register* on November 16, 2007.

The PEIS analyzes the environmental impacts of designating energy corridors on federal land in 11 western states and incorporating those designations into relevant land use and resource management plans. The Final PEIS analyzes a No Action Alternative and a Proposed Action. Under the No Action Alternative, federal energy corridors would not be designated on federal lands in the 11 western states; the siting and development of energy transport projects would continue under current agency procedures for granting rights-of-way. Under the Proposed Action, the Agencies would designate and incorporate, through relevant land use and resource management plans, certain federal energy corridors that would consist of existing, locally designated federal energy corridors together with additional, newly designated energy corridors located on federal land. The Proposed Action is the preferred alternative.

The Agencies will issue decisions subsequent to the Final PEIS in the form of Records of Decision, no sooner than 30 days after publication of the EPA NOA of the Final PEIS.

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U.S. Department of the Interior, Fish and Wildlife Service
California Energy Commission
California Public Utilities Commission
State of Wyoming
Lincoln County, Wyoming
Lincoln County Conservation District, Wyoming
Sweetwater County, Wyoming
Sweetwater County Conservation District, Wyoming
Uinta County, Wyoming
Uinta County Conservation District, Wyoming
Coeur d'Alene Tribe

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November 2008

Dear Reader,

In August 2005, the U.S. Congress enacted the Energy Policy Act of 2005, Public Law 109-58. In Section 368 of this Act, titled "Energy Right-of-Way Corridors on Federal Land," Congress declared that energy transport corridors for oil, gas, and hydrogen pipelines as well as electricity transmission and distribution be designated on federal land. To support this policy, Congress directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to take a series of steps to designate these corridors, perform any required environmental reviews, and incorporate the designated corridors into the relevant agency land use and resource management plans.

Enclosed is the Final Programmatic Environmental Impact Statement (PEIS) for the Designation of Energy Corridors on Federal Land in the 11 Western States, including proposed amendments to selected land use plans. The Department of Energy (DOE) and the Bureau of Land Management (BLM) prepared the PEIS in consultation with the cooperating agencies, taking into account comments received during this planning effort and examining alternatives for making federal land available for future energy corridor development.

This PEIS has been developed in accordance with the National Environmental Policy Act of 1969 (NEPA). The Final PEIS analyzes two alternatives: the No Action Alternative and the Proposed Action to designate new and locally approved energy corridors. The No Action Alternative would allow for continued development under the current agency-specific right-of-way (ROW) application processes.

Under the Proposed Action, the agencies would designate, through relevant land use and resource management plans, federal energy corridors incorporating existing, designated federal energy corridors and additional, newly designated energy corridors located on federal land. These energy corridors would comprise a comprehensive, coordinated network of preferred locations for future energy transport projects that could be developed to satisfy the demand for energy. The Proposed Action is the agencies' preferred alternative.

The policies and Interagency Operating Procedures (IOPs) developed under the proposed Section 368 Corridor Program would establish minimum requirements for management of individual energy transport projects. The proposed policies identify management objectives and address the administration of future energy transport development activities. The proposed IOPs identify required management procedures that would be incorporated into project-specific energy transport development proposals. In addition,

the Proposed Action would amend 89 BLM, 37 Forest Service (FS), 3 National Park Service (NPS), and 4 Department of Defense (DOD) land use plans in the 11 western states. The proposed land use plan amendments involve the adoption of programmatic energy transport development policies and IOPs.

The purpose of the proposed plan amendments is to facilitate the preparation and consideration of energy transport development ROW applications on federal lands in the 11 western states, while maintaining the need for site-specific analysis of such future individual development proposals.

The Draft Programmatic Environmental Impact Statement for the Designation of Energy Corridors on Federal Land in the 11 Western States was made available for public review and comment from November 16, 2007, to February 14, 2008. The Draft PEIS was posted on the project website at *http://corridoreis.anl.gov* and was provided, on request, as a compact disc (CD) or printed document. Notice was provided to more than 2,200 individuals and organizations who registered on the project website to receive information about the PEIS. Approximately 14,300 individuals and organizations participated in the public comment process, providing more than 3,500 substantive comments. Approximately 57 percent of the documents were received via the project website, 21 percent were received via regular mail, and 22 percent were obtained at the public hearings.

Volume IV of the Final PEIS contains the public comments on the Draft PEIS and the agencies' responses. Public comments addressed a broad range of issues. Nearly 35 percent of the comments addressed various topics related to the alternatives presented in the PEIS, 20 percent commented on the purpose and need for the PEIS, and 17 percent commented on corridor locations. Nearly 5 percent of the comments were concerned with ecological issues, about 4 percent raised concerns about multiple impact areas, 4 percent addressed cumulative impacts, and slightly over 2 percent dealt with Tribal issues.

The remaining comments were divided across a number of topics, each comprising less than 2 percent of the total. The topics (listed in decreasing order) included general impacts, land use, water resources, health and safety, cultural resources, maps, visual resources, socioeconomics, regulations, air, environmental justice, and noise.

Public comments on the Draft PEIS and proposed land use plan amendments, as well as internal agency review comments, were addressed in the preparation of the Final PEIS. These comments led to the development of additional clarifying text, but did not significantly change the Proposed Action or proposed land use plan amendments. However, a number of modifications to corridor segments were made in response to public and agency comments. Details on these changes are listed in Appendix K of the Final PEIS.

Government-to-government consultation regarding potential energy transport development and land use plan amendments on BLM-, FS-, and DOD-administered lands

was conducted with federally recognized Tribes whose interests might be directly and substantially affected. The Tribes contacted are listed in Appendix C of the Final PEIS.

In addition, the agencies initiated activities to coordinate and consult with the governors of each of the 11 western states addressed in the PEIS and with involved state agencies. Prior to the agencies' issuance of Records of Decision and approval of proposed land use plan amendments, the governors of each state will be given the opportunity to identify any inconsistencies between the proposed land use plan amendments and state or local plans and provide recommendations, in writing, during the 60-day consistency review period required by BLM land use planning regulations (43 CFR 1610.3–2).

The Assistant Secretary, Land and Minerals Management, the Department of the Interior (DOI), is the responsible official for publishing the proposed plan amendments affecting public lands. The Federal Land Policy and Management Act and its implementing regulations provide land use planning authority to the Secretary, as delegated to this Assistant Secretary. Because any decision regarding these plan amendments is being made by the Assistant Secretary, Land and Minerals Management, it is the final decision of the Department of the Interior. This decision is not subject to administrative review (protest) under BLM or departmental regulations (43 CFR 1610.5-2).

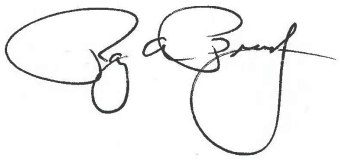
The Under Secretary of Natural Resources and Environment in the Department of Agriculture is the responsible official for the proposed plan amendments on National Forest System lands. The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, and the implementing regulations, provide land use planning authority to the Secretary, as delegated to this Under Secretary. Because this decision is being made by the Under Secretary, Natural Resources and Environment, it is the final decision of the Department of Agriculture. This decision is not subject to administrative review (objection) under the FS or departmental regulations (36 CFR 219.13(a)(2)).

Copies of the Final PEIS, including the proposed land use plan amendments (Appendix A), have been sent to the Environmental Protection Agency, DOI Office of Environmental Policy and Compliance, DOI Library, and the governor's office in each of the 11 western states. Copies have also been sent or made available electronically to all who participated in the planning process, and are available at the BLM state offices and FS regional offices in the 11 western states, DOE Headquarters, BLM Washington Public Affairs, and the FS Washington offices. Interested persons may also review the Final PEIS and proposed land use plan amendments online at *http://corridoreis.anl.gov*.

Following completion of the consistency reviews by the governors of the states affected by the proposed land use plan amendments, any approval of the selected land use plan amendments will be documented in the Records of Decision that will be made available to the public and provided on request to interested parties. For additional information, please contact Brian Mills at (202) 586-8267 or by e-mail at brian.mills@hq.doe.gov; Kate Winthrop at (202) 452-5051 or kate_winthrop@blm.gov; or Glen Parker at

(202) 205-1196 or gparker@fs.fed.us; or visit the West-wide Energy Corridor PEIS Information Center website at *http://corridoreis.anl.gov*.

Sincerely,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Department of Energy	Department of the Interior	Department of Agriculture

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NOTATION

The following is a list of acronyms and abbreviations, chemical names, and units of measure used in this volume. Some acronyms used only in tables may be defined only in those tables.

GENERAL ACRONYMS AND ABBREVIATIONS

AC	alternating current
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
AD	anno Domini
AGFD	Arizona Game and Fish Department
AHPA	Archaeological and Historic Preservation Act of 1974
AIRFA	American Indian Religious Freedom Act of 1978
ANFO	ammonium nitrate/fuel oil
ANL	Argonne National Laboratory
APE	Area of Potential Effect
API	American Petroleum Institute
APLIC	Avian Power Line Interaction Committee
APP	Avian Protection Plan
AQRV	air quality-related value
ARPA	Archaeological Resources Protection Act of 1979
ASME	American Society of Mechanical Engineers
ATV	all-terrain vehicle
AUM	animal unit month
BC	before the Christian era
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	best management practice
BOR	Bureau of Reclamation
BPA	Bonneville Power Administration
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1977
CAISO	California Independent System Operator
CASQA	California Stormwater Quality Association
CDFG	California Department of Fish and Game
CDW	Colorado Division of Wildlife
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CI/KR	critical infrastructure and key resource
CRMP	cultural resources management plan
CRP	Conservation Reserve Program
CWA	Clean Water Act

dbh	diameter at breast height
DC	direct current
DEM	Digital Elevation Model
DHS	Department of Homeland Security
DNL	day-night average sound level
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
E.O.	Executive Order
EA	environmental assessment
EDMS	Emissions Data Management System
EFH	essential fish habitat
EIA	Energy Information Administration
EIS	environmental impact statement
ELF	extremely low frequency
EMF	electromagnetic field
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 2005
ERO	Electric Reliability Organization
ERS	Economic Research Service
ESA	Endangered Species Act of 1973
ESD	emergency shutdown
ESRI	Environmental Systems Research Institute, Inc.
ESU	evolutionarily significant unit
FAA	Federal Aviation Administration
FO	field office
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FLM	federal land manager
FLMA	Federal Land Management Agency
FLMP	Forest Land Management Plan
FLPMA	Federal Land Policy and Management Act of 1976
FMP	fishery management plan
FPPA	Farmland Protection Policy Act
FR	*Federal Register*
FS	U.S. Department of Agriculture's Forest Service
FY	fiscal year
GAO	Government Accountability Office
GIS	geographic information system
GPS	global positioning system
GSA	U.S. General Services Administration
GSP	Gateway South Project

HLR	hydrologic landscape region
HLU	Hydrologic landscape unit
HMA	herd management area
HMMH	Harris Miller Miller & Hanson, Inc.
HPX	High Plains Express Transmission Project
HQ	Headquarters
HSPD	Homeland Security Presidential Directive
HTS	high-temperature superconductivity
HVAC	high-voltage alternating current
HVDC	high-voltage direct current
IBA	important bird area
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEEE	Institute of Electrical and Electronics Engineers
IMPROVE	Interagency Monitoring of Protected Visual Environments
IOP	interagency operating procedure
KOP	key observation point
L_{dn}	day-night average sound level
L_{eq}	equivalent sound level
LN2	liquid nitrogen
LNG	liquefied natural gas
LPG	liquid petroleum gas
LRMP	land resource and management plan
MBTA	Migratory Bird Treaty of 1918
MLA	Mining Leasing Act of 1920
MOA	Military Operating Area (also Memorandum of Agreement)
MOU	Memorandum of Understanding
MPCA	Minnesota Pollution Control Agency
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MTRs	Military Training Routes
MVA	million volt-ampere
NAA	nonattainment area
NAAQS	National Ambient Air Quality Standards
NACO	National Association of Counties
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NCA	National Conservation Area
NCDC	National Climatic Data Center
NCSHPO	National Conference of State Historic Preservation Officers
NDOT	Nevada Department of Transportation
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NFMA	National Forest Management Act
NFS	National Forest System
NHPA	National Historic Preservation Act of 1966
NID	National Inventory of Dams

NIEHS	National Institute of Environmental Health Sciences
NIPP	National Infrastructure Protection Plan
NLCS	National Landscape Conservation System
NMFS	National Marine Fisheries Service
NNHP	Nevada Natural Heritage Program
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPL	National Priorities List
NPS	National Park Service
NRC	National Research Council
NRCS	National Resources Conservation Service
NRDC	Natural Resources Defense Council
NREL	National Renewable Energy Laboratory
NRHP	*National Register of Historic Places*
NRI	National Resources Inventory
NWCC	National Wind Coordinating Committee
NWFP	Northwest Forest Plan
NWRS	National Wildlife Refuge System
NWRSAA	National Wildlife Refuge System Administration Act of 1966
OD	outside diameter
OHV	off-highway vehicle
OPS	Office of Pipeline Safety
ORV	off-road vehicle or outstandingly remarkable value
OSHA	Occupational Safety and Health Administration
P.L.	Public Law
PA	Programmatic Agreement
PCB	polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement
PFYC	Potential Fossil Yield Classification
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM	particulate matter
PM_{10}	particulate matter with a diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with a diameter less than or equal to 2.5 microns
POC	point-of-contact
POD	plan of development
PPE	personal protective equipment
PSD	Prevention of Significant Deterioration
RMP	resource management plan
RMS	Reliability Management System
ROD	Record of Decision
ROW(s)	right(s)-of-way
RPS	Renewable Portfolio Standard
RRC	Regional Reliability Council
SAAQS	State Ambient Air Quality Standards

SCADA	supervisory control and data acquisition
SCEC	Southern California Earthquake Center
SCGC	Southern California Gas Company
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Office(r)
SIO	Scenic Integrity Objective
SIP	state implementation plan
SMP	suggested management practice
SMS	Scenery Management System
SOP	standard operating procedure
SSA	sector-specific agency
SSP	sector-specific plan
SUA	Special Use Airspace
SWPPP	storm water pollution prevention plan
TAPS	Trans-Alaska Pipeline System
TCP	traditional cultural property
TDS	total dissolved solids
THPO	Tribal historic preservation officer
TSA	Transportation Security Administration (DHS)
TSP	total suspended particulates
TSS	total suspended solids
TSSP	transportation SSP
TVA	Tennessee Valley Authority
TWEP	TransWest Express Project
U.S.	United States
UDWR	Utah Division of Wildlife Resources
USC	*United States Code*
USDA	U.S. Department of Agriculture
USDS	U.S. Department of State
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
VRM	Visual Resource Management
WECC	Western Electricity Coordinating Council
WGA	Western Governors' Association
WGFD	Wyoming Game and Fish Department
WHO	World Health Organization
WIZ	water influence zone
WRAP	Western Regional Air Partnership
WRCC	Western Regional Climate Center
WREZ	Western Renewable Energy Zone
WSA	Wilderness Study Area
WWEC	West-wide energy corridor

CHEMICALS

CO	carbon monoxide
CO_2	carbon dioxide
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
O_3	ozone
Pb	lead
SO_2	sulfur dioxide
SO_x	sulfur oxides

UNITS OF MEASURE

bcf	billion cubic feet[1]
cfs	cubic feet per second
dB	decibel(s)
dBA	A-weighted decibel(s)
dBC	C-weighted decibel(s)
°F	degrees Fahrenheit
g	unit of gravitational acceleration (1 g = 32 feet/s^2)
Hz	cycle(s) per seconds (hertz)
kV	kilovolt(s)[2]
lb	pound(s)
µg	microgram(s)
µg/m^3	microgram(s) per cubic meter
mph	mile(s) per hour
MVA	million volt-ampere(s)
MW	megawatt(s)
MW(t)	thermal megawatt(s)
ppm	part(s) per million
psig	pound(s) per square inch gauge
s	second(s)
t	ton(s)

1 One billion cubic feet of natural gas provided residential heating to over 11,500 homes in the Midwest in 2007.

2 As an example of electricity transmission, a direct current 500 kV, approximately 1,000 miles long line has the capacity to serve over three million homes in the Pacific Northwest.

ENGLISH/METRIC AND METRIC/ENGLISH EQUIVALENTS

The following table lists the appropriate equivalents for English and metric units.

Multiply	By	To Obtain
English/Metric Equivalents		
acres	0.4047	hectares (ha)
cubic feet (ft^3)	0.02832	cubic meters (m^3)
cubic yards (yd^3)	0.7646	cubic meters (m^3)
degrees Fahrenheit (ºF) – 32	0.5555	degrees Celsius (ºC)
feet (ft)	0.3048	meters (m)
gallons (gal)	3.785	liters (L)
gallons (gal)	0.003785	cubic meters (m^3)
inches (in.)	2.540	centimeters (cm)
miles (mi)	1.609	kilometers (km)
miles per hour (mph)	1.609	kilometers per hour (kph)
pounds (lb)	0.4536	kilograms (kg)
short tons (tons)	907.2	kilograms (kg)
short tons (tons)	0.9072	metric tons (t)
square feet (ft^2)	0.09290	square meters (m^2)
square yards (yd^2)	0.8361	square meters (m^2)
square miles (mi^2)	2.590	square kilometers (km^2)
yards (yd)	0.9144	meters (m)
Metric/English Equivalents		
centimeters (cm)	0.3937	inches (in.)
cubic meters (m^3)	35.31	cubic feet (ft^3)
cubic meters (m^3)	1.308	cubic yards (yd^3)
cubic meters (m^3)	264.2	gallons (gal)
degrees Celsius (ºC) + 17.78	1.8	degrees Fahrenheit (ºF)
hectares (ha)	2.471	acres
kilograms (kg)	2.205	pounds (lb)
kilograms (kg)	0.001102	short tons (tons)
kilometers (km)	0.6214	miles (mi)
kilometers per hour (kph)	0.6214	miles per hour (mph)
liters (L)	0.2642	gallons (gal)
meters (m)	3.281	feet (ft)
meters (m)	1.094	yards (yd)
metric tons (t)	1.102	short tons (tons)
square kilometers (km^2)	0.3861	square miles (mi^2)
square meters (m^2)	10.76	square feet (ft^2)
square meters (m^2)	1.196	square yards (yd^2)

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SUMMARY

S.1 WHY ARE FEDERAL AGENCIES PROPOSING TO DESIGNATE ENERGY CORRIDORS IN THE WEST?

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (EPAct). In Subtitle F of EPAct, Congress set forth various provisions that would change the way certain federal agencies[1] (Agencies) coordinated to authorize the use of land for a variety of energy-related purposes. Section 368 of EPAct requires, among other things, the designation of energy corridors on federal lands in 11 western states and the establishment of procedures to ensure that additional corridors are identified and designated as necessary and to expedite applications to construct or modify oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. The western states are Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.[2] The Department of Energy (DOE) and Department of the Interior (DOI), Bureau of Land Management (BLM), are the lead agencies in preparation of this Programmatic Environmental Impact Statement (PEIS), and the Department of Agriculture (USDA), Forest Service (FS); Department of Defense (DOD); and DOI, Fish and Wildlife Service (USFWS), are the cooperating federal agencies in preparation of the environmental impact statement (EIS). Only those Agencies that manage federal land (DOD, DOI, and USDA) where Section 368 energy corridors would be designated would issue Records of Decision (RODs) for such designation.

Corridor designation and associated plan amendments are based on the following direction provided in Section 368:

> ". . . The Secretary of Agriculture, the Secretary of Commerce, the Secretary of Defense, the Secretary of Energy, and the Secretary of the Interior (in this section referred to collectively as "the Secretaries"), in consultation with the Federal Energy Regulatory Commission, states, Tribal or local units of governments as appropriate, affected utility industries, and other interested persons, shall consult with each other and shall—
>
> (1) designate, under their respective authorities, corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on Federal land in the 11 western states (as defined in Section 103(o) of the Federal Land Policy and Management Act of 1976 (43 USC 1702(o));
>
> (2) perform any environmental reviews that may be required to complete the designation of such corridors; and
>
> (3) incorporate the designated corridors into the relevant agency land use and resource management plans or equivalent plans."

Congress also addressed the need for the Agencies to establish procedures that could potentially increase the efficiency of using designated corridors for energy transport and distribution projects. Because of the critical importance of improving the western electrical transmission grid, Congress specifically directed the Agencies in Section 368 to consider the need for upgraded and new facilities to deliver electricity throughout the western states. Finally, Congress directed the Agencies to make the designated energy corridors useful to potential

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1 Department of Agriculture, Department of the Interior, Department of Defense, Department of Energy, and Department of Commerce.

2 Shaded text indicates portions of the document that underwent revision between the draft and the final PEIS in response to comments received during the public comment period as well as additional information provided by local federal land managers and resource specialists.

applicants by stating that designated corridors "at a minimum specify the centerline, width, and compatible uses of the corridor."

Section 368 *does not* require that the Agencies consider or approve specific projects, applications for rights-of-way (ROWs), or other permits within designated energy corridors. Importantly, Section 368 *does not* direct, license, or otherwise permit any on-the-ground activity of any sort. If an applicant is interested in obtaining an authorization to site a project within any corridor designated under Section 368, the applicant would have to apply for a ROW authorization, and the Agencies would consider each application by applying appropriate project-specific reviews under requirements of laws and related regulations including, but not limited to, the National Environmental Policy Act (NEPA), the Clean Water Act, the Clean Air Act, Section 7 of the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act.

S.2 WHAT IS THE PURPOSE AND NEED FOR DESIGNATING SECTION 368 ENERGY CORRIDORS?

The purpose and need for Agency action is to implement Section 368 by designating corridors for the preferred location of future oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities and to incorporate the designated corridors into the relevant agency land use and resource management plans.

Section 368 directs the Agencies to take into account the need for upgraded and new infrastructure and to take actions to improve reliability, relieve congestion, and enhance the capability of the national grid to deliver energy. This action only pertains to the designation of corridors for potential facilities on federal lands located within the 11 western states. In addition, this action is intended to improve coordination among the agencies to increase the efficiency of using designated corridors.

Electricity consumers in the West rely on an integrated network of more than 49,430 miles of transmission lines to move electricity from generation sources like coal-fired power plants, hydropower facilities, or wind farms to demand centers, and thus provide a reliable supply of power to homes and businesses. Due in part to the West's unique geography and population distribution, where fuel sources and energy generation facilities are often remotely located and large population centers are spread far apart, the electricity transmission grid in the West is typified by high-voltage transmission lines spanning very long distances. The need for additional electric infrastructure in the West is influenced by several factors, including (1) market restructuring, (2) new energy policies seeking renewable resources, (3) population growth, (4) a decade of underinvestment in new lines and technology by the utility sector, and (5) system reliability concerns. Inadequacies in the electricity transmission system manifest themselves in many ways. One such indication of inadequacies in the electricity transmission system is a phenomenon known as "congestion." Congestion is a condition of the electricity transmission system resulting from overuse of certain electricity transmission pathways in the system. As a result of congestion, electric system operators can be forced to use generation resources at certain times that may not be as economically or environmentally desirable to deliver the requisite electric power to consumers and to maintain reliable operation of the grid and thus delivery of electricity.

Currently, natural gas provides 22% of the total energy consumed each year by the United States. There are currently more than 27,000 miles of major natural gas pipelines (>16-inch diameter) in the 11 western states. In the last 20 years, due in large part to market changes and environmental considerations, natural gas has played an increasingly important role as an energy source for the generation of electric power. The need for new natural gas infrastructure arises in the West for three principal reasons. First, demand for natural gas is expected to rise considerably in the short term.

In the Pacific region, the Energy Information Administration (EIA) forecasts there will be a need for a 45% increase in pipeline capacity in the next 10 to 15 years. As a result of tight pipeline capacity for the export of natural gas from western Wyoming, five times during the fall of 2006 relatively minor changes in pipeline infrastructure led to significant price changes. Second, safety considerations related to the age of pipelines in many areas across the United States are also adding to the demand for new pipeline infrastructure. Lastly, market developments will influence the location of and need for new pipelines. One such example is the development of new resources in the Mountain West area, where additional pipeline capacity will be needed to transport new supplies to demand centers.

Currently, the United States relies on 2 million miles of oil pipelines as the principal means of delivering supplies of oil and refined petroleum products like gasoline to market. These pipelines are essential to maintain secure delivery for the more than 20 million barrels of oil and the 17 million barrels per day of refining capacity necessary to fuel upwards of 220 million cars and trucks on United States roadways. Two principal factors indicate that the oil pipeline delivery system needs improvement. First, demand for petroleum products in the transportation sector is expected to continue to grow at a rapid pace. Additionally, other market factors such as increased petroleum imports due to reduced refinery capacity and expected growth in the production of synthetic liquid fuels like "coal-to-liquid" are expected to affect the need for siting new and upgraded pipeline infrastructure. Second, many of the existing oil pipelines currently in place are aging, further creating the need for new or improved pipeline capacity.

Although hydrogen fuel technologies may have a significant role as a future energy source, insofar as pipelines are concerned, hydrogen generation and transport technologies are still in developmental stages. Currently, fewer than 50 retail stations provide hydrogen fuel to automotive consumers. Without a clear infrastructure system in place, it is difficult to estimate future demand for hydrogen and what hydrogen infrastructure will be needed. Nevertheless, because of the potential role that hydrogen could play in meeting future needs, the Agencies sought in this action to identify locations where future hydrogen pipelines might be suitably located.

S.3 WHAT ARE SOME OF THE EXISTING ADMINISTRATIVE CHALLENGES TO FEDERAL ROW AUTHORIZATION?

Siting large, long-distance energy transport infrastructure is a complicated task for an applicant and for the Agencies involved in the application process. In addition to addressing the heterogeneous mix of private, state, and Tribal land ownership in the West, energy transport projects must confront a complex pattern of federally controlled lands that are administered by different land management agencies, each with its own set of rules and procedures for granting ROWs for land uses. As a result, energy transport project applicants must satisfy the often disparate requirements of multiple agencies for the same project.

Currently, the Agencies producing this PEIS have procedures to authorize ROWs on the lands that they administer. In some locations in the West, the Agencies may work cooperatively to address an application. However, these cooperative arrangements are generally limited in nature and apply to special resource management issues that require joint land management decisions. When projects are processed cooperatively, it is on an application-by-application basis. Generally, the local administrative offices (e.g., BLM field office [BLM FO] or FS national forest) address energy transport within the boundaries of their administrative areas. Some of these local offices have designated local energy corridors in their land management plans as the preferred location for energy transport projects. These local

corridors sometimes do not link geographically, for example, because the corridors are of different sizes and widths. In addition, it is often difficult to develop interagency cooperation or corridor paths that align over several different local jurisdictional units because the land use planning exercises that designate the corridors are conducted at different times.

At present, some of the barriers to infrastructure development in the western states include inconsistent agency procedures for granting ROWs; inconsistent agency views on whether proposed energy infrastructure projects would address near- or long-term energy needs; a lack of coordination among agencies that administer contiguous tracts of land when responding to applications for a ROW across their respective jurisdictions; and the lack of coordination within agency offices regarding the appropriate geographic locations of corridors or ROWs.

When an applicant must seek authorizations from several federal agencies or several local jurisdictions within the same agency, a lead federal Agency and lead office are usually assigned the responsibility to process the application. An overall project manager is also usually assigned to the project. However, the application may not receive the same priority at all field offices due to different guidelines or requirements for an application or a use authorization such that the applicant does not have a clear understanding of what information to submit to a given agency during the application process. Further, the agencies may each have distinct views on whether the transport projects are needed. Also, the agencies may apply different criteria or follow different guidelines when assessing the impacts of an energy project. Thus, under the existing regulatory schemes, the potential benefits of direct, cost-effective, and environmentally favorable routing of the energy transport project may be encumbered.

In certain instances, the applicant may face delays because an agency may need to amend its land use or resource management plan to include a corridor for the proposed ROW. These delays may be caused by administrative hurdles and internal analyses, reviews, and approvals required by the local office. The absence of coordinated ROW application procedures and adequate coordination between and within agencies has frustrated efforts to develop the energy infrastructure needed in the West.

S.4 WHAT IS THE PROPOSED ACTION TO ADDRESS THE PURPOSE AND NEED?

As directed by Congress in Section 368 of EPAct, the participating Agencies have examined the energy infrastructure issues and situation in the West and propose to designate energy corridors on federal land for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities in 11 western states. In addition, the Agencies propose to amend their respective land use management plans or similar land use plans, as appropriate, to include the designated energy corridors on land administered by their Agency, if designated corridors occur on those lands.

In considering potential ways to designate the corridors, the Agencies took into account, per Congress' mandate in Section 368, the need for upgraded and new electricity transmission and distribution facilities to improve reliability, relieve congestion, and enhance the capability of the national grid to deliver electricity. The Agencies decided to propose to locate corridors for the West-wide transport and distribution of energy (electricity, oil, natural gas, and hydrogen) between supply and demand areas in the 11 western states while avoiding sensitive resources and land use and regulatory constraints to the fullest extent possible. If applicants develop energy transport projects within the proposed corridors, the resulting infrastructure would aid in alleviating congestion problems associated with electricity transmission in the West.

The Agencies here propose to designate corridors in locations that were selected using a systematic, four-step siting process. The four-step process incorporated additional information received during the public comment process on the draft PEIS. The additional information on corridor locations and issues allowed further adjustments to account for environmental, operational, and socioeconomic factors.

The proposed corridor designations would not approve any site-specific activities or projects or prejudge the environmental impacts of individual projects. While the type of environmental review to be conducted is not specified in Section 368, the Agencies have decided to prepare this PEIS to conduct an environmental review at the programmatic level, integrate the NEPA process early in the planning process, and address potential conflicts among Agencies. If the Agencies decide at the end of this environmental review, under NEPA, to designate a system of energy corridors, it will be for the purpose of establishing those corridors as preferred locations for future energy transport projects. Again, the designation of such a system of corridors would not authorize parties to proceed with any site-specific projects or to carry out any activities in these corridors. No direct environmental impacts are expected to occur as a result of implementing either the No Action or Proposed Action Alternatives, with the possible exception of effects to property values on nonfederal lands adjacent to or between designated corridor segments. Additionally, project development within designated corridors could lead to direct, indirect, and/or cumulative impacts on the environment. As noted above, if individual projects are proposed, any applications for such projects would be subject to environmental review under NEPA and other applicable laws.

Similarly, if the Agencies decide to amend related land use plans, this also would not authorize any site-specific activities. By amending land use plans at the designation stage, the proposed action may accelerate the process of subsequently applying for energy project ROWs. In particular, an applicant could avoid delays associated with seeking a land use plan amendment for a specific project. However, as with the designation of corridors, the amendment of land use plans would not authorize parties to proceed with any site-specific projects, or to carry out any activities in areas within the corridors, and accordingly will not result in any on-the-ground impacts that may significantly affect the quality of the environment. If individual projects are sited, as noted above, any applications for such projects would be subject to environmental review under applicable statutes.

The Agencies also note that designating a system of energy corridors would not preclude an applicant from applying for a ROW outside of the designated energy corridors as currently provided for in FLPMA. In this case, the current process to authorize ROWs would apply to the application. However, such an applicant would not benefit from the coordinated interagency application procedures that would be established under Section 368, any land use plans that have already been amended to contain designated Section 368 energy corridors, or environmental analyses already examined in this PEIS.

S.5 HOW WILL THE AGENCIES EXPEDITE THE APPLICATION PROCESS?

Section 368 directs the Agencies to establish procedures under their respective authorities to expedite the application process for energy-related projects within Section 368 designated corridors. The Agencies would include uniform interagency operating procedures for reviewing applications for energy ROWs within designated Section 368 corridors. To highlight the proposed efficiencies gained by applicants who choose to apply for energy transport projects in the Section 368 designated energy corridors, the authorization process anticipated by the Agencies is described below.

Application Process

Because many of the proposed Section 368 energy transmission corridors pass through multiple administrative areas (e.g., BLM FO or FS national forest) managed by one or more of the Agencies, the Agencies will implement procedures that create a virtual "one-stop shop" application processing process that will become the foundation of the Section 368 expedited application procedures. In the past, project delays and missteps have often been the outcome of multiple agency offices issuing environmental reviews, project requirements, and land use authorizations. However, because linear energy transmission facilities must connect two locations in a safe and reliable manner across the entire length of the project, piecemeal agency authorizations can be streamlined so that environmental and regulatory considerations can also be simultaneously addressed over the entire length of a project. Within existing laws and regulations, it is possible to simplify the federal authorization for ROWs in designated corridors.

The Section 368 streamlining process is based on the principles of the Service First program implemented by the BLM, FS, National Park Service (NPS), and USFWS. Service First was initially a joint BLM and FS initiative designed to improve customer service by providing streamlined, one-stop shopping across agency jurisdictional boundaries for public land users. Authority for Service First was provided by legislation in 1997 covering only BLM and FS. That legislation was recently amended to include the NPS and USFWS. Service First provides legal authority for the FS, NPS, FWS, and BLM to carry out shared or joint management activities to achieve mutually beneficial resource management goals. Service First authority has been used primarily for colocating offices, joint permitting, shared management, and single points-of-contact (POCs) for resource programs.

Agencies that are not a part of Service First may join the Service First agencies through necessary agreements in order to process applications. For example, the Bureau of Reclamation (BOR), Bureau of Indian Affairs (BIA), and U.S. Army Corps of Engineers are currently considering whether they should also seek Service First authority.

The Agencies will prepare written guidance on the types of further environmental and regulatory reviews that will be required for projects seeking to use Section 368 corridors. The guidance will be used by the Agencies and the applicant to ensure that all parties clearly understand the application process and supporting information required to make an authorization decision to use a Section 368 corridor. Information presented in this PEIS would be used to assist in developing the guidance by describing project-specific potential environmental impacts and providing information that can be used to tier to site-specific environmental reviews.

The implementation of Section 368 designated energy corridors will occur as follows:

- Applications received by any of the Agencies will undergo an initial review to determine if the application meets Section 368 planning criteria, including a determination if the project crosses multiple jurisdictional boundaries within a state or is an interstate project. Partial use of a designated Section 368 corridor by an application will also be considered in the review process. The review will be conducted by a joint HQ office staffed by BLM and FS employees who are familiar with Section 368 corridors.

- If a proposal is approved as a Section 368 corridor project, only one application will be necessary to proceed with the authorization process. In addition, the proponent of the application will be required to consider all the mandatory IOPs.

- The affected agency officials will select a responsible federal official who will be assigned to the proposed project. The official will have knowledge, experience, and credentials similar to current BLM national project managers. The BLM national project managers are very familiar with the policies and procedures of multiple agencies and jurisdictions, have experience working with large projects and sophisticated applicants, and can manage third-party contracts, if necessary. The responsible federal official will oversee all processing of the applications, including environmental reviews, construction activities, post-construction monitoring, and close-out issues, if needed.

- Compatibility issues with other potential energy transport projects that could be colocated in the corridor (e.g., efficient location of individual ROWs within the corridor boundaries) would be developed by the applicant in consultation with the federally designated official.

- Because a Section 368 corridor will require only one application for federal authorization, it will be necessary to only produce one supporting environmental review for each of the various regulatory requirements. While Section 7 (ESA) or Section 106 (NHPA) reviews may need to be conducted on a state-by-state basis, the lead responsible federal official will coordinate all reviews for any required regulatory process associated with the application.

- While the designated official will oversee the application process, approval from officials in each affected agency will be required to authorize a project.

- The Agencies will develop, as is common under Service First processes, one cost share agreement, fee schedule, and billing process for the applicant. Included under the cost share agreement will be an agreed to project schedule that will be followed by both the applicant and the federal agencies. In addition, only one administrative record will be required for each project application.

- The Agencies will require and develop a website for all projects that are seeking approval to use Section 368 energy transmission corridors. Within this common website, each project will have an individual project website that will contain all public information on the project, including environmental review and permitting documentation.

Future Section 368 Corridors

The Agencies will also consider the need for future Section 368 corridors. The Agencies will use their approved planning processes to implement new Section 368 corridors. New corridors will be considered for Section 368 status when an interstate or interagency application is received by one or more if the Agencies. The Agency (or Agencies if the proposed route would cross federal lands managed by multiple federal agencies) will then conduct a review of the proposed route(s) suggested in the application. The review will first consider if the application meets Section 368 criteria (as developed within EPAct and further considered in the PEIS and Records of Decision [RODs]). If the application route(s) for the project meet Section 368 criteria, then the Agencies will amend their land use plans as required by law, and a Section 368 corridor will be designated. Once designated, Section 368 criteria (centerline, width, and designated uses) will be defined and implemented in land use plans. Also, all interagency operating procedures (IOPs) presented in the final PEIS and other considerations presented in the RODs signed by each Agency would apply to the newly designated corridor.

S.6 ENDANGERED SPECIES ACT (ESA) SECTION 7

S.6.1 ESA Section 7 Requirements

Section 7 of ESA directs each federal agency, in consultation with the Secretary of the Interior and the Secretary of Commerce, as appropriate, to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of critical habitat.[3]

Text Box S-1
Compliance with the National Historic Preservation Act

The regulations for Section 106 encourage the Agencies to integrate Section 106 compliance with the NEPA process (36 CFR 800.8). Due to the scope and scale of the Proposed Action, the Agencies have chosen to implement this provision in order to reduce redundancies when complying with both laws; provide the broadest possible opportunities and greatest convenience for the public to review and consult on the Agencies' proposed actions; and ensure that concerns pertaining to historic properties are fully integrated into the PEIS and the RODs (see Section 3.10.1.2 of Volume I of the final PEIS).

Under Section 7 of ESA, those agencies that authorize, fund, or carry out a federal action are commonly known as "action agencies." If an action agency determines that its federal action "may affect" listed species or critical habitat, it must consult with the USFWS of the DOI or the National Marine Fisheries Service (NMFS) of the DOC (collectively known as the "Services") or both, whichever has jurisdiction over the species or habitat that may be affected.[4]

If an action agency determines that the federal action will have no effect on listed species or critical habitat, the action agency does not initiate consultation with the Services and its obligations under Section 7 are complete.

S.6.2 Agency Status under ESA Section 7

The DOI, USDA, and DOD have concluded that they are action agencies for ESA purposes because each manages federal land where the proposed energy corridors may be designated under Section 368. Each action agency is tasked with designating energy corridors on federal land and incorporating these corridors into appropriate land use plans by amending them.

The DOE has determined that it is not an action agency because it does not manage any federal lands where the proposed energy corridors would be designated under Section 368. As such, the Proposed Action does not involve any action by this agency to incorporate the proposed corridors into any land use plans that it may have issued.

S.6.3 Basis for the Action Agencies' "No Effect" Determination under Section 7 of ESA

In complying with their duties under Section 7 of ESA, the action agencies have examined the effects of designating federal land under Section 368 through land use plan amendments on listed species and critical habitat. As a result of this examination, the action agencies have determined that designating corridors through land use plan amendments would cause no effect on a listed species or on critical habitat. This determination is based on the following.

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3 See ESA § 7; 16 USC 1536. The standard for determining when federal agencies must consult under ESA is different from the standard for determining when federal agencies must prepare an environmental impact statement under the National Environmental Policy Act.

4 See 50 CFR 402.02, 402.13-14.

The Proposed Action, designation of energy corridors through amendment of land use plans, is an administrative task that would not cause any impact to listed species or critical habitat. The land use plan amendments identify and designate an area, identified by centerline, corridor width, and compatible use, that will be the preferred area to be used for Section 368 purposes. The Proposed Action does not establish a precedent or create any legal right that would allow ground-disturbing activities within a designated energy corridor. Any individual application for a ROW, permit, or other authorization for Section 368 purposes at a particular location within a designated energy corridor could only be granted, in the future, after it is subject to a full policy and legal review at the time it is filed, including a review under ESA and other applicable statutes. Moreover, there is no guarantee that any particular authorization will be granted; the action agencies have discretion not only to deny an application for a ROW, permit, or other authorization for Section 368 purposes within a designated corridor, but also to grant an application for an authorization outside of a designated energy corridor.

It is important to note that the effects of any future activities that might occur as a result of the grant of a ROW, permit, or other authorization, following site-specific compliance with ESA and other applicable laws, would not be effects, direct or indirect, of the Proposed Action at issue here. Further, until BLM or FS receives an application for a ROW, permit, or other authorization and adjudicates it, it is impossible to determine what effects on listed species or critical habitat might be "reasonably certain to occur."

For the above reasons, the action agencies have determined that designating energy corridors under Section 368 of EPAct and incorporating these corridors in land use plans would have no effect on listed threatened or endangered species or critical habitat.

The action agencies reach their "no effect" determination not because listed species and critical habitat are unlikely to be present in the corridors described in the alternatives. To the contrary, portions of the corridors would likely include areas occupied by listed species or within critical habitat.

The action agencies considered preparing a biological assessment and initiating consultation with USFWS and NMFS under Section 7(a)(2). After discussing various approaches, the action agencies determined, however, that the administrative action of amending a land use plan to designate energy corridors would have no effect on listed species or critical habitat. Preparing a biological assessment before a site-specific project had been proposed to the agencies would be based largely on conjecture and speculation. There would be simply no way to know before such a site-specific proposal is made whether the impacts to be assessed would be those of an overhead electricity transmission line or buried oil or gas pipeline or some combination of uses. Further, without knowing the specifics of when and where a project would occur within a corridor, it would be impossible to know what species, if any, would be affected by these future projects. The agencies considered whether it made sense to make assumptions for the purposes of a biological assessment, but were left with no credible basis on which to make such assumptions. The agencies determined such assumptions would be speculative and not linked to the federal action of designating energy corridors through land use plan amendments. Any biological assessment would be a speculative assessment of effects from future site-specific projects, not of the Proposed Action.

This is not to say that there would be no Section 7 consultations (including preparation of biological assessments or biological opinions, where appropriate) on future actions that may affect listed species or critical habitat. On the contrary, as explained above, the action agencies

fully expect that Section 7 compliance, including consultations, if necessary, will be appropriate as projects within a corridor are proposed. That is, if an application for a ROW, permit, or other authorization is received by an action agency for lands within a designated corridor, further compliance with Section 7 of ESA would be initiated at that time.[5] This may take the form of preparation of a biological assessment by the action agencies and issuance of a biological opinion by USFWS and/or NMFS; a "may affect, not likely to adversely affect" determination by the action agencies with Service concurrence; or a "no effect" determination by the action agencies. At such time, any biological assessment, biological opinion, concurrence, or "no effect" determination would be based on a detailed ROW application describing the project, site, and method of construction, all features lacking at the present time.

In reaching their "no effect" determination, the action agencies found no causal connection, whether direct or indirect, between the designation of energy corridors (through land use plan amendment) and any effect on a listed species or critical habitat. Designation of an energy corridor neither guarantees that a ROW application for lands within a corridor will be granted, nor that an application for lands outside a corridor will be denied. Any effects to a listed species or critical habitat that might occur in a corridor in the future and are simply unknown at this time would be caused by the grant of a ROW, permit, or other site-specific authorization, following full policy and legal review, including any consultation under Section 7 of ESA.

[5] Further, if a future site-specific proposal may adversely affect essential fish habitat (EFH), the action agencies would consult with NMFS, as required by the Magnuson Stevens Fishery Conservation and Management Act, 16 USC l855(b)(2), prior to approval.

S.7 WHAT ARE THE ALTERNATIVES ANALYZED IN THIS PEIS?

The Agencies have identified two reasonable alternatives:

1. *No Action.* No land would be designated as a Section 368 corridor.

2. *Proposed Action.* Designation of Section 368 energy corridors and amendment of land use plans on federal land. More than 6,000 miles of Section 368 energy corridors would be designated within federal lands in the 11 western states as identified by environmental, engineering, and land use screening criteria to reduce potential environmental and land use conflicts.

These alternatives are considered in more detail in Chapter 2 of this PEIS. As noted above, the PEIS does not consider project-specific activities at any specific locations in proposed designated corridors because the proposed designation does not involve or direct the authorization of any specific projects.

S.8 WHY CONDUCT THE ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT?

Section 368 requires the Agencies to conduct any "environmental reviews" necessary to complete the designation of Section 368 energy corridors. The proposed designation of more than 6,000 miles of Section 368 energy corridors among the various agency land use plans is a forward-looking response, mandated by statute, to address a national concern.

The Agencies recognize that while thousands of miles of corridors may be designated, it is not possible to predict whether or where future applicants would seek to site their projects; nor is it possible to predict with specificity the type of projects that may be proposed at a particular location (e.g., an

underground pipeline as opposed to an above-ground transmission line); nor is it possible to predict whether such site-specific projects that may be proposed in the future would involve electricity, gas, hydrogen, or oil energy transport systems. As such, at this time it would be speculative and neither practicable nor possible to evaluate environmental impacts associated with such potential site-specific projects. As discussed below, in the event that site-specific projects would be proposed in the future in areas located within designated corridors, such individual projects would be subject to appropriate environmental review and analysis.

Quantifiable and accurate evaluation of impacts at the local scale can be made only in response to an actual proposed energy project, when a proposal for an action with specific environmental consequences exists. Until a site-specific project is presented to the Agencies and the project is evaluated, authorized, and implemented, the land and resources within a designated energy corridor would remain unchanged.

The PEIS addresses the potential direct, indirect, and cumulative impacts that are possible when energy corridors are included in amended land use plans. In addition, the PEIS includes an analysis of types of potential impacts that could result from a typical energy transmission project, irrespective of its location on the landscape. By analyzing and presenting possible project-related impacts from future actions, the PEIS provides invaluable information for future site-specific environmental reviews.

S.9 WHY ARE THE AGENCIES PREPARING A PROGRAMMATIC ANALYSIS?

NEPA requires that federal agencies prepare a "detailed statement for major federal actions significantly affecting the quality of the human environment."[6] Here, the Agencies have concluded that preparing a PEIS at this time to examine programmatic environmental concerns is appropriate.

The decision to prepare an EIS for a programmatic action such as that described by Section 368 is supported by Council on Environmental Quality (CEQ) regulations at Title 40, Part 1502.4(b), of the *Code of Federal Regulations* (40 CFR 1502.4(b)), which state that "Environmental Impact Statements may be prepared and are sometimes required, for broad federal actions such as the adoption of new agency programs or regulations (Section 1508.8). Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision making."

Preparing a PEIS now is consistent with the CEQ regulations, which encourage agencies to "integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts."[7] Further, preparation of a PEIS provides an established and familiar vehicle to examine potential environmental concerns.[8]

A PEIS also allows for early public participation in the Section 368 energy corridor designation process through a mechanism familiar to interested members of the public. The designation of several thousand miles of energy transportation corridors is a large task. The PEIS allows the Agencies to seek public input through open comment periods and public forums where concerns regarding Section 368 energy corridors can be raised. Public review and comment on the

6 NEPA § 102(2).

7 40 CFR 1501.2.

8 BLM regulations also provide that BLM conduct a NEPA review prior to any amendment to its federal land resource and management plans (43 CFR 1610.5-5). The BLM, as well as the FS, have existing land resource and management plans in the areas included in the proposed Section 368 energy corridor designation.

draft PEIS resulted in a number of changes that were incorporated into the final PEIS.

Additionally, this PEIS may greatly assist subsequent, site-specific analyses for individual project proposals by allowing the Agencies to incorporate the relevant provisions of this PEIS into those later analyses, as required by Section 368. For example, if an applicant should apply for a specific ROW within a Section 368 energy corridor, the participating Agencies will have interagency operating procedures (IOPs), management practices, and mitigation procedures developed in the PEIS available for application to individual projects seeking to use Section 368 corridors.

The process used to select the corridor locations applied a number of environmental, engineering, and land use screening criteria that served to reduce potential environmental and land use conflicts. This process and the analysis presented in the PEIS will provide the Agencies with useful information and analysis to inform future decisions.

S.10 WHAT IS THE SCOPE OF THE PEIS?

The scope of the analysis in the PEIS includes a programmatic assessment of the potential positive and negative environmental, social, and economic impacts of the alternatives. The Agencies examined the direct, indirect, and cumulative impacts of future projects consistent with corridor designation. The programmatic analyses conducted in preparation of the PEIS are based on currently available and credible scientific information.

As a programmatic evaluation, this PEIS does not evaluate site-specific issues associated with potential individual energy transport projects. The combined and individual effects of location-specific and project-specific impacts are not foreseeable at the Section 368 energy corridor designation stage. Therefore, the Agencies do not speculate about project-specific impacts that required knowing the actual location of an individual project in this PEIS. Local and project-specific impacts would be evaluated in the future at the individual-project level, and site-specific impacts would be addressed during individual project reviews. Individual project analyses, reviews, and approvals and denials may tier off the PEIS, thus using and referencing the information, analyses, and conclusions presented in the PEIS to supplement the project-specific reviews and analyses. However, individual project-specific decision making will not be supplanted by the PEIS.

S.11 WHAT ARE THE PLANNING DECISIONS THAT ARE BEING PROPOSED IN THIS PEIS?

Upon signing RODs, the BLM, FS, and, if applicable, the DOD would amend their respective affected land use plans to incorporate the corridor designation. Corridor designation on these federal lands would be defined by a set of land areas, derived from a centerline and designated width and categorized by compatible uses to accommodate future proposed energy transport projects. (Refer to Appendix A for the list of Agency land use plans proposed to be amended upon issuing the RODs.)

For national wildlife refuges, the National Wildlife Refuge System Administration Act of 1966 (NWRSAA) (16 USC 668dd-ee), as amended, requires that these areas be administered by the Secretary of the Interior through the USFWS. Only the USFWS is delegated the authority to approve uses on a national wildlife refuge. The NWRSAA requires that any use of a national wildlife refuge must be compatible with refuge purposes and the mission of the National Wildlife Refuge System.

The USFWS has promulgated regulations (50 CFR 29) and developed policy (Compatibility 603 FW2, Appropriate Refuge Uses 603 FW 1) to implement the NWRSAA's mandates on administration of refuge uses,

especially as these relate to compatible use. The compatibility policy states that uses that the USFWS reasonably may anticipate to fragment or reduce the quality or quantity of habitats on a national wildlife refuge will not be compatible (603 FW 2 Section 2.5A). Further, a use cannot be made compatible through compensatory mitigations, and if the proposed use cannot be made compatible with stipulations, the USFWS cannot allow the use (603 FW 2 Section 2.11 C).

The programmatic identification of energy corridors across national wildlife refuge lands through the PEIS in and of itself does not trigger the compatibility determination requirement under the NWRSAA. Specific establishment and construction of energy transmission facilities and infrastructure on a refuge would trigger reviews of appropriateness and compatibility.

As specified in Section 368, these energy corridors would be designated only on federal lands, not Tribal, state, or other nonfederal (e.g., private) lands. Applicants would be required to identify preferred project-specific routes within the designated corridors and plan for gaining authorization to cross nonfederal lands. Project applicants would secure authorizations across nonfederal lands in the same manner that they currently do, independent of the application process for corridors on federal lands.

S.12 WHAT KINDS OF OUTREACH ACTIVITIES DID THE PEIS PROJECT UNDERTAKE?

A Notice of Intent (NOI) to prepare the PEIS, amend relevant agency land use plans, and conduct public scoping meetings, as well as a notice of floodplain and wetlands involvement, was published in Volume 70 of the *Federal Register* (70 FR 187, 56647) on September 28, 2005. The Agencies advertised the opportunity for the public to become involved through a "scoping" process, in which interested parties could comment on the scope and content of the PEIS. The Agencies conducted scoping for the PEIS from September 28 to November 28, 2005.

To encourage public participation, the Agencies provided multiple ways to communicate about issues and submit comments. The NOI identified five methods by which the public could submit comments or suggestions to the Agencies on the preparation of the PEIS:

- Public scoping meetings,
- Traditional mail delivery,
- Facsimile transmission (fax),
- Telephone, and
- Public Web site with automated comment form.

Public scoping meetings were held in each of the 11 potentially affected states. At each meeting location, two meetings were scheduled on the same day: one in the afternoon, and the other in the evening. All comments, regardless of how they were submitted, were considered in the preparation of the draft PEIS. Comments were received from industry, state and local governments, Tribal Nations, environmental organizations, and unaffiliated individuals.

The Agencies also provided the public with maps of the preliminary corridor routes and alternatives in June 2006. The public was asked to comment on the routes and provide the Agencies with suggestions and recommendations on the preliminary routes. The Agencies used the information provided by the public to assist in developing the Proposed Action presented in the draft PEIS.

The Agencies conducted a number of meetings after the scoping period with the 11 western governors and/or their appointed staff. The meetings provided the project team

with the opportunity to brief the governors and their staff members on the status of the PEIS. Discussion centered on the issues brought up during the public scoping period, data that each state could provide related to corridor location constraints and opportunities, and state-specific items related to energy planning environmental concerns and stakeholder involvement.

The Agencies sought government-to-government consultation with Indian Tribes as set out in Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 6, 2000), and within policies of the individual agencies. These ongoing consultations are intended to ensure that the designation of energy corridors considers and accounts for the interests of Indian Tribes throughout the NEPA process. These consultations also will assist the Agencies in compliance with Section 106 of the National Historic Preservation Act (NHPA) during the NEPA process.

Because of the potential scale of consultation activities, a range of information exchange and consultation activities were employed. Tribes were encouraged to participate in scoping and comment avenues open to all citizens, and were encouraged to use familiar and established channels of communication with local Agency personnel to get and give information. In addition, special regional Tribal information meetings were held. The Tribal information meetings were intended to provide the basis for follow-up government-to-government consultation. A government-to-government consultation section was included on the project Web site (http://corridoreis.anl.gov), an interagency Tribal Consultation Working Group was established, and a central point of contact for receiving and tracking Tribal information requests was established.

During the public scoping period, potentially affected Tribes were contacted by mail from either BLM state directors or FS regional foresters. The letters outlined the scoping process and encouraged the Tribes to submit scoping comments at scoping meetings, by mail or electronically through the project Web site. Nine Tribes or Tribal Nations presented issues and concerns to the project team through the public scoping process.

In April 2006, following the scoping period, the DOE sent a letter to Tribes in the 11 western states inviting Tribal representatives to regional information meetings to be held in May throughout the West. Twenty-nine Tribes sent representatives to these meetings where the project was discussed, Tribal concerns were aired, and Tribes were invited to enter into consultation. The Tribes were also invited to comment on the draft corridor map to be released in June 2006. Five Tribes submitted comments on the map. All invited Tribes received a summary report on the meetings and updated statewide corridor maps. Later, letters inviting consultation and summarizing the information presented at the Tribal meetings were sent to 13 additional Tribes with traditional territorial claims in the 11 western states, but with reservations in other states.

Before the release of the draft PEIS, 45 federally recognized Tribes entered into some form of one-on-one dialogue with the Agencies. As early as the scoping process, Tribes began to accept the invitation to enter into government-to-government consultation.

In mid-October 2007, the DOE sent letters to the leaders of all 250 federally recognized Tribes informing them that the draft PEIS was soon to be released and explaining how to obtain copies. Copies of this letter were also sent to all Tribal Historic Preservation Officers. In addition, letters were sent to the presidents of all 107 Navajo chapters and the leaders of the bands that make up the Paiute Indian Tribe of Utah. Beginning on November 7, 2007, copies of the draft PEIS were mailed to all 250 federally recognized Tribes, the Navajo chapters, and the Paiute bands. Copies were provided electronically on CDs unless the Tribe had specifically requested paper copies.

The distribution of the draft stimulated additional interest in the PEIS, and 30 more Tribes made contact with the Agencies and entered into some form of discussion. Tribes were free to enter into consultation with the Agencies at any level, but were not required to do so. Additional outreach was extended to those Tribes whose reservations are adjacent to or closely approached by the proposed corridors. They were contacted by local Agency representatives to ensure that they were aware of the proposed corridors and to invite them once again to participate in government-to-government consultation.

The Agencies were assisted with the preparation of the draft PEIS by two states, three county governments, two conservation districts, and one Tribe, each of which requested cooperating status.[9] The nonfederal entities entered into cooperating status by directly contacting the Agencies and requesting cooperating status. The role of the cooperating agencies was to provide information to the Agencies on environmental, economic, and social issues to be considered during the corridor identification process. The California Energy Commission represented the State of California, and in coordination with the BLM and FS, established an interagency team of federal and state agencies to ensure that the state's energy and infrastructure needs, renewable energy generation policy goals, and environmental concerns were considered in the PEIS. The other cooperating agencies also provided information on Tribal, state, or local issues that could assist the Agencies in siting corridors and developing the PEIS.

The Agencies maintain a public involvement Web site for interested stakeholders at http://corridoreis.anl.gov. The public Web site provided an online public comment form that was used by individuals and organizations to send comments and supporting information during the public comment period for the draft PEIS. Currently, the Web site provides access to all public comments received on the draft PEIS. The site also contains the final PEIS. In addition, the Web site contains other technical documents, maps of the corridor locations, a spatial database of land ownership and land resources that is available for download to local computers, project background information, and overall project status and schedule. Members of the public can request electronic e-mail updates and news, which are then automatically sent to them.

As of October 16, 2008, more than 750,000 Web pages were viewed in 218,145 user sessions by 59,314 visitors. Currently, more than 2,230 individuals and/or organizations are receiving project updates via e-mail. More than 120 scoping documents and more than 560 draft PEIS public comment documents were submitted to the Agencies via the Web site (most public comment documents contained numerous individual comments and supporting information). In addition, more than 58,000 text documents and 41,000 draft corridor maps have been downloaded from the Web site.

A Notice of Availability (NOA) for the public release of the draft PEIS was published in the *Federal Register* on November 16, 2007. In addition, the governors and all federally recognized Tribes in the 11 western states were notified of the upcoming release of the draft PEIS.

The public was invited to comment on the draft PEIS from November 16, 2007, until February 14, 2008. All comments received or postmarked by Thursday, February 14, 2008, were considered as the Agencies produced the final PEIS.

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9 The cooperating entities were the State of Wyoming; the Coeur d'Alene Tribe; Lincoln, Sweetwater, and Uinta counties, Wyoming; and Sweetwater and Uinta conservation districts, Wyoming.

Over 600 printed copies and 1,300 CDs containing electronic versions of the draft PEIS were express-mailed to members of the public and other interested parties upon release of the draft PEIS to the public (Appendix D). A form to request printed or digital versions of the draft PEIS was maintained on the project's public Web site. Copies of the draft PEIS were also placed in all local agency field offices (BLM and FS), 9 DOE reading rooms, and at 15 major libraries in the West. In addition, the project's public Web site allowed persons with an Internet connection to download an electronic version of the draft PEIS to their local computer. Approximately, 14,000 individuals and/or organizations provided comments on the draft PEIS. The total number of substantive comments exceeded 3,500.

In addition to the public comment period, project managers from the Agencies held a number of informational meetings on the draft PEIS with interested members of the public, industry and environmental organizations, and state and local governments.

S.13 WHAT ARE THE ALTERNATIVES EVALUATED IN THIS PEIS?

Two alternatives are analyzed in detail in the PEIS: (1) *No Action*: no Section 368 energy corridors would be designated on federal lands, and (2) *Proposed Action*: designation of Section 368 energy corridors on federal land and amendment of land use or equivalent plans for the affected lands.

S.13.1 No Action Alternative

Under the No Action Alternative, there would be no designation of Section 368 energy corridors on federal lands in the West, and the siting and development of future energy transport projects would continue following existing federal authority and agency-specific permitting practices. In general, all public lands, unless otherwise designated, segregated, or withdrawn, are available for ROW authorization by the appropriate land management agency under the FLPMA. Current federal agency practices for permitting energy transport ROWs and ensuring maximum consistency with existing land use or equivalent plans would be followed for each proposed ROW. Applicants for ROWs would continue to identify and evaluate alternative ROW routes following current federal and state regulations, policies, and permitting processes and requirements. There are currently about 32,000 miles of large (>12-inch diameter) oil and gas pipelines and 49,000 miles of large (230 kV and greater) electricity transmission lines on federal and nonfederal lands in the West which were sited and authorized in this manner. There would be relatively little West-wide coordination for siting and permitting energy transport projects on federal lands in order to meet current and future energy needs in the 11 western states.

Under current permitting processes and procedures, applicants identify their preferred project-specific ROWs crossing federal and nonfederal lands. Affected federal land managers evaluate the ROW proposals and work with the applicants to identify an acceptable ROW route across the affected land management unit either based on consistency with approved land use or equivalent plans or through a potential plan amendment. In addition, there are numerous energy corridors that have previously been designated on federal lands by individual BLM field offices and FS national forests that may be used for future energy transport projects. For large projects affecting more than one federal land management agency, a joint permitting approach is often used, with a lead agency identified to be in charge of the NEPA analysis and documentation. Individual land use decisions, necessary plan amendments, and ROW authorizations are then processed by each agency.

Development of future energy transport projects on federal land would be required to comply with current agency-specific ROW authorizing and permitting processes and requirements regarding environmental review, construction, operation, and decommissioning. Project siting and design must be consistent with the land use or equivalent plans for the lands to be crossed by the project. Future energy transport projects would continue to be evaluated on an individual, project-by-project basis, and applicants would need to identify and evaluate alternative ROW locations as part of the authorization and permitting processes. Amendment of land use or equivalent plans to incorporate project-specific ROWs would similarly be conducted on a project-by-project and agency-by-agency basis, and there would be no assurance of consistency in siting and evaluation of proposed energy transport projects crossing federal lands.

S.13.2 Proposed Action Alternative: Designate Section 368 Energy Corridors and Amend Land Use Plans on Federal Lands

Under the Proposed Action Alternative, there would be 131 Section 368 energy corridors, totaling approximately 6,112 miles in length, designated in the West. Section 368 corridors would occur in all 11 western states and would be designated for pipeline and transmission line (multimodal) use, with a width of 3,500 feet, unless specified otherwise because of environmental or management constraints or local designations.

A corridor width of 3,500 feet was selected by the Agencies for the Section 368 energy corridors (Text Box S-2). This width would provide sufficient room to support multiple energy transport systems. Even with the topographic, environmental, or regulatory constraints encountered during the corridor siting process (see Section 2.2.1), a 3,500-foot width could be placed on many federal lands while avoiding many sensitive resources and areas. A 3,500-foot corridor width would also provide additional project siting flexibility ("wiggle room") within corridors for technical or engineering reasons or for routing project-specific ROWs around important resources that may be identified during project-specific analyses within the corridors.

Text Box S-2
Proposed 3,500-foot Corridor Width

- Provides sufficient width to accommodate the construction and operation of multiple projects and their supporting infrastructure.
- Provides flexibility within a corridor to route project-specific ROWs around important resources that may be encountered during project-specific analyses.

Table S-1 presents the total lengths and acreages of the corridors that would be designated under the Proposed Action in each of the 11 western states. The vast majority of the proposed corridors in each state fall on lands managed by BLM except in Washington where 50 of the 51 miles of proposed corridors would occur on lands managed by the FS; no proposed corridors would fall on lands managed by DOE. The proposed corridors have a total surface area of about 3.3 million acres, and approximately 71% (4,347 miles) of the total miles (6,112 miles) of proposed corridors follow or incorporate existing developed transportation or utility ROWs.

The Proposed Action incorporates energy corridors (or portions of these corridors) that are currently identified in federal land use plans. Some BLM field offices and FS national forests have currently "locally designated" energy corridors. These corridors are designated within their respective land management plans for use by energy transport projects proposed for those specific lands, and some of these local corridors currently have one or more energy transport projects and ROWs within their boundaries. While these local energy corridors are designated for use by energy transport projects,

TABLE S-1 Number, Total Linear Miles, and Acres of Federal Energy Corridors Designated under Section 368 as the Proposed Action

State	Number of Corridors	Miles of Corridors	Corridor Area (acres)	Miles Incorporating Existing Developed Utility ROWs[a]	Miles Incorporating Existing Developed Transportation ROWs[a]	Percentage of Length Incorporating Existing Developed Utility and Transportation ROWs[b]
Arizona	16	650	386,567	505	74	81
California	20	823	672,503	684	304	86
Colorado	19	426	260,954	354	59	86
Idaho	14	314	123,108	173	39	60
Montana	8	236	49,308	51	36	33
Nevada	34	1,622	904,771	973	276	69
New Mexico	4	293	121,064	225	31	79
Oregon	12	565	230,593	240	72	54
Utah	14	692	370,382	371	155	68
Washington	2	51	6,198	51	9	100
Wyoming	18	438	185,592	286	82	72
Total	131[c]	6,112[d]	3,311,041[c]	3,914	1,138	71

[a] Miles of corridors that would be designated under the Proposed Action that follow or incorporate authorized ROWs with existing utility or transportation infrastructure.

[b] Because some proposed corridor locations may incorporate both "developed utility" and "developed transportation" ROWs, the stated percentages cannot be obtained by simply summing the mileages of the existing utility and transportation ROWs, since summing these mileage estimates would overestimate the actual mileages of developed ROWs within the proposed corridors.

[c] The total is then the sum of the state numbers because some corridors cross state boundaries, and these are included in each appropriate state total.

[d] Slight difference between indicated total and the sum of the stated entries is due to rounding.

in many cases these corridors were not situated in locations where future development of energy transport projects would address the reliability, redundancy, or congestion of the western electricity grid, nor to enhance energy transport across and within the western United States.

Not all of the locally designated corridors used in the Proposed Action Alternative have widths of 3,500 feet or are designated for multimodal use, as some of the locally designated corridors are specified for only one type of energy transport (e.g., pipeline only, electricity transmission only). Some locally designated corridors have specified widths greater than, and others less than, the preferred 3,500-foot width. For locally designated corridors with widths greater than 3,500 feet, the locally designated width was directly retained for the Proposed Action. Where possible, the widths of narrow locally designated corridors were expanded up to 3,500 feet (as allowable by environmental or other constraints) and given multimodal use designation.

Designation of the proposed energy corridors would require the amendment of as many as 165 land management or equivalent plans for the federal lands where the corridors are located.

S.13.2.1 How Were the Proposed Section 368 Energy Corridor Locations Sited?

Energy corridors were located to provide for the West-wide transport and distribution of energy (electricity, oil, natural gas, and hydrogen) between supply and demand areas in the 11 western states while avoiding sensitive resources and land use and regulatory constraints to the fullest extent possible. If developed with energy transport projects, the corridors would also aid in alleviating to some extent congestion problems associated with electricity transmission in the West. Energy corridor locations were selected using a systematic four-step siting process (Figure 2.2-3).

These steps are summarized below.

1. First (Step 1), the Agencies developed an "unrestricted" conceptual West-wide network of energy transport paths that addressed the need to connect energy supply areas (regardless of energy type) with demand centers and provide for the long-distance transport of energy, and that also could meet the requirements and objectives of Section 368, regardless of land ownership or environmental or regulatory issues.

2. Next (Step 2), the locations of individual segments of the conceptual network defined in Step 1 were examined and revised to avoid nonfederal lands as well as major known environmental, land use, and regulatory constraints (such as topography, wilderness areas, cultural resources, military test and training areas, and Tribal and state natural and cultural resource areas, etc.). This revision of corridor locations was based on an analysis of GIS-based data from multiple sources (BLM, FS, USFWS, State Historic Preservation Offices, USGS, DOE, and DOD). The revision resulted in a preliminary Section 368 energy corridor network that avoided private, state, and Tribal lands, many important known natural and cultural resources, and many areas incompatible with energy transport corridors because of regulatory or land use constraints while meeting the requirements and objectives of Section 368.

3. Next (Step 3), the locations of the Section 368 corridors developed in Step 2 were further adjusted using corridor-specific input from local federal land managers and staff. These managers and staff evaluated the preliminary corridor locations on their respective administrative units and adjusted the corridor locations to further avoid important or sensitive resources and to ensure consistency with resource management objectives described in each unit's land use plans, while meeting the requirements and objectives of Section 368.

4. Lastly (Step 4), following issuance of the draft PEIS in November 2007 for public review, the corridor locations presented in the draft PEIS were further evaluated and revised, as appropriate, in response to concerns expressed by the public, states and Tribes, local governments, nongovernmental organizations, and other stakeholders during the public comment period for the draft PEIS and during government-to-government consultations. During Step 4, the corridor locations were further refined to incorporate new information from federal land and resource managers to ensure consistency with local federal land management

responsibilities and further avoid sensitive resources to the fullest extent possible.

While this siting process considered all current and expected forms of energy (e.g., electricity, oil, natural gas, hydrogen), energy generation (e.g., coal-fired power plants, hydropower, solar and wind generation), and energy transport system (e.g., pipelines, electricity transmission lines), additional emphasis was given to electricity transmission because of the interconnected nature of the electricity transmission and congestion issues currently facing the West. Throughout the corridor siting process, comments received from the public and other stakeholders on corridor locations were considered with regard to both the need for energy corridors in specific locations and the desire to avoid or minimize impacts to environmental resources.

S.13.2.1.1 Step 1 – Develop an Unrestricted Conceptual West-wide Energy Transport Network

The first step in identifying potential energy corridors was the development of an "unrestricted" conceptual West-wide energy transport network. This network represents an interconnected set of paths along which energy could theoretically move throughout the western states.

Energy demand areas were considered to be the major metropolitan centers in each of the 11 western states, such as San Diego, Los Angeles, San Francisco, Las Vegas, Phoenix, Albuquerque, Denver, Salt Lake City, Seattle, Portland, Boise, Billings, and Cheyenne.

Energy supply areas were considered to include areas with existing high or growing electricity generating capacity, such as areas with numerous small-capacity or several high-capacity electricity generating units, and current natural gas facilities; areas with potential renewable energy (such as wind, geothermal, and solar energy) development; and areas of known coal, oil, and natural gas reserves or production (including energy resources in oil shale and tar sand deposits) that could be developed in the future.

Section 368 directs the Agencies to take into account the need for upgraded and new electricity transmission and distribution facilities to relieve congestion of the national electricity grid. Congestion of the grid can be relieved, in part, by locating electricity transmission projects in locations that would provide additional paths around or through electricity transmission bottlenecks (i.e., congestion points). Development of the unrestricted conceptual West-wide energy transport network took into account the locations of current and future transmission constraints and identified potential paths where new projects could help facilitate current and future electricity transmission.

During public scoping, approximately 210 individuals, Tribes, and organizations provided comments on the scope of the PEIS. Many comments requested that specific existing or planned energy transport project ROWs be designated as Section 368 energy corridors; these suggested corridors range in length from relatively short corridors of less than 100 miles to ones that are hundreds of miles in length and cross one or more states. The majority of the commentors were concerned with electricity transmission; fewer were concerned with natural gas, oil, or hydrogen transport. Several commentors discussed the need for electricity transmission corridors that would support renewable energy projects. The proposed energy corridors, totaling more than 6,112 miles in length, received from the public suggest where energy transport paths may be needed within the 11 western states.

S.13.2.1.2 Step 2 – Identify the Preliminary Energy Corridors on Federal Lands

The unrestricted conceptual West-wide energy transport network developed in Step 1 does not consider physical, environmental, or regulatory constraints, or land ownership. Because Section 368 specifies the designation of energy transport corridors only on federal land, Step 2 focused on identifying potential corridors that would:

1. Be consistent with the unrestricted conceptual West-wide energy transport network, and thus provide paths for connecting current and future energy supply and demand areas that could, if used by future electricity transmission projects, improve reliability, relieve congestion, and enhance the capability of the national grid to deliver electricity; and

2. Meet the Section 368 requirement of designating corridors only on federal land.

The identification of preliminary energy corridors also took into account several "location" factors that affected where a corridor may or may not be located on federal land. These factors included (1) locations of important natural and cultural resources, (2) locations of military training and testing areas, (3) DOD restricted airspace, (4) regulatory stipulations preventing siting of certain activities or infrastructure on specific lands, and (5) environmental concerns identified during scoping. Corridors were located to avoid these areas, resources, and lands to the maximum extent possible, although not all important or sensitive resources could be avoided.

Preliminary energy corridors were identified by examining each of the unrestricted conceptual West-wide energy transport network corridors and adjusting corridor locations to avoid conflicts with applicable location factors (Table 2.2-7) to the maximum extent possible. For example, the number of national parks, monuments, and recreation areas crossed by the unrestricted conceptual network decreased from 29 to 15 following Step 2; the number of national wildlife refuges crossed decreased from 15 to 12; and the number of wilderness areas crossed decreased from 58 to 27. In addition, existing ROWs (including those for energy transport and roads and highways) in the vicinity of the conceptual energy transport network were identified and examined for possible use in locating Section 368 corridors. Consideration of existing ROWs can expedite the siting and designation of Section 368 energy corridors because for many of these ROWs, project-specific impact analyses and amendments to land use plans have already been completed. The unrestricted conceptual energy transport network corridors were moved, where possible, to take advantage of existing ROWs, following existing infrastructure in order to avoid placing corridors in "greenfield" (undeveloped) locations. Additional adjustments in corridor locations to further avoid sensitive resources and areas were made during Steps 3 and 4 of the corridor siting process.

S.13.2.1.3 Step 3 – Refine the Section 368 Energy Corridor Locations

Following identification of preliminary energy corridors on federal lands, agency personnel involved with the management of federal lands that would be crossed by the preliminary corridors were asked to examine the corridor locations and identify any additional location adjustments that would further avoid important resources or areas, and to confirm that the corridor locations would be consistent with the specific management needs of each land management unit (such as a BLM field office or a FS national forest).

Corridor data in a GIS database was provided to approximately 55 FS national forest offices, 74 BLM district and field offices, and

17 DOD facilities that could be crossed by the preliminary corridors. In addition, this information was also provided to the national office of the USFWS for its use in examining preliminary corridors that may be crossing national wildlife refuges or other USFWS-managed areas. The managers and staff of these federal lands were asked to use this information, together with their unique, site-specific knowledge of sensitive resources, management activities, and compatible land uses, to provide (together with detailed supporting rationale) corridor location adjustments to further minimize potential conflicts with management responsibilities, important resources, and other location factors while providing consistency with current land use plans.

S.13.2.1.4 Step 4 – Refinement of the Draft PEIS Section 368 Energy Corridors

The draft PEIS was issued for public comment on November 16, 2007. During the 90-day comment period, the Agencies received comments from state and local governments and agencies, nongovernmental organizations (such as environmental groups), the general public, and other stakeholders. The Agencies have also been conducting government-to-government consultations with Tribal governments and have received comments on corridor locations from a number of Tribes.

The Agencies examined each of the draft PEIS corridor locations for which comments were received and, working closely with federal land and resource managers, state and local governments and agencies, Tribes, and other potentially affected stakeholders, examined adjustments to individual corridor segments with reference to the criteria established in this PEIS for siting corridor locations. When adjustments met the established criteria and improved the location of the corridors, adjustments were accepted. In many cases, the Agencies were able to adjust corridor locations to avoid conflicts with important resources that were not known at the time of the draft (such as important grizzly bear and pygmy rabbit habitat in southern Montana and northern Idaho), and to avoid areas of concern raised by Tribes, the public, and other stakeholders regarding the corridor locations.

S.14 HOW MUCH DID THE CORRIDORS CHANGE BETWEEN THE PRELIMINARY CORRIDOR NETWORK AND THE FINAL CORRIDOR LOCATIONS?

The 4-step corridor siting process resulted in a set of Section 368 energy corridors on federal lands in the 11 western states. Following development of the conceptual network in Step 1 of the siting process, the Agencies made numerous adjustments and refinements to the corridor locations in order to avoid or minimize conflicts with important or sensitive resources and lands and conflicts with federal land and resource management responsibilities and current land use (or equivalent) plans, while meeting the purpose and need for the Proposed Action. In many areas, there was relatively little adjustment to the corridor locations between Steps 2 and 4 of the siting process. In other areas, major changes were required in corridor location. In these areas, corridor locations, characteristics, and compatible uses were revised to address concerns related to wildlife habitat, wildfire concerns, local government concerns, and avoidance of sensitive areas (such as national wildlife refuges). As a result of the Step 3 and 4 corridor evaluations and adjustments, the number of national wildlife refuge crossings dropped from 12 crossings in Step 2 to 2 crossings after Step 4; wilderness area crossings decreased from 27 to 0, and roadless areas from 17 to 5.

As a result of the Step 4 revisions to the corridors, the total corridor length increased from the draft to the final PEIS by less than 60 miles, while total corridor area increased by about 12% (from about 2.9 million acres in the

draft PEIS to about 3.3 million acres in the final PEIS). The increase in total corridor length is due largely to changes in the alignment or location of some corridor segments. About 35% of the total corridor areas changed (either increased or decreased depending on the specific corridor location) between the draft and the final PEIS. At some locations, the corridor widths identified in the draft PEIS were reduced to address resource concerns identified by local Agency resource staff as well as those raised by the public. The overall 12% increase in corridor area is due largely to an increase in the width of some corridor segments, which were made to directly adopt the widths of locally designated corridors. About 89% of the corridors remained unchanged in the final PEIS from the draft PEIS.

S.15 WHAT LAND USE PLAN AMENDMENTS AND INTERAGENCY PERMITTING COORDINATION WOULD BE REQUIRED UNDER THE PROPOSED ACTION?

Designation of Section 368 energy corridors under the Proposed Action would require the amendment of agency-specific land use or equivalent plans to incorporate the designated corridors. Affected plans would be those for federal administrative units crossed by the Section 368 energy corridors. Plan amendments may also be required for administrative units crossed by future energy transport projects developed under the No Action Alternative. Analyses conducted in this PEIS would support the amendment of approved land use plans for federal lands where Section 368 energy corridors would be designated.

The plan amendments for the Proposed Action would include (1) the identification of specific Section 368 energy corridors by centerline, width, and compatible energy uses and restrictions (such as pipeline only or electricity transmission with a restricted tower height); and (2) the adoption of mandatory interagency operating procedures that would be implemented on a corridor- and project-specific basis. Only those plans where Section 368 energy corridors would be located would be amended. Corridor-related amendments would be applied to approved existing land use plans when each agency-specific ROD for this PEIS is signed. Plans that are currently undergoing revision for other reasons (not related to Section 368), but not scheduled for completion until after the ROD is signed, would have the corridor designations incorporated into their ongoing plan revisions. Plans that are currently being revised for other reasons and would be completed before the ROD is signed would need to undergo further amendment when the ROD is signed.

Section 368 calls for the Secretaries to ensure that additional corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land are promptly identified and designated, as necessary. Thus, additional Section 368 energy corridors may be designated, together with additional plan amendments, to address future energy transport and distribution needs (see Section 1.4). Neither No Action nor the Proposed Action would preclude the Agencies from designating Section 368 energy corridors in the future. The Agencies anticipate that the analyses contained in this PEIS would be reviewed and, as appropriate, incorporated into those amendments and revisions.

S.16 HOW WOULD THE AGENCIES EVALUATE AND OVERSEE THE USE AND OCCUPANCY OF ENERGY CORRIDORS?

The Agencies would adopt appropriate IOPs when evaluating a ROW application within a Section 368 energy corridor. The IOPs would assist the Agencies, project applicants, and others in evaluating applications for using the corridors by providing uniform processing and performance criteria for energy transport ROWs in the corridors. Consideration of information

generated by implementation of the IOPs would help ensure that energy transport projects within the Section 368 energy corridors are planned, implemented, operated, and eventually removed in a manner that protects environmental resources. In addition, the adoption of applicable IOPs and regulatory requirements, such as the ESA and NHPA, are mandatory and would be required for all proposed projects at all corridor locations. Other IOPs, such as those dealing with stream crossings, would only apply for projects in certain locations, as appropriate.

The IOPs will be implemented during the application and permitting process (see Section 1.4) as well as during project construction and operation. Where appropriate, specific IOPs, as well as other Agency-specific management controls and performance standards will accompany a ROW authorization. These will be identified on the basis of the project-specific application and supporting site-specific environmental evaluations. The specific requirements described by the IOPs and adopted in each agency's ROW authorization must be consistent for the entire ROW of the project within a Section 368 corridor.

S.17 WERE OTHER ALTERNATIVES CONSIDERED FOR DETAILED STUDY?

The NOI for this PEIS identified four alternatives: (1) No Action Alternative, (2) Increased Utilization Alternative, (3) New Corridor Alternative, and (4) Optimization Criteria Alternative. Among these, the Increased Utilization and the New Corridor Alternatives were eliminated from further study. The Optimization Criteria Alternative is included in the Proposed Action Alternative.

A number of alternatives for energy corridor designation were suggested during scoping. These alternatives are:

- Designating all existing energy corridors and ROWs in the 11 western states as federal energy corridors;
- Upgrading existing energy transport facilities within existing energy corridors and ROWs for greater transport capacity or efficiency, before new federal energy corridors are designated;
- Locating designated energy corridors only in areas adjacent to federal highways and major state and municipal roads;
- Designating energy corridors on national park lands and DOD facilities;
- Designating as energy corridors existing, under way, or planned energy transport project ROWs (as identified by energy providers), including individual inter- and intrastate corridors connecting very specific supply and demand area locations throughout the West; and
- Energy conservation and efficiency alternatives that called for increasing energy efficiency or conservation by energy users instead of designating corridors.

These alternatives were considered but eliminated from further study on the basis of their inability to meet the purpose and need of Section 368, support designation of federal energy corridors, or address the energy transmission congestion issues of the electricity transmission grid in the West.

In addition to these alternatives, a number of preliminary corridors identified during Step 2 of the corridor siting process and representing alternative corridor networks were also considered but eliminated from further study.

S.18 HOW DO THE ALTERNATIVES COMPARE?

The Proposed Action and No Action Alternatives were evaluated in this PEIS for environmental impacts associated with the designation of energy corridors on federal lands and the amendment of land use plans to incorporate the corridor designations. Because the Proposed Action is the designation of corridors and not the authorization, construction, and operation of energy transport projects, a programmatic evaluation is provided of the types of impacts that could result from development of energy transport projects regardless of project location. Specific impact analyses, including the identification of social, cultural, economic, and natural resources, can only be conducted at the project level. For example, in the same location, the effects of a pipeline within a corridor would be different from impacts of a transmission line, while the siting of a project on one side of a corridor would be different in its impacts from that of the same type of project sited a half-mile away but still within the corridor. Thus, project-specific analysis would be done in the future if an application to use a designated corridor were received by the Agencies. The scope and approach for the project-specific analysis would be determined on a project-by-project basis. The programmatic analysis of project-specific impacts applies to energy transport development under both alternatives.

No direct environmental impacts are expected to occur as a result of implementing either the No Action or Proposed Action Alternatives, with the possible exception of effects to property values on nonfederal lands adjacent to or between designated corridor segments. Nor are the types of impacts from project development likely to differ between the two alternatives. Corridor designation would likely reduce the proliferation of ROWs across the landscape, and concentrate development to some extent within the corridors. Project applicants using Section 368 corridors would benefit from the expedited application and permitting process associated with the use of a Section 368 corridor (see Section 1.4), and projects would be subject to the IOPs, which provide both streamlined administrative procedures and best practices for environmental compliance and protection.

Section 368 of EPAct does not authorize any individual projects, nor does it authorize the Agencies to override state decisions on projects located on Tribal, state, or private lands. Currently, the standard process for securing a ROW can include eminent domain actions, when a Public Certificate of Need is granted under a state-authorized process to a company. Authorization of projects to cross nonfederal lands is at the discretion of the appropriate Tribal, state, and local authorities, and the designation of Section 368 energy corridors makes no changes to existing procedures on nonfederal lands.

S.18.1 How Do the Physical Characteristics of the Corridors Compare between the Alternatives?

Under the No Action Alternative, there would be no Section 368 federal energy corridors designated on federal lands. Existing locally designated corridors would remain, and new corridors may continue to be locally designated. Under the Proposed Action, approximately 6,112 miles of such corridors would be designated on federal lands. Approximately 71% of the proposed corridors follow or include existing utility and/or transportation infrastructure while approximately 43% of the proposed corridors incorporate existing locally designated energy corridors. There are 131 corridor segments that comprise the Proposed Action corridors. These segments have an average length of 37.3 miles.

S.18.2 Do the Alternatives Meet the Goals and Objectives of Section 368?

Section 368 calls for the designation on federal lands of corridors for energy transport facilities and directs the Secretaries to develop procedures to expedite applications to construct pipelines and electricity transmission and distribution facilities within the corridors. In carrying out Section 368, the Secretaries are directed to also consider improving the reliability, reducing congestion, and enhancing the capability of the national electricity grid to deliver electricity.

Under the No Action Alternative, no Section 368 energy corridors would be designated on federal land; thus the goals and objectives of Section 368 would not be met. In contrast, approximately 6,112 miles of Section 368 energy corridors would be designated on federal lands under the Proposed Action. The corridors that could be designated under the Proposed Action would provide routes across federal lands for energy transport projects to connect current and future energy production areas, including areas of solar, wind, and geothermal generation, to current and future energy demand centers. Thus, the Proposed Action would meet the requirements of Section 368 of designating energy transport corridors on federal lands in the West.

While project applicants would not be required to locate projects within the Section 368 energy corridors, applicants using the corridors could take advantage of an expedited application and permitting process. These benefits could expedite the application, authorization and permitting, and construction of energy transport and distribution projects, as directed by Section 368.

S.18.3 How Could the Alternatives Affect the Locations of Future Energy Transport Projects in the 11 Western States?

Neither of the alternatives evaluated in this PEIS includes authorization of energy transport projects. The corridors designated under the Proposed Action would be sited on federal land in areas that have been determined to be suitable for supporting future energy transport projects. Under the No Action Alternative, there would be no such Section 368 corridors. While the number and types of projects that may be expected to be developed in the foreseeable future are unknown, the corridor suggestions received from the public identify a potential for many energy transport routes throughout the West.

Assuming these proposed corridors represent possible future energy transport ROWs, under the No Action Alternative, individual projects could be widely distributed across federal and nonfederal lands and thus result in a proliferation of energy transport ROWs. Under the Proposed Action, however, portions of the ROWs for these same projects could be colocated within the designated corridors, and would not be spread out over the federal landscape.

Designation of the Section 368 energy corridors is not guaranteed to help limit the proliferation of energy transport ROWs on federal lands, since Section 368 does not require mandatory use of the corridors by project proponents. While project developers will be encouraged to locate project ROWs within designated corridors, applicants will not be precluded from applying for ROWs outside of designated corridors, as they are currently able

to do in areas with existing locally designated corridors. While corridor designation may influence the location of some future energy transport projects, corridor designation does not drive the development of such projects. Project development is driven by energy demand. If the demand for energy is high and local energy generation cannot meet that demand, then the need for long-distance energy transport systems to link energy production areas with the high demand areas may be expected to be high and drive development of energy transport projects. Conversely, if the demand for energy is low, or local energy generation is sufficient to meet the energy demand, then the need for long-distance energy transport projects may be low, and the corridors will be less likely to be used.

S.18.4 What Types of Impacts Might Be Expected with the Development of Energy Transport Projects under the Alternatives?

The construction and operation of energy transport projects to meet future energy demand under both alternatives would result in environmental impacts on federal and nonfederal lands. The types of potential impacts would vary by project phase (i.e., construction, operation). The specific nature, magnitude, and extent of possible project-specific impacts would be determined by the project type (transmission line, pipeline) and its length and location on federal and nonfederal lands. Potential direct impacts typical of project construction and operation include the use of geologic and water resources; soil disturbance and erosion; degradation of water resources; localized generation of fugitive dust and air emissions from construction and operational equipment; noise generation; disturbance or loss of paleontological and cultural resources and traditional cultural properties; degradation or loss of fish and wildlife habitat; disturbance of resident and migratory fish and wildlife species, including protected species; degradation or loss of plant communities; increased opportunity for invasive vegetation establishment; alteration of visual resources; land use changes; accidental release of hazardous substances; and increased human health and safety hazards. Project development under either of the alternatives could also affect populations in the vicinity of the projects on both federal and nonfederal land as well as local and regional economies.

For multiple projects, environmental impacts from project construction and operation would likely be dispersed over a larger area under No Action than under the Proposed Action. Under No Action, multiple project ROWs could share locally designated corridors but outside of these areas the ROWs could be more widely dispersed on other federal and nonfederal lands. Similarly, project impacts would also be more widely dispersed. Under the Proposed Action, the ROWs could share about 6,112 miles of designated corridor where project impacts would be localized.

S.19 PUBLIC COMMENT ON THE DRAFT PEIS AND CHANGES MADE TO THE DRAFT PEIS

S.19.1 Public Comments

A Notice of Availability (NOA) of the draft Programmatic Environmental Impact Statement (PEIS) was published in Volume 72 of the *Federal Register* (FR) on November 16, 2007 (72 FR 221). This began a 90-day public comment period, which lasted from November 16, 2007, to February 14, 2008. Approximately 14,000 individuals and organizations commented on the draft PEIS. While comments were received from individuals and organizations from all 50 states, comments were primarily received from the utility and energy sector, environmental and nongovernmental organizations, and individuals in the 11 western states. In addition, several organizations submitted comments in the form of standardized letters from their constituents. For example, in addition to comments received directly from its staff, the Wilderness Society

also provided more than 13,000 form letters (or versions of the form letter) from Society members located not only in the United States, but from throughout the world. Other groups whose members submitted largely standardized comment letters include the Wild Horse Observers Association, in Placitas, New Mexico (388 letters), and the town of Anaconda, Montana (216 letters). Including these letters, a total of 14,361 comment documents[12] were received on the draft PEIS.

Commentors on the draft PEIS identified 37 major topics of concern. These topics covered a wide range of issues, including but not limited to corridor locations, the purpose and need for corridor designation, the number and types of alternatives that were presented and evaluated, compliance and adequacy pertaining to the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA), authorization and management of projects within designated corridors, resource concerns, and public outreach and consultation.

Many commentors expressed concerns about the proposed locations of specific corridor segments, requested changes in specific corridor locations, and in some cases suggested or requested completely different corridor locations. The Agencies considered all requests for changes in the proposed corridor locations, and reexamined corridor segments for which concerns were raised but for which no locations changes were proposed. Applying the siting criteria used in the corridor siting process (described in Section 2.2 of the PEIS), the Agencies worked with local federal land managers and resource staff, as well as state, local, and Tribal representatives, to make changes (where appropriate) in corridor locations to address commentor concerns. In some cases, small isolated corridor segments (such as one located in the vicinity of Placitas, NM) were eliminated because they were determined to not be crucial to the full corridor segment for providing a route for the development of future long-distance energy transport projects. In other cases, corridor locations were moved to avoid sensitive resources or areas (such as pygmy rabbit habitat in Montana and lands with wilderness characteristics in Utah) that were not known at the time of the draft PEIS. Similar adjustments were made to some corridor segments to further reduce or eliminate crossings of sensitive lands or resources such as roadless areas and historic trails.

In some cases, no changes were made as requested because the corridor segments of concern did not cross sensitive lands as suggested by the commentors. In other cases, the proposed corridor locations (such as the proposed energy corridor west of Arches National Park) follow existing utility and/or transportation infrastructure, while the suggested alternative segment locations would cross numerous sensitive lands or resources where future project development could result in greater environmental impacts than would development in the corridor location proposed in the PEIS.

A number of commentors felt that there is insufficient justification for designating corridors. Chapter 1 of the draft PEIS was revised to more clearly explain the purpose and need for corridor designation, and specify the direction given to the Agencies by Congress through Section 368 of the Energy Policy Act of 2005 (EPAct) for designation energy corridors on federal lands in the West.

Numerous commentors requested the Agencies to consider alternatives that included renewable energy production, increased conservation, and/or increased energy efficiency. Others questioned that the Agencies only presented and evaluated two alternatives,

[12] A "comment document" refers to the entire submittal provided by a commentor, whether in writing or verbally during one of the public meetings that were held on the draft PEIS. In some cases, the submitted comment document contained only a single substantive comment. In most cases, the comment document contained two or more substantive comments.

the Proposed Action and No Action. Chapter 2 of the draft PEIS identified and discussed alternatives that had been suggested during scoping that included renewable energy generation, increased energy conservation by users, and increased efficiency in energy transport by the utilities, and presented the rationale for not including these alternatives. Chapter 2 has been revised for the final PEIS (see Section 2.5) to more clearly discuss why these other alternatives were not further evaluated in the PEIS.

Some commentors expressed concerns regarding the Agencies' position with regard to the ESA and the potential for corridor designation to impact federally listed threatened and endangered species and critical habitats. Section 1.5 of the draft PEIS has been revised to more clearly present the basis for the Agencies' "no effects" determination under Section 7 of the ESA. In addition, Section 3.8 of the draft PEIS has been updated to identify all listed species, species proposed for listing, and candidate species for listing that occur in counties that could be crossed by proposed Section 368 energy corridors (Table 3.8-5). A new appendix (Appendix R) has been added that discusses the potential impacts to these species and critical habitats from future project development in Section 368 energy corridors has been added to Volume II of the final PEIS.

S.19.2 Summary of the Changes Made to the Draft PEIS

Following the closing of the public comment period on the draft PEIS, the Agencies added a Step 4 to the corridor siting process. In this step, comments received on the draft PEIS were examined for possible changes to corridor locations (see Section 2.2.1.4 of the Volume I of the final PEIS). The Agencies reviewed and considered all of the comments received on the draft and made revisions to the PEIS, and adjustments to the corridors as appropriate and applicable (i.e., the adjustment would not conflict with other land management responsibilities or cross sensitive lands or resources). Factual errors identified in the comments were corrected, and text was clarified or expanded to provide additional information on the purpose and need for corridor designation, potential impacts to resources, locations of sensitive resources or areas, or other concerns. Changes that were made between the draft and final PEIS are indicated as shaded text throughout the final PEIS. In response to comments received during the public comment period, 37 of the Section 368 energy corridors proposed in the draft PEIS were revised. An additional 42 proposed corridors were also revised in response to additional site-specific information provided by local federal land managers and staff. This latter information was used by the Agencies to adjust some of the proposed draft corridors to further reduce crossings of sensitive areas such as roadless areas and sensitive wildlife. As an example of new information provided by local federal staff that drove a further refinement to a corridor, the Agencies learned of sensitive wildlife (grizzly bear, pygmy rabbit, and sage grouse) in southern Montana and northern Idaho. The Agencies did not know about this habitat when they published the draft PEIS. They have subsequently deleted this corridor (Corridor 50-260) to avoid these species and their habitats. The corridor revisions included changes in corridor location, corridor length or width, and compatible energy transport use. For example, some corridor locations were adjusted to address concerns about corridors being located near sensitive environmental resources (such as wildlife habitat in Montana) or nonfederal lands (such as pueblos and other communities in New Mexico). Changes in location and/or characteristics (such as in corridor length or width) to specific corridor segments that were made during Step 4 of the corridor siting process are identified in Appendix K, Table K-1, in Volume II of the final PEIS. The Map Atlas has also been revised to now include maps (in Map Atlas, Part 6, of Volume III) that show the corridor segments that have been revised between the draft and final PEIS.

Public comments on the draft PEIS (from 12 commentors) also requested changes in an additional 15 proposed Section 368 energy corridors, but no changes in corridor location were made in response to these requests (see Table K-2 in Appendix K, Volume II of the final PEIS). In one case, the corridor did not intersect any protected areas, as stated by the commentor. For nine of the corridors, the concern was proximity to national historic trails and potential impacts to cultural and visual resources. These corridors, however, would not intersect the trails, and specific mitigation for cultural and visual resources would be addressed during the project authorization process and project-specific environmental analyses. Two other requests for corridor relocation were based on assumed connections across nonfederal lands over which the Agencies have no authority. One comment requested removal of a corridor because of duplicity with a nearby existing corridor. The existing corridor is for electric transmission-only use, while the proposed Section 368 energy corridor would provide for multimodal energy transport, including pipelines. Finally, a number of commentors requested that corridor 223-224 be deleted because it intersects the Desert National Wildlife Range (NWR) in Nevada. This proposed corridor was retained because of there being no other viable option for relocating the corridor; it is not expected to be designated within the NWR without USFWS review and approval.

TABLE S-2 Summary of Potential Environmental Impacts of Designating Section 368 Energy Corridors on Federal Lands and Amending Federal Land Use Plans, and Generic Environmental Impacts of Constructing and Operating Future Energy Transport Projects under the Two Alternatives

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Land use	There would be no direct land use impacts on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to land use from the construction and operation of future energy transport projects in the absence of designated corridors. Land use could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. ROW clearing would result in permanent loss of timber production within and adjacent to the ROW in areas designated for that use. Recreation, livestock grazing, oil and gas leasing, and wildlife habitat conservation could experience short-term disturbance during construction activities. Some land areas would be converted to temporary or permanent access roads (throughout the operating life of the energy project). Project development and operation could limit oil and gas production and mineral extraction directly within the ROW. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	The designation of Section 368 energy corridors would not interfere with current land uses on federal and nonfederal lands. Such land uses (e.g., recreational use of the land for campsites) would continue within and along the designated Section 368 energy corridors until a specific energy transport project is developed. There may be land use impacts from future project construction and operation within the proposed Section 368 energy corridors. Those impacts, which would be similar to the ones identified for the No Action Alternative, could impact land use within and adjacent to the designated corridors, as well as along other federal and nonfederal lands that project ROWs may cross. In terms of scale of impacts, where there are multiple projects in the same Section 368 energy corridor, the projects may affect a smaller geographic area than the same projects would if developed in separate locations under the No Action Alternative. In most cases, even future development within the designated Section 368 energy corridors would be compatible with current use of the land. However, there may be instances where future development does restrict land use (e.g., by precluding mining or military operations).

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Geologic resources	There would be no direct impacts to geologic resources on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to geologic resources from the construction and operation of future energy transport projects in the absence of designated corridors. Geologic resources could be affected on federal land wherever energy transport projects are developed, operated, and decommissioned. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Construction impacts may include disturbance of surface soils and soil erosion from grading, foundation construction, and trenching activities, and removal of geologic materials (gravel, stone) from borrow areas. Soils could be affected by accidental spills of hazardous materials during project operations. The impacts in the decommissioning phase include disturbance of surface soils and soil erosion from equipment vehicle traffic and grading and disposal of geologic material. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to geologic resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts from future projects would be similar to those identified for No Action. About 71% of the designated corridors would occur along existing utility and transportation ROWs where geologic resources have been previously disturbed. For multiple projects, potential impacts would occur at fewer locations and within a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact geologic resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Paleontologic resources	There would be no direct impacts to paleontologic resources on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to paleontological resources from the construction and operation of future energy transport projects in the absence of designated corridors. Paleontological resources could be affected on federal and nonfederal lands wherever energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Ground-disturbing construction activities may damage or destroy fossils and their scientific context within project-specific ROWs. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects. Increased accessibility to an area may also expose fossils to vandalism or theft, the magnitude and extent of which would depend on the type, location, and design of the individual projects.	There would be no direct impacts to paleontologic resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts of future projects would be similar to those identified for No Action. About 63 geologic units with high fossil yield potential occur within 2,000 feet of the proposed corridor centerlines. Ground-disturbing construction activities could damage or destroy fossils and their scientific context within the designated corridors as well as on other federal and nonfederal lands. About 71% of the designed corridors include existing utility and transportation ROWs where paleontological resources, if present, may have been previously disturbed. Increased accessibility to an area may also expose fossils to vandalism or theft, the magnitude and extent of which would depend on the type, location, and design of the individual projects. For multiple projects, potential project impacts may occur at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact paleontological resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Water resources	There would be no direct impacts to water resources or 100-year floodplains on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to water resources from the construction and operation of future energy transport projects in the absence of designated corridors. Water resources and floodplains could be affected on federal and nonfederal lands where energy transport projects are developed, operated, and decommissioned. Project impacts would be similar to those from current energy transport project development, operation, and decommissioning on federal and nonfederal lands. Groundwater could be impacted if project development affects aquifer recharge or water quality is affected by an accidental release of a hazardous substance. Surface water could be impacted by soil erosion and runoff from disturbed areas, alteration of stream flow and morphology at ROW crossings, and by an accidental release of hazardous materials. Floodplain capacity could be affected by placement of structures or excavated materials. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to water resources or 100-year floodplains on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts of future projects would be similar to those identified for No Action. Projects developed within designated corridors would intersect about 273 named perennial and intermittent streams and man-made channels (totaling 412 miles), 30 lakes and reservoirs, and 3 wild and scenic rivers, additional surface waters could be crossed on other federal and nonfederal lands crossed by the projects. Aquifers on federal and nonfederal lands crossed by projects could be affected by project construction and operation. About 34 miles of floodplains could be crossed by projects within designated corridors. Additional floodplain areas could be crossed on other federal and nonfederal lands. About 71% of the designated corridors include existing utility and transportation ROWs where water resources and floodplains may have been previously disturbed. For multiple projects, water resources and floodplains would be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact water resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Air quality	There would be no direct impacts to air quality on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans.	There would be no direct impacts to air resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans.
	The following are the potential types of impacts to air quality from the construction and operation of future energy transport projects in the absence of designated corridors. Air quality could be affected on federal and nonfederal land where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Air quality impacts would be associated with fugitive dust, construction equipment emissions, and operation of compressor stations. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	Potential types of impacts of future projects to air quality would be similar to those identified for No Action. Energy transport project development and operation could affect air quality along the designated corridors. Similar impacts could also occur along project ROWs on other federal and nonfederal lands that could be crossed by individual projects. About 71% of the designated corridors would occur along existing utility and transportation ROWs where air resources may have been (and may continue to be) affected. For multiple projects, air quality could be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact air quality.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Noise	There would be no direct noise impacts on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to ambient noise levels from the construction and operation of future energy transport projects in the absence of designated corridors. Ambient noise levels could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Noise impacts would be associated with construction equipment, blasting, compressor/pump station operations, corona discharge, and transformer and switchgear operations. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct noise impacts on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts of future projects to ambient noise levels would be similar to those identified for No Action. Project development could affect noise levels along the proposed corridors. Similar impacts could also occur along project ROWs on other federal and nonfederal lands. About 71% of the designated corridors would occur along existing utility and transportation ROWs where ambient noise levels may have been (and may continue to be) affected. For multiple projects, ambient noise levels would be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact noise levels.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Ecological resources	There would be no direct impacts to ecological resources on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to ecological resources from the construction and operation of future energy transport projects in the absence of designated corridors. Ecological resources could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those currently experienced from energy transport project development and operation on federal and nonfederal lands. Impacts from project development may include habitat fragmentation, wildlife disturbance, habitat loss and modification, exposure to accidental releases of hazardous materials, and the loss or injury of biota within physically disturbed portions of the project ROWs. Construction and operation activities, together with physically disturbed habitats at the ROWs, could lead to the spread or establishment of invasive species. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to ecological resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts of future projects to ecological resources would be similar to those identified for No Action. Projects utilizing the designated corridors could cross or intersect about 412 miles of perennial and intermittent stream habitat and about 1,825 acres of lake or reservoir habitat as well as associated wetland areas; additional aquatic habitats could be affected along the project ROWs on other federal and nonfederal lands adjacent to the designated corridor. Projects developed and operated within the corridors could affect wildlife habitat on and adjacent to land present within the corridors, although about 71% of the proposed corridors would occur along existing transportation and utility ROWs where biota and their habitats have been previously disturbed. For multiple projects, ecological resources could be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact ecological resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Visual resources	There would be no direct impacts to visual resources on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to visual resources from the construction and operation of future energy transport projects in the absence of designated corridors. Visual resources could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Visual resources could be affected by ROW clearing, project construction, and operation. Potential impacts would be associated with access roads, construction equipment and activity, cleared project ROWs, and the type and visibility of individual project structures such as compressor stations and electricity transmission line towers. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to visual resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts of future projects to visual resources would be similar to those identified for No Action. Visually sensitive areas crossed by or occurring within 5 miles of the proposed corridor centerlines and that could be affected by project development and operation include 25 national parks, national monuments, and recreation areas; 9 wild and scenic rivers; 11 national scenic or historic trails; 10 national historic landmarks and national natural landmarks; 19 national wildlife refuges; and 20 national scenic highways. Additional visually sensitive resources may be expected to occur on other federal and nonfederal lands that could be crossed by project ROWs. About 71% of the proposed corridors would occur along existing transportation or utility ROWs, and visual resources in these areas may currently be impacted to some extent. For multiple projects, visual resources could be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact visual resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Cultural resources	There would be no direct impacts to cultural resources on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to cultural resources from the construction and operation of future energy transport projects in the absence of designated corridors. Cultural resources could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Cultural resources could be impacted during project construction, and there could be an increased potential for vandalism or looting due to increased accessibility of sites from project ROWs in previously inaccessible locations. Development of energy transport projects would be subject to the Section 106 review process of the NHPA which requires consultations with appropriate SHPOs and Tribes. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to cultural resources on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts from future project construction and operation to cultural resources would be similar to those identified for No Action. Cultural resources may be expected to occur in most project ROWs within the designated corridors, as well as on other federal and nonfederal lands that would be crossed by the project ROWs. About 71% of the proposed corridors would occur along existing transportation or utility ROWs, and the cultural resources near these areas may have previously been disturbed. Development of energy transport projects within Proposed Action corridors would be subject to the Section 106 review process of the NHPA which requires consultations with appropriate SHPOs and Tribes. For multiple projects, cultural resources could be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact cultural resources.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Resources important to Tribes	There would be no direct impacts to resources on federal and nonfederal lands of important to Tribes from not designating Section 368 energy corridors on federal land or amending land use plans. The following are the potential types of impacts to resources of interest to Tribes from the construction and operation of future energy transport projects in the absence of designated corridors. Resources could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Tribal resources could be impacted during project construction, and there could be an increased potential for looting due to increased accessibility of sites from project ROWs through previously inaccessible locations. Development of energy transport projects would include consultations with the affected Tribal entities as mandated by law. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts to resources on federal and nonfederal lands important to Tribes from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts from future project construction and operation to resources of interest to Tribes would be similar to those identified for No Action. Tribal resources may be expected to occur in most project ROWs within the designated corridors, as well as on other federal and nonfederal lands that would be crossed by the project ROWs. About 71% of the proposed corridors would occur along existing transportation or utility ROWs, and Tribal resources near these areas may have previously been disturbed. Development of energy transport projects would include consultations with the appropriate Tribal entities as mandated by law. For multiple projects, Tribal resources could be affected at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact resources important to Tribes.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Socioeconomic resources	There would be no direct social or economic impacts on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to socioeconomic resources from the construction and operation of future energy transport projects in the absence of designated corridors. Socioeconomic resources could be affected on federal and nonfederal lands where energy transport projects are developed and operated as well as in conjunction with project development and operation. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Development of energy transport projects could result in positive impacts to local and state tax revenues, state employment rates, personal income, and the rental housing market. Land use royalties and property values may be adversely affected within and near project ROWs. Project development could also reduce land prices in areas near the project ROWs. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	Designating Section 368 energy corridors on federal land and amending land use plans may influence real estate values on nonfederal lands that are adjacent to the proposed Section 368 energy corridors. However, any changes would be purely economic and, under CEQ regulations at 40 CFR 1508.14, would not by themselves require preparation of an EIS. Potential types of impacts from future projects would be similar to those identified for No Action. These impacts could occur not only for areas associated with the Proposed Action corridors, but also at other federal and nonfederal lands that the project ROWs might also cross. About 71% of the designated corridors include existing utility and transportation ROWs where socioeconomic resources may have been previously affected. Corridor designation and development of energy transport projects could have a direct impact on real estate values on adjacent nonfederal lands. Impacts would be mainly economic, although use of these lands may also be affected. For multiple projects, socioeconomic impacts could occur at fewer locations and over a smaller geographic area than under No Action. However, multiple projects in close proximity over a period of time could add more significantly to cumulative impacts.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Environmental justice	There would be no direct impacts, including no disproportionately high or adverse impacts, to minority or low-income populations on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to environmental justice from the construction and operation of future energy transport projects in the absence of designated corridors. Minority and low-income populations could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Project impacts would be similar to those from current energy transport project development and operation on federal and nonfederal lands. Project development and operation could affect some minority and low-income populations as a result of impacts to visual resources and local economic conditions. The likelihood of disproportionately high impacts can only be evaluated at the project level. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct impacts, including no disproportionately high or adverse impacts, to minority or low-income populations on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Corridor designation could have effects on property values on nonfederal lands adjacent to or between the designated corridors on federal land, which could affect minority or low-income populations. The nature and magnitude of any effects on minority or low-income populations would depend on the populations that occur in the vicinity of a proposed corridor as well as the current and future land use and property values of the nonfederal lands. Potential types of impacts from future projects would be similar to those identified for No Action. These impacts could occur not only for areas associated with the Proposed Action corridors, but also at other federal and nonfederal lands that the project ROWs might also cross. About 71% of the proposed corridors would occur along existing utility and transportation ROWs and where minority and low-income populations may have been previously affected. For multiple projects, potential impacts, including disproportionately high impacts, could occur at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact environmental justice.

TABLE S-2 (Cont.)

Resource	No Action Alternative: No Action on Federal Lands	Proposed Action Alternative: Designate New Section 368 Corridors
Health and safety	There would be no direct health and safety impacts on federal and nonfederal lands from not designating Section 368 energy corridors on federal land and amending land use plans. The following are the potential types of impacts to health and safety from the construction and operation of future energy transport projects in the absence of designated corridors. Health and safety could be affected on federal and nonfederal lands where energy transport projects are developed and operated. Impacts are not expected to differ from those of current energy transport project development and operation on federal and nonfederal lands. Primary concerns are associated with worker safety during project construction and operation, public safety from accidents, and fire incidents. The nature, magnitude, and extent of project-related impacts would depend on the type, location, length, and design of the individual projects.	There would be no direct health and safety impacts on federal and nonfederal lands from designating Section 368 energy corridors on federal land and amending land use plans. Potential types of impacts from future project construction and operation would be similar to those identified for No Action. About 71% of the designated corridors include existing utility and transportation ROWs where health and safety concerns related to worker safety, public safety, and fire incidence currently may exist. For multiple projects, health and safety concerns, including concerns for increased fire hazard, would occur at fewer locations and over a smaller geographic area than under No Action. However, multiple projects developed at the same or nearby locations over a period of time could cumulatively impact health and safety.