

## EXECUTIVE SUMMARY

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### ES.1 INTRODUCTION

This final environmental impact statement and proposed resource management plan amendments (EIS) document has been prepared to analyze and disclose the potential effects of the proposed SunZia Southwest Transmission Project (Project). The Project would include two 500-kilovolt (kV) transmission lines located on federal, state, and private lands between central New Mexico and central Arizona. SunZia Transmission, LLC (Applicant, or SunZia) has submitted an application for right-of-way to construct, operate, and maintain the Project on public land administered by the Bureau of Land Management (BLM).

The BLM serves as the lead federal agency for preparing the EIS, and published its notice of intent to prepare the EIS in the Federal Register on May 29, 2009. Fourteen cooperating agencies have participated in the preparation of this EIS, including the U.S. Army Corps of Engineers; Department of the Army, Fort Bliss; Department of the Army, White Sands Missile Range (WSMR); U.S. Air Force, Holloman Air Force Base (AFB); U.S. Fish and Wildlife Service; U.S. National Park Service; Department of Defense (DOD) Siting Clearinghouse, Office of the Deputy Under Secretary (Installations and Environment); New Mexico State Land Office (NMSLO); New Mexico Spaceport Authority; Arizona State Land Department (ASLD); Arizona Game and Fish Department; Arizona Department of Transportation; Department of the Army, Fort Huachuca; and Bureau of Indian Affairs (BIA).

The BLM's purpose and need for the proposed Project is established by regulatory obligations and directives, and current energy development trends. The purpose and need is used to formulate a reasonable range of alternatives to be considered in the EIS. The need for the BLM's proposed action arises from the Federal Land Policy and Management Act of 1976 (FLPMA), which establishes a multiple use mandate for management of federal lands, including energy generation and transmission facilities as outlined in Title V of the FLPMA. The BLM's action in considering the Applicant's right-of-way application is provided under the authority of the Secretary of the Interior to "grant, issue, or renew rights-of-way...for generation, transmission, and distribution of electric energy" (43 Code of Federal Regulations [CFR] 2800).

Pursuant to 43 CFR 2801.2, it is the BLM's objective to grant rights-of-way and to control their use on public lands in a manner that: (a) protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity; (b) prevents unnecessary or undue degradation to public lands; (c) promotes the use of rights-of-way in common, considering engineering and technological compatibility, national security, and land use plans; and (d) coordinates, to the fullest extent possible, all BLM actions under the regulations in this part with state and local governments, interested individuals, and appropriate quasi-public entities.

The BLM must consider existing resource management plans (RMP) in the decision to issue a right-of-way grant, in accordance with 43 CFR Part 1610.0-5(b). RMPs allocate public land resource use and establish management objectives. Portions of the proposed transmission line alternatives are not in conformance with several RMPs; therefore, amendments to these plans are

analyzed as part of the route alternatives. To the extent practicable and consistent with the laws governing the administration of the public lands, the BLM must coordinate the land use inventory, planning, and management activities with other federal departments and agencies and of the states and local governments, in accordance with the FLPMA (Public Law 94-579, Section 202 (c) 9).

## **ES.2 APPLICANTS PROPOSED ACTION**

The Applicant's objectives are to increase transfer capability, thereby relieving existing transmission congestion and allowing additional electricity to be generated and transported to western power markets and load centers in the Desert Southwest. The Project would be colocated with areas of undeveloped renewable resource potential to provide a path for energy delivery, and would provide power to help meet growing demand in the western United States and enhance domestic energy security. The Applicant group comprises load-serving utilities and independent developers. The Project would assist load-serving utilities in meeting the requirements to address energy delivery obligations to meet state renewable portfolio standards; while the independent developers' purpose for the Project is to create a market opportunity to satisfy transmission needs that have been identified at local, regional, and national levels.

The proposed Project would include two new, single-circuit 500 kV transmission lines located within a right-of-way up to 1,000 feet wide. At least one of the two 500 kV transmission lines would be constructed and operated as an alternating current (AC) facility; the other transmission line could be either an AC or direct current (DC) facility. Depending on the configuration, the Project could provide up to 4,500 megawatts (MW) of additional transfer capability on the regional electrical grid. Based on a typical span of 1,400 feet, three to four transmission line structures per mile would be required for each of the two lines, with typical structure heights of 135 feet that range between 100 and 175 feet.

The transmission line route would originate at a new substation (SunZia East) in Lincoln County, New Mexico, and terminate at the Pinal Central Substation in Pinal County, Arizona. The Project would be located within Lincoln, Socorro, Sierra, Luna, Grant, Hidalgo, and/or Torrance counties in New Mexico; and Graham, Greenlee, Cochise, Pinal, and/or Pima counties in Arizona. The BLM preferred alternative is approximately 515 miles long, and alternative routes range between 460 and 542 miles in length.

The proposed Project would include the construction of the SunZia East 500 kV Substation at the Project's eastern terminus in Lincoln County, and up to three intermediate substations on private or state lands:

- Midpoint Substation, located in Luna County, New Mexico
- Lordsburg Substation, located in Hidalgo County, New Mexico
- Willow-500 kV Substation, located in Graham County, Arizona

The Pinal Central Substation, at the Project's western terminus, has already received its regulatory permits and approvals and will be constructed by Salt River Project and other entities.

## **ES.3 ALTERNATIVES**

A range of alternative routes were analyzed in the Draft EIS, including the BLM preferred alternative and the No Action alternative. The BLM preferred alternative route was modified in response to comments received on the Draft EIS, as described in this Final EIS (see ES3.4). For study purposes and comparison of alternatives, alternative routes are organized into three route groups or segments that correspond to areas between the proposed SunZia East Substation and the permitted Pinal Central Substation. Route Group 1 includes the alternatives between the SunZia East Substation site and the proposed Midpoint Substation site; Route Group 3 includes alternatives between the Midpoint Substation site and the proposed Willow-500 kV Substation site; and Route Group 4 includes alternatives between the Willow-500 kV Substation site and the Pinal Central Substation site. (Route Group 2, which included alternatives located east of the WSMR, was eliminated from study for this EIS). Each of the three route groups is composed of individual subroutes that are formed by a series of interconnected segments.

### **ES.3.1 Route Group 1: SunZia East Substation to Midpoint Substation**

Seven alternative subroutes connect the SunZia East Substation to the Midpoint Substation site, ranging from 206 miles to 230 miles in length. The alternatives in this route group cross portions of Lincoln, Torrance, Socorro, Sierra, Grant, and Luna counties within New Mexico.

### **ES.3.2 Route Group 3: Midpoint Substation to Willow-500 kV Substation**

Three alternative routes connect the Midpoint Substation site to the Willow-500 kV Substation site, ranging from 123 miles to 129 miles in length. The alternatives in this route group cross portions of Luna, Grant, and Hidalgo counties in New Mexico, and portions of Greenlee, Graham, and Cochise counties in Arizona.

### **ES.3.3 Route Group 4: Willow-500 kV Substation to Pinal Central Substation**

Eight alternative routes connect the Willow-500 kV Substation site to the Pinal Central Substation site, ranging from 133 miles to 173 miles in length. The alternatives in this route group cross portions of Graham, Cochise, Pima, and Pinal counties in Arizona.

### **ES.3.4 Selection of the BLM Preferred Alternative Route**

The BLM preferred alternative consists of the combination of three subroutes—**1A2, 3A2, and 4C2c**—one from each of the route groups.

The BLM preferred alternative route (Route Group 1) starts at the SunZia East Substation site in Lincoln County, New Mexico, heads in a northwesterly direction, approximately 5 miles north of the Gran Quivira Unit of the Salinas Pueblo Missions National Monument (Gran Quivira), into Torrance County. The route then heads southeasterly into Socorro County, crossing the Rio Grande approximately 4 miles to the north of the town of Socorro. Nine miles west of the Rio Grande, the route turns south along a 345 kV transmission line corridor into Sierra County, generally parallel to I-25 and the Rio Grande. The route continues south into Luna County along

a 345/115 kV transmission line corridor, then turns west approximately 8 miles northeast of Deming at the proposed Midpoint Substation site. Continuing in a westerly direction, the route (Route Group 3) crosses Grant and Hidalgo counties north of Lordsburg. The route continues west, north of the Peloncillo Mountains, to the Arizona border.

Crossing into Greenlee County, the route continues west across the San Simon Valley to the proposed Willow-500 kV Substation site located in Graham County. From the Willow-500 kV Substation site, the route (Route Group 4) heads southwest and crosses the Sulphur Springs Valley 7 miles north of Willcox, and continues southeasterly along a 345 kV transmission line corridor generally parallel to and north of the I-10. The route crosses the San Pedro River approximately 11 miles north of Benson, turns northwest, and continues at a distance ranging from 2 to 6 miles west of the San Pedro River through portions of Cochise and Pima counties. The route continues northwest along a pipeline corridor into Pinal County, turns west at a point 5 miles northwest of San Manuel, then proceeds westerly, north of Oracle and the Santa Catalina Mountains and along portions of 115 and 500 kV transmission line corridors, north of the Tortolita Mountains. The route turns north from a point near the Tortolita Substation toward State Route (SR) 79, and then west, north of the Picacho Mountains, to its termination at the Pinal Central Substation located 8 miles north of Eloy, in Pinal County.

This route was selected as the BLM preferred alternative because it would:

- maximize use of existing utility corridors and infrastructure
- minimize impacts to sensitive resources
- minimize impacts at river crossings
- minimize impacts to residential and commercial uses, and
- minimize impacts to military operations within the restricted airspace north of the WSMR

A major portion of the preferred alternative would be constructed along established utility corridors where existing access is available. Approximately 53 percent (273 miles) of the route would be parallel to existing or designated utility corridors, including 229 miles parallel to existing transmission lines.

## **ES.4      AFFECTED ENVIRONMENT, ISSUES, AND ENVIRONMENTAL IMPACTS**

### **ES.4.1    Climate and Air Quality**

Emissions of air pollutants would occur during construction of the transmission lines and substations and, to a lesser extent, during Project operations. Emissions would be transient as construction progresses, so emissions would not occur in one area for a long duration, thereby limiting their impact.

With the exception of 24-hour PM<sub>10</sub>, climate and air quality impacts resulting from construction and operation of any of the alternative subroutes, including the BLM preferred alternative, were predicted to be within regulatory limits (below the applicable National, Arizona, and/or New Mexico Ambient Air Quality Standards). Because of high background concentrations of PM<sub>10</sub> within the West Pinal County PM<sub>10</sub> nonattainment area, maximum total 24-hour PM<sub>10</sub> impacts

could potentially exceed PM<sub>10</sub> standards temporarily for alternatives in Route Group 4, including the BLM preferred alternative, during construction related activities. However, mitigation would likely be effective in reducing significant impacts.

#### **ES.4.2 Earth Resources**

Potential impacts to the Project could result from geological hazards, and impacts to mineral and soil resources could result from the Project. Geological hazards include potential ground rupture from Quaternary faults, destabilization of the land surface by fissures, and flooding. Potential impacts to mineral resources include the restriction of access to locatable, leasable, and salable mineral resources; while potential impacts to soil resources include accelerated rates of erosion by water or wind, and the conversion of designated Prime or Unique Farmland soils to nonagricultural uses.

No significant impacts to mineral and soil resources are expected. Mitigation measures, including best management practices (BMP) to control erosion, would minimize the effects of soil erosion during construction and operation of the Project. Site-specific design of roads and structures using standard and selective mitigation measures would minimize restrictions to mineral development. A determination would be made regarding the presence of pre-1955 mining claims; if such claims are found, the BLM would need to receive authorization from the claimant prior to grant of right-of-way.

#### **ES.4.3 Paleontological Resources**

The loss of scientifically significant fossils and their contextual data is the primary concern regarding impacts to paleontological resources. Impacts could occur if unique paleontological resources were to be destroyed. Mitigation of impacts to paleontological resources includes preconstruction surveys, personnel education, monitoring ground disturbance for fossils, preparation and curation of any discovered fossils, and deposition of collected fossils in a paleontological repository. With the use of these mitigation measures, impacts to paleontological resources are not likely to be significant.

#### **ES.4.4 Water Resources**

Impacts to surface water could result from placement of structures, construction of access roads, or temporary work areas. Direct impacts to perennial surface water features could include sedimentation from fugitive dust deposition or access road construction, removal of riparian vegetation, bank alteration, accidental contamination associated with spills of environmentally harmful material, damage to wetlands, or the introduction of invasive species. BMPs and mitigation measures would be effective in minimizing impacts to surface water resources, and no significant impacts are expected to result from the construction and operation of the Project.

Potential impacts to groundwater resources could include accidental contamination during construction or accidental spills of environmentally harmful liquids that could percolate into shallow groundwater. The Project would not impede the flow or depth of groundwater.

Mitigation measures would be effective to limit the potential for contamination during construction and operation.

#### **ES.4.5 Biological Resources**

Direct impacts to vegetation include removal of plants during construction of new or modified access and spur roads, and at structure and substation sites. Vegetation removal for structure foundations and at substation sites would be permanent. Indirect impacts associated with vegetation removal may include erosion, reduction of soil water retention, invasive plant colonization, loss of wildlife habitat, and habitat fragmentation.

Mitigation measures would be applied to reduce, avoid, or otherwise provide compensation for impacts to sensitive vegetation. Where vegetation is disturbed or cleared, vegetation loss would be minimized by (1) reducing the area to the extent practicable, (2) plant salvage and revegetation in areas of temporary disturbance, and (3) closure and restoration of any access roads not required for Project maintenance or access. Closure of temporary access roads and the limiting of access through gating or other means would reduce indirect impacts to vegetation caused by recreational travel, including off-road vehicle travel beyond the Project right-of-way. Tree-cutting would be conducted to meet the National Electric Safety Code and an appropriate level of safety, but would be minimized to the extent possible.

Linear features such as access roads could fragment wildlife habitat, adversely affecting species that are reluctant to cross areas of open ground due to threat of predation. Related to this are edge effects, which may reduce the effective size of habitat blocks for those species, limiting connectivity and dispersal between blocks.

The following impacts to general wildlife and special status species may occur with construction and operation of the BLM preferred alternative:

- Transmission lines may interfere with Sandhill Crane and waterfowl migration routes and lead to increased bird–power line collision risk at the Rio Grande crossing and within the Sulphur Springs Valley. An avian impact study was conducted in the Rio Grande Valley to assess the effects of potential collisions. Results of the study predicted that while potentially fatal collisions of Sandhill Cranes and other large birds are likely to occur, a substantial effect at the population level is unlikely for any species.
- Impacts may occur to Southwestern Willow Flycatcher designated critical habitat at the Rio Grande crossing, and future impacts may occur to proposed critical habitat at the San Pedro River crossing.
- Impacts may occur to the Yellow-billed Cuckoo, Rio Grande Silvery Minnow, and designated critical habitat for the Rio Grande Silvery Minnow as a result of vegetation management or erosion.
- Disturbance associated with construction and maintenance could impact a movement corridor for the Desert Bighorn Sheep west of the Rio Grande in Socorro County.
- Habitat for the Northern Aplomado Falcon may be affected west of the Rio Grande in New Mexico.

- The Chihuahua scurfpea may be impacted by ground disturbance in western New Mexico and the San Simon Valley, Arizona.
- A small population of Pronghorn is present on Allen Flat, and may be impacted by construction or maintenance activities.
- Road construction and habitat loss may impact the Sonoran Desert Tortoise from the San Pedro River Valley to the vicinity of the Tortolita Substation, and near the Picacho Mountains.
- Habitat for the Tucson Shovel-nosed Snake may be impacted near the Tortolita Substation and Picacho Mountains.

Selective mitigation measures addressing the reduction of ground disturbance, noxious weed and erosion control, and restoration of vegetation would help reduce effects to wildlife. A posted reasonable construction speed limit could minimize potential collision risk to wildlife in road areas, and construction activities may be constrained during certain seasons to address needs of special-status species at specified locations. Debris and trash would be properly contained and regularly removed from the Project to an appropriate landfill site. Construction excavations would be fenced or covered to preclude injury or trapping of wildlife or livestock. Post construction access may be controlled by various means.

Mitigation measures to reduce the collision risk for large birds include methods to improve visibility, such as the use of bird diverters on groundwires and guywires. Since the transmission line would span most aquatic habitats, there should be no significant impacts to aquatic and shorebird nesting habitat. Structures may need to be placed in wider portions of the Rio Grande floodplain, but they would not be located near shore habitat and would not permanently affect these species. The Project would have minimal effect on prey and forage availability for these species. Timing of construction to avoid avian nesting or breeding times would help minimize impacts to birds.

#### **ES.4.6 Wildland Fire Ecology and Management**

The operation of 500 kV transmission lines generally presents a very low risk of fire ignition, as the scale of the structures minimizes the risk of vegetation contact. However, unforeseen events do have the potential to occur. Transmission structures may fail or be accidentally damaged as a result of human activity such as vehicle or aircraft collisions and vandalism, or from severe weather, geological hazards, and other natural events. However, 500 kV conductors and structures are of sufficient size to be somewhat resistant to physical damage.

A Fire Protection Plan would be implemented during Project construction. A Fire Marshal would be responsible for ensuring compliance with all mitigation measures for fire safety, as well as coordination and communication with agencies and emergency responders.

#### **ES.4.7 Cultural Resource**

The anticipated impacts to cultural and historic resources result from a loss of integrity on prehistoric and historic sites. Four types of impacts that could affect archaeological sites during and after construction of the proposed Project are:

- direct and permanent ground disturbance during construction
- direct and permanent visual and auditory intrusions
- indirect and temporary visual intrusions during construction
- indirect and permanent disturbances due to changes in public accessibility

Intensive pedestrian inventories of the selected route, associated access roads, substations, and associated ancillary facilities will be conducted. All cultural and historic resources identified during the inventory will be evaluated for eligibility to the National Register of Historic Places.

Consultation with appropriate land management agencies, tribes, and State Historic Preservation Offices is ongoing. A Programmatic Agreement, which establishes a project-specific procedure for complying with the National Historic Preservation Act, including procedures to follow during the execution of the Project, has been drafted.

Construction and operation of the BLM preferred alternative could impact seven known habitation sites and the McClellan Wash Archaeological District. The Project would cross the El Camino Real, Butterfield, Gila, Janos Copper, Zuniga, Southern Pacific Mail, and General Cooke's Wagon Road/Mormon Battalion trails. Potential impacts to National Scenic and Historic Trails have been documented in this Final EIS (also see Appendix L).

Impacts to the Gran Quivira unit of the Salinas Pueblo Missions National Monument were evaluated to assess effects on the setting and feeling of the cultural landscape. Impacts to the views from Gran Quivira are anticipated to be low, and selective mitigation measures such as special tower design or placement could further minimize these impacts.

Direct impacts to significant cultural resources can be effectively minimized, if not eliminated, through mitigation planning and implementation. In designated areas, structures would be placed to avoid and or span sensitive cultural resource sites or features. Cultural resources would continue to be considered during post-EIS phases of Project implementation, in accordance with an executed agreement. This would involve intensive surveys to inventory and evaluate cultural resources within the selected corridor and any appurtenant impact zones beyond the corridor, such as access roads and construction equipment yards. This would also require a Historic Properties Treatment Plan to ensure proper data recovery and recordation prior to construction in the sensitive areas identified in the plan. Monitoring of construction activities will be required to ensure that cultural sites that are to be avoided during construction remain undisturbed.

#### **ES.4.8 Visual Resources**

A concern for changes to existing viewsheds and modifications that would alter the landscape character of natural lands is the primary factor considered for identifying and characterizing impacts related to visual resources. Impacts to residential, travel, and recreational viewers were



assessed. In addition, compliance with the BLM's visual resource management (VRM) system was assessed to identify areas where the Project would conflict with VRM objectives, and where RMP amendments may be required. Standard and selective mitigation measures and BMPs would reduce impacts to scenery and viewers (viewing locations or key observation points).

Visual impacts that may occur with construction and operation of the BLM preferred alternative include the following:

- In Socorro County, high to moderate-high impacts would occur for residential viewers near Socorro, Willow Springs, and other dispersed residences immediately adjacent to the BLM preferred alternative. Limited areas of high impacts are anticipated for residences near Deming, New Mexico, and in the vicinity of San Simon (Cochise County, Arizona) and La Palma, near the Pinal Central Substation.
- Recreation viewers associated with the Stallion and Veranito wilderness study areas (WSA), Sevilleta National Wildlife Refuge, Johnson (Gordy's) Hill Special Recreation Management Area (SRMA), and the Rio Grande would have high to moderate-high impacts. High impacts to recreation viewers associated with the Peloncillo Mountains Wilderness are anticipated. Recreation viewers would have moderate-high impacts associated with the Arizona National Scenic Trail and Buehman Canyon Trail.
- High to moderate-high impacts would occur for viewers in New Mexico along Salt Missions Trail Scenic Byway, WSMR Route 3607, WSMR P 5, US Route 54, SR 55, Quebradas Back Country Byway SRMA, El Camino Real (SR 408 and I-25), Geronimo National Scenic Byway, Lake Valley Back Country Byway, and US Route 180.
- High to moderate-high impacts would occur for viewers in Arizona along Cascabel Road, Redington Road, SR 77, Muleshoe Ranch Road, Black Hills Mine Road/Catalina Ridge, Webb Road, and Park Link Drive.
- Noncompliance with BLM VRM Classifications is anticipated for Class II designations in Socorro County.

Mitigation measures and BMPs would be applied to reduce visual impacts where effective and feasible. After the implementation of selective mitigation measures at various locations throughout the Project, residual impacts would be reduced to varying degrees. Mitigation measures would include site-specific structure placement, structure selection, road restoration, or other methods to minimize visual contrast in the landscape setting. In certain conditions, mitigation measures can be effective to achieve compliance with VRM objectives.

#### **ES.4.9 Land Use and Recreation Resources**

The Project would be constructed across lands owned by federal, state, private, or other entities. Approximately 36 percent of the BLM preferred alternative route would cross public lands managed by the BLM (185 miles); state lands in New Mexico and Arizona comprise approximately 43 percent (220 miles) of the route; and the remaining 21 percent (110 miles) would cross private or other land owners. Right-of-way would be acquired on these lands that are generally used for grazing, farming, recreation, and open space. BLM and state lands are

primarily used for grazing or recreation in open space areas. Residential uses are located on private lands in rural areas and near small cities and towns within the study area.

The Rio Grande Valley supports farming, tourism, and the population centers of Socorro, San Antonio, Truth or Consequences, and Elephant Butte. Other population centers within the study area include Corona, Deming, and Lordsburg. The WSMR and other military installations conduct operations in the air space surrounding the range.

In the Arizona portion of the study area, population centers include San Simon, Safford, Willcox, Benson, Vail, San Manuel, Oracle, Marana, Tucson, and Eloy. Farming is concentrated in the Sulphur Springs Valley, San Pedro River Valley, Santa Cruz River Valley, and in Pinal County. Davis-Monthan AFB, Fort Huachuca, the Western Army National Guard Aviation Training Site, and other military installations conduct training and testing operations in air space within the study area.

A major interstate utility corridor that contains transmission lines, communication facilities, and pipelines is located generally along I-10 through southern New Mexico and southeastern Arizona. Other utility corridors are located within the Rio Grande Valley, and a pipeline corridor crosses the San Pedro River Valley between Cochise and Pinal counties. Approximately 229 miles of the route would be parallel to existing transmission lines, and an additional 102 miles would be parallel to existing pipelines or designated utility corridors, including the Department of Energy West-wide Energy Corridor.

In general, land use impacts are minimized where linear utilities are constructed within established or designated corridors. The alignment of the BLM preferred alternative route was sited to maximize the use of established utility corridors, and to avoid conflicts with incompatible land uses such as wilderness, national parks and monuments, special management areas, wildlife refuges and other conservation areas, densely populated areas, and military installations. Impacts to land uses would occur along portions of the route that cross irrigated agricultural lands, residential subdivisions, and areas used for industrial or military testing and training. Mitigation measures and BMPs would be effective in avoiding or minimizing direct impacts with land uses in most conditions. There would be no direct displacement of residential, business, or industrial structures. There would be a minimal loss of grazing land.

RMPs outline BLM management guidelines, including right-of-way exclusion or avoidance designations. A proposal to construct a new utility crossing a right-of-way avoidance area could require an RMP amendment where there is no viable alternative. The BLM preferred alternative crosses avoidance areas that could require amendments within the Socorro Field Office and Mimbres (Las Cruces District Office) planning areas in New Mexico. The proposed RMP amendments provide a 400-foot-wide corridor where the Project would cross right-of-way avoidance or noncompliant VRM land classification areas.

#### **ES.4.10 Special Designations**

BLM special designations include congressionally designated national wild and/or scenic rivers; national conservation areas; national byways; and national scenic, historic, or recreation trails. Administrative designations include areas of critical environmental concern and SRMAs.

The BLM preferred alternative crosses two portions of the Johnson (Gordy's) Hill SRMA, located in the Socorro Field Office, which is used for off-highway vehicle recreation. No direct impacts to other special designations associated with the construction and operation of the Project would occur. Indirect impacts to special designations may include impacts to air quality, earth, water, visual, or other resources.

#### **ES.4.11 Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics**

The BLM preferred alternative route would not cross wilderness areas or WSAs, and therefore no direct impacts would occur. Impacts to lands with wilderness characteristics inventory units for the BLM preferred alternative are not expected. Indirect or cumulative impacts may occur to air quality, earth, water, visual, or other resources, but would not be significant.

Impacts to views from Peloncillo Mountains and Rincon Mountains wilderness areas could occur. Portions of the Stallion, Veranito, Presilla, and Peloncillo mountains WSAs in New Mexico could be impacted by the Project, but due to the size and rugged terrain of these areas, there would still be ample opportunity for solitude.

#### **ES.4.12 Social and Economic Conditions**

There would be no substantial impacts to population or housing as a result of construction or operation of the Project. More than 2,800 jobs could be created (in job years) in New Mexico and Arizona during the 2- to 3-year construction period. In addition, the Project could generate revenue from increased local spending, and more than 2,200 indirect jobs could be created to supply related goods and services. During operations, approximately 150 jobs could be created.

The Project would generate revenues from income taxes and property taxes. In New Mexico, between \$45 million and \$46 million would be generated by income taxes, and between \$13 million and \$17 million could be generated in property tax revenues during construction. During operations, annual income tax revenues would be between \$200,000 and \$400,000, and property tax revenues would range between \$35 million and \$59 million.

In Arizona, between \$18 million and \$19 million would be generated by income taxes, and between \$6 million and \$13 million would be generated in property tax revenues during construction. During operations, annual income tax revenues would be between \$300,000 and \$700,000, and property tax revenues would range between \$10 million and \$25 million.

#### **ES.4.13 Environmental Justice Conditions**

Executive Order 12898 (U.S. Department of Housing and Urban Development 1994) requires federal agencies to address high and disproportionate environmental impacts on minority and low-income populations. Should potentially significant and adverse impacts attributable to the proposed Project fall disproportionately on these populations, environmental justice impacts would result. The results of the analysis for this Project indicated that no significant impacts to

environmental justice populations are expected as a result of the construction or operation of the BLM preferred alternative.

#### **ES.4.14 Health and Safety/Hazardous Materials**

An analysis was conducted to evaluate potential impacts from electrical and magnetic fields, audible noise, radio and television interference, environmental contamination, and hazardous materials related to construction, operation, and decommissioning of the proposed Project were assessed.

The study results indicated that electric field levels anticipated to occur at the Project right-of-way are projected to be below the reference levels for general public exposure, based on the International Commission on Non-Ionizing Radiation Protection. The maximum potential magnetic field levels within the right-of way would also be under the reference levels for general public exposure.

Audible noise may result from equipment and vehicles used during Project construction. Where construction would occur near populated areas, noise might be audible and result in temporary impacts and possibly considered only as a nuisance. During operation of the transmission lines and substations, audible noise levels would not exceed the Environmental Protection Agency recommended levels of 55 dBA at the right-of-way limits.

Projected levels of radio and television interference, resulting from the operation of transmission lines at the right-of-way limits for the Project, would be below the recommended levels established by the Radio Noise Design Guide and Federal Communication Commission.

Construction and operations activities would comply with all applicable federal, state, and local regulations regarding the use of hazardous substances. BMPs would be applied to ensure that applicable federal, state, and local laws are obeyed. Further, the Project owner and construction team would coordinate with land management agencies to incorporate health and safety requirements in response to accidental release of hazardous materials.

#### **ES.4.15 Cumulative Effects**

The cumulative effects analysis was conducted to identify the impacts from actions taking place in the past, present, and reasonably foreseeable future. The analysis included impacts to resources within cumulative analysis areas relevant to each resource. An energy development scenario was developed to estimate the cumulative impacts resulting from construction and operation of other energy generation and transmission projects that could benefit from increased transfer capability. This energy development scenario is based on the potential for renewable energy resource development within the cumulative analysis areas, and future demand for electricity in the Southwest.

A measure of the incremental effects of renewable energy generation is the amount of land area required for wind and solar energy development projects. Presently, it is estimated that up to 17,000 acres are used for wind generation, and up to 500 acres for solar generation in the New Mexico portion of the cumulative analysis study area. A very small amount of land area is

presently used in southeastern Arizona for renewable energy generation. It is estimated that up to 40,000 acres could be used for a combination of wind, solar, and geothermal energy development to generate the equivalent of 4,200 MW. The locations of future energy development projects are, for the most part, unknown; therefore, environmental effects would depend on the specific location of developments and the potential for mitigation.

## **ES.5 SCOPING, CONSULTATION, AND COORDINATION**

As required by the National Environmental Policy Act of 1969 (NEPA), the BLM (in coordination with cooperating agencies) conducted scoping in the early stages of the EIS preparation, to encourage public participation and solicit agency and public comments on the scope and significance of the proposed action (40 CFR 1501.7). This scoping process was initiated in May 2009 with the announcement of upcoming public scoping meetings that requested comments or issues that should be addressed in the EIS.

Consultation and coordination with federal and intergovernmental agencies, organizations, American Indian tribes, and interested groups of individuals are important to ensure that the most appropriate data have been gathered and employed for analyses, and that agency and public sentiment and values are considered and incorporated into decision making. Throughout the preparation of the EIS, formal and informal efforts were made by the BLM to involve these groups in the scoping process and in subsequent public involvement activities, formal consultation, and review of the EIS.

## **ES.6 DECISIONS TO BE MADE**

Approximately one-third of the Project would be located on BLM-administered public land. Other portions of the Project may be located on federal land or facilities administered by the Bureau of Reclamation (BOR), BIA, state, and private lands. Alternative routes have been considered that would include small portions of right-of-way crossing DOD land.

Where the Project would cross private and state lands, it would be subject to applicable land use planning regulations, zoning ordinances, or other requirements enforced by the state, county, or local jurisdiction, and the Applicant would need to secure any necessary permits. Acquisition of right-of-way on state lands would require application to the NMSLO or ASLD for right-of-entry and easements. Legal access or easements crossing private lands would need to be obtained from private landowners.

### **ES.6.1 Bureau of Land Management**

The BLM must decide whether to grant or deny the right-of-way on BLM-administered public land for the construction and operation of the proposed transmission facilities, access roads, or ancillary facilities. If the decision is made to grant the right-of-way, the BLM would also decide which alternative to select; mitigation requirements, if any; and the terms, conditions, and stipulations of the grant.

The BLM must decide whether or not to amend any of the existing RMPs to achieve conformity with land use plans and allow for a grant of a major utility right-of-way for this proposed transmission line. The BLM's decision on the right-of-way grant and any associated RMP amendments would be outlined in a Record of Decision, based on the findings identified in the EIS. RMP amendments are proposed for the Socorro RMP, Socorro Field Office (2010), and the Mimbres RMP, Las Cruces District Office (1993).

#### **ES.6.2 Bureau of Reclamation**

The Project may cross federal lands administered by the BOR, including lands along the Rio Grande in New Mexico, and along the Central Arizona Project (CAP) canal in Arizona. The CAP and the Middle Gila Conservation District would require separate NEPA decisions to grant right-of-way crossing on lands under the jurisdiction of the BOR.

The BOR, with concurrence from the Middle Rio Grande Conservation District, manages conservation district land, including the Rio Grande Conveyance Channel along the Rio Grande in New Mexico. The CAP is owned by the BOR, and the Central Arizona Water Conservation District is responsible for managing land associated with the CAP.

#### **ES.6.3 Department of Defense**

The BLM preferred alternative would not require rights-of-way across DOD lands. However, alternatives have been considered that could cross DOD lands used by the Army National Guard, or BLM-administered public land that has been withdrawn from the public domain for exclusive military use by the Department of the Army. Any applications for use of rights-of-way or easements on DOD lands would require DOD approval.

#### **ES.6.4 Bureau of Indian Affairs**

The Project may cross portions of the San Carlos Irrigation Project canal system, located in the vicinity of the Picacho Reservoir in Pinal County. An encroachment permit would be required by the BIA where the proposed transmission lines cross canal rights-of-way or related facilities. A separate NEPA decision by the BIA would be required to grant right-of-way crossing a San Carlos Irrigation Project canal or other facilities.