

November 2007  
DOE/EA-1595

**Department of Energy, Western Area Power Administration  
Finding of No Significant Impact  
and Floodplain Statement of Findings  
Davis-Mead 230-kV Transmission Line Reconductor Project**

**Summary** – The U.S. Department of Energy (DOE), Western Area Power Administration (Western) proposes to reconductor the existing 61-mile long 230-kilovolt (kV) Davis-Mead Transmission Line located in Clark County, Nevada and Mohave County, Arizona. Western owns and operates the existing transmission line. The transmission line is a major component of the electric transmission grid of the western United States.

The environmental assessment (EA) titled “Davis-Mead 230-kV Transmission Line Reconductor Project,” (DOE/EA-1595) was distributed on August 22, 2007, for pre-approval review by Federal, state, local and Tribal agencies that have jurisdiction or permitting authority for the Proposed Action. A final EA was prepared in response to comments received on the draft EA and to update information regarding water resources permits and certifications and compliance with the Endangered Species Act and the National Historic Preservation Act. The final EA is issued concurrently with this Finding of No Significant Impact (FONSI).

Based on findings and analysis in the EA, Western has determined that with the stipulations defined in the U.S. Fish and Wildlife Service (USFWS) biological opinion (BO), dated October 19, 2007, and the special conditions for cultural resource protection, the Davis-Mead 230-kV Transmission Line Reconductor Project (Proposed Action) would not have a significant effect on the human environment. Therefore, preparation of an environmental impact statement (EIS) is not required. The basis for this determination is described in this FONSI.

Additional information and copies of the EA and this FONSI are available to all interested persons and the public through the following contact:

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**Purpose and Need** – The Davis-Mead 230-kV Transmission Line was built beginning in the late 1940s and completed in the early 1950s. The existing conductor capacity is below efficiency levels established as goals for transmission lines in planning efforts under the Energy Policy Act of 2005. In addition, excessive heat has taken its toll on the existing conductor over the years, causing sag (bowing) in the line as heat has expanded the existing conductor. The purpose of the project is to increase the capacity of the transmission line. The 50+-year-old, less efficient conductor would be replaced with a more heat resistant conductor using the existing support structures (lattice steel structures). A new aluminum conductor steel supported conductor would provide improved thermal characteristics, which would allow Western to increase transmission capacity without increasing voltage.

**Proposed Action Description** – Western proposes to re-conductor the Davis-Mead 230-kV Transmission Line from its Davis Substation near Bullhead City, Mohave County, Arizona to its Mead Substation near Boulder City, Clark County, Nevada. Lattice steel frame towers support the conductor wire and are spaced throughout the line at approximately four to five structures per mile. The transmission line and associated access roads occur on lands managed by the National Park Service (NPS), the Bureau of Land Management (BLM), Western, and Boulder City.

Reconductoring the 61-mile-long transmission line would involve replacement of the existing conductor and insulator assemblies. Existing lattice steel transmission line structures and overhead ground wire are proposed to be utilized and remain intact. The steps involved in reconductoring are unclipping, pulling, splicing, tensioning, and clipping conductor. Western's existing right-of-way (ROW) would be used for the Proposed Action; therefore, no new ROW would need to be obtained and no new easements are anticipated. The ROW is 200 feet in width throughout the transmission line and 50 feet in width for access roads.

Access to the transmission line would be by way of existing access roads, some of which may require improvement for use. Improvement activities could include blading and grading to remove ruts, easing of grades in and out of washes, and fill of washouts in order to allow passage of required vehicles and equipment. Access road disturbance is not expected to be more than 12 feet wide. Boat or helicopter would be used to access structures where access is impractical, primarily for structures located on steep slopes or bordering on Lake Mohave.

All disturbances are expected to occur within existing transmission line and access road ROWs. Temporary ground disturbance within the ROW would occur at the tower pad sites, pulling/tensioning sites, splicing sites, and where the existing access roads and spur roads to the towers require maintenance. Approximately 118.5 acres would be temporarily disturbed by the Proposed Action. Existing developed facilities like Mead Substation are slated for staging areas to store equipment and conductor reels. If during construction Western determines areas outside of the ROWs or on Western withdrawn lands are necessary, then the proper environmental review and land use permits would be completed prior to use.

**Agency Consultation and Public Participation Process** – Western contacted the NPS, BLM, Boulder City, USFWS, Chemehuevi Tribe, Fort Mojave Tribe, Havasupai Tribe, Hualapai Tribe, Las Vegas Paiute Indian Tribe, Moapa Band of Paiute Tribe, and Pahrump Paiute Tribe requesting comments on the Proposed Action. In August 2007, Western distributed a draft EA for pre-approval review to Federal, State, local and Tribal governments, other interested parties, and local libraries. Western also sent a letter to others who had expressed an interest in other

projects or similar actions in the general area, to inform them of the availability of the EA and provide them with the opportunity to review and comment on the proposed transmission line reconductor project. A final EA was prepared in response to comments received on the draft EA and to update information regarding water resources permits and certifications and compliance with the Endangered Species Act and the National Historic Preservation Act. The final EA is issued concurrently with this FONSI.

Western consulted with the USFWS on the Endangered Species Act and requested concurrence on its determinations. On October 19, 2007, the USFWS issued a BO.

Consultation with the Nevada and Arizona State Historic Preservation Offices (SHPO) was conducted by Western in accordance with procedures provided in Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations (CFR) Part 800 "Protection of Historic Properties"). Western determined that this undertaking will have no adverse effect on historic properties provided Western follows the Special Conditions of Compliance established for resources determined eligible to the National Register of Historic Places (NRHP). Western received concurrence letters on September 26, 2007 from the Arizona SHPO and on October 23, 2007 from the Nevada SHPO.

Consultations with Tribes have been ongoing during the EA preparation. The Hualapai Tribal Historic Preservation Office returned comment on the Proposed Action on February 14, 2007, with recommendations to monitor and avoid three significant sites (AZ F:10:50 (ASM), 26CK7452 and 26CK123) during construction activities and to establish an educational program concerning Hualapai cultural traditions and culturally sensitive areas for all construction-related personnel. The EA was distributed to the Tribes for review and comment on August 22, 2007. Comments on the EA regarding cultural resources were received from the Hopi Tribe, the Quechan Indian Tribe, the Cocopah Indian Tribe, and the Navajo Nation.

The NPS, BLM, USFWS, and Boulder City were invited to become cooperating agencies in the EA process on September 26, 2005. NPS accepted the invitation on October 4, 2005. The USFWS declined the invitation in a letter dated October 13, 2005. BLM and Boulder City declined to be cooperating agencies but have been contributing parties as informational resources.

**Alternatives** – DOE NEPA regulations require that an EA include a discussion of the No Action Alternative (10 CFR 321 (c)). Under the No Action Alternative, the existing transmission line would not be reconducted. Only essential maintenance activities would be performed. Structures and hardware would be maintained, repaired, and/or replaced as required during routine maintenance activities or in the event of emergency outages. Based on the EA, the No Action Alternative would not result in significant impacts.

**Environmental Impacts** – Findings on the impacts and their significance resulting from the Proposed Action are based on information contained in the EA, and the results of consultation with USFWS and the SHPOs. In reaching conclusions about environmental impacts, Western considered implementing environmental protection measures as defined in the EA, and the measures addressed in a Mitigation Action Plan (MAP) issued concurrently with this determination.

The affected environment and potential environmental impacts were identified and evaluated for the following resources: soils, surface water resources (including floodplains), air resources, biological resources (including vegetation, wildlife, and endangered, threatened, proposed, candidate and sensitive species), cultural resources, visual resources, noise, safety and

health issues, and environmental justice. Cumulative impacts are also addressed in the EA. Cumulative impacts are those additive or interactive effects that would occur due to the Proposed Action's incremental impact when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions. Western has proposed environmental protection measures that will be implemented for the Proposed Action. Western's conclusions on environmental impacts are summarized below.

Soils. Soil disturbance may result in short-term erosion in localized areas, primarily where construction equipment requires a level working area or where access road improvements are needed to allow safe passage of equipment and vehicles. Since the construction activities would take place within the existing transmission line ROW and access would be by existing roads, soils impacted by construction activities have been previously disturbed during installation and maintenance of the existing transmission line. The Proposed Action includes measures to reduce soil disturbances. The Proposed Action would not result in a long-term loss of productivity or substantially alter current use or revegetative growth. Western has concluded that no direct, indirect or cumulative significant impacts to soils would occur from the Proposed Action.

Surface Water Resources. Improvements to existing access roads would result in the placement of fill material in 47 of the ephemeral washes. Surface water impacts would be minor and localized to these washes. Impacts would consist of blading the washes to provide for smoother crossings and installation of a 12-inch culvert in one wash. Washes would not be used for equipment setup or pulling sites unless no other reasonably flat areas are available near a structure. Sedimentation due to disturbance of soils in a wash or erosion of soils from disturbed adjacent upland areas may occur. Contaminants could be introduced from runoff of accidental spills such as fuels used for construction equipment.

Western determined the 47 ephemeral washes are waters of the U.S. and consulted with the U. S. Army Corps of Engineers regarding compliance with the Clean Water Act (CWA) Section 404. The Proposed Action would be authorized under a non-notifying Nationwide Permit 14. Western also consulted with Nevada Division of Environmental Protection (NDEP) and the Arizona Department of Environmental Quality regarding their respective CWA Section 401 water quality certification requirements. The Proposed Action would be conditionally certified in Arizona. Western submitted an application to the NDEP for Section 401 water quality certification in Nevada. Conditions of the Nationwide Permit 14 and the 401 water quality certifications would be implemented by Western and its contractor. The Proposed Action would result in one or more acres of ground disturbance. In compliance with Section 402 of the CWA, Western's contractor would obtain a National Pollutant Discharge Elimination System Permit from the NDEP and the ADEQ.

The EA includes a floodplain and wetland assessment, as required by the DOE Floodplain/Wetlands Environmental Review Requirements (10 CFR part 1022). The assessment is included as analysis under the **Surface Water Resources** section describing existing conditions and environmental consequences (Chapter 3).

Floodplain Statement of Findings. Structure 6/3 is located within the Colorado River 100-year floodplain. Reconductoring activities at this structure would not place new materials in the floodplain and therefore, would not affect the Colorado River floodplain. Access road improvements are proposed for unnamed ephemeral washes

within two 100-year floodplains in Nevada. Grading the washes would place approximately 0.6 cubic yards of native material within the floodplain south of structure 56-2 and approximately 1.6 cubic yards of native material within the floodplain north of structure 15-2. No fill materials would be placed within the 100-year floodplains in Arizona. The minimal quantities of native materials placed within the two floodplains in Nevada would not impede or redirect flood flows, alter existing drainage patterns or modify a floodplain. Western would conform to Federal, State, and local standards for floodplain protection..

The Colorado River floodplain, Lake Mohave, and the ephemeral washes would remain essentially unchanged relative to existing conditions. The Proposed Action would not modify a floodplain or alter existing drainage patterns. With implementation of the environmental protection measures, the Proposed Action would not violate Federal and/or state water quality standards. There would not be a long-term loss of human use or use by aquatic wildlife and plants. Western and its contractor would implement the terms, conditions and any other requirements of the permits and certifications to comply with Sections 401, 402 and 404 of the CWA. Western has concluded that no direct, indirect or cumulative significant impacts to surface water resources would occur from the Proposed Action.

Air Resources. Construction activities associated with the Proposed Action would result in localized fugitive dust and vehicular emissions during the construction phase. Low levels of fugitive dust may permeate the Class I airshed of the Grand Canyon National Park for a short-term period, but would not likely result in non-attainment and would subside following construction activities. Western's contractor would obtain a dust control permit from Clark County for construction activities in Nevada and would be required to comply with the Arizona Administrative Code Title 18, R18-2-604 through 607 to prevent excessive amounts of airborne particulate matter. The Proposed Action includes measures to reduce air emissions, including fugitive dust. The Proposed Action would not exceed state and/or Federal ambient air quality standards or Class I standards for Prevention of Significant Deterioration or change the visibility of the Grand Canyon National Park airshed. Western has concluded that no direct, indirect or cumulative significant impacts to air resources would occur from the Proposed Action.

### Biological Resources

*Vegetation.* The Proposed Action would result in short-term impact to vegetation resulting from compaction or crushing and vegetation stripping due to access road and pad repair or upgrades, when required. To the extent possible, construction activities would avoid desert riparian areas. The environmental protection measures would be implemented to minimize impacts to vegetation. The Proposed Action would not result in the loss of rare plants, native plant communities or other sensitive resources. Vegetation impacts would not result in a species being listed or proposed for listing as threatened or endangered. Construction equipment and vehicles would be pressure washed to prevent the introduction or increase the spread of noxious weeds. Western has concluded that no direct, indirect or cumulative significant impacts to vegetation would occur from the Proposed Action.

*Wildlife.* Wildlife species in and near the ROW may be displaced temporarily during project-related construction activities due to increased noise levels and vehicle use of the ROW.

Wildlife habitats would not be altered, lost, or fragmented except in localized areas. The reconducted line would meet or exceed the design recommendations to minimize electrocutions of large birds and would likely be more visible than the existing line. The environmental protection measures would be implemented to minimize impacts to wildlife. The Proposed Action would not result in any species being listed or proposed for listing as threatened or endangered or violate any statutes and regulations pertaining to wildlife. Because the existing line has been in place for more than 50 years and given the short-term, localized construction activities, the Proposed Action would not interfere substantially with the movement of any native, resident or migratory wildlife species for more than two reproductive seasons. Vegetation removal, where required, would not result in a substantial local loss of wildlife habitat or habitat productivity. The Proposed Action would not reduce the range of occurrence of any wildlife species. Western has concluded that no direct, indirect or cumulative significant impacts to wildlife would occur from the Proposed Action.

*Endangered, Threatened, Proposed, Candidate, and Sensitive Species.* Western determined the Proposed Action may affect but is not likely to adversely affect the bonytail chub, the razorback sucker, the California condor, southwestern willow flycatcher, the California brown pelican, or the yellow-billed cuckoo (a candidate species for listing). The Proposed Action would not modify designated Critical Habitat for the bonytail chub, the razorback sucker or the southwestern willow flycatcher. Western determined that the Proposed Action may adversely affect the Mojave desert tortoise and may modify but not adversely modify designated Critical Habitat for the tortoise. Construction activities would modify approximately 114 acres of designated Critical Habitat. The modification would be temporary as evidenced by the return of the habitat since the line was constructed. The USFWS issued a BO on October 19, 2007, concurring with Western's determination for the bonytail chub, the razorback sucker, the California condor, southwestern willow flycatcher, or the California brown pelican, and the determination that the level of anticipated take from the Proposed Action is not likely to result in jeopardy to the desert tortoise. Western would require its contractor to comply with the terms and conditions to implement the reasonable and prudent measures included in the BO.

By abiding with the terms and conditions in the BO, the Proposed Action would not jeopardize the continued existence of a federally-listed species, cause the loss of individuals of a population of species that would result in a change in species status, or adversely modify Critical Habitat to the degree it would no longer support the species for which it was designated. Western has concluded that no direct, indirect or cumulative significant impacts to endangered, threatened, proposed, candidate and sensitive species would occur from the Proposed Action. The terms and conditions of the BO will be implemented to avoid a significant impact and is addressed in the MAP, issued concurrently with this determination.

Cultural Resources. An intensive cultural resources survey undertaken for the Proposed Action identified two newly recorded prehistoric sites within the area of potential effect (APE): a lithic scatter with possible features (Arizona) and a prehistoric petroglyph site (Nevada). The newly recorded sites are considered eligible to the NRHP. The historic Davis-Mead Transmission Line was also documented as a site but was not recommended as eligible for NRHP listing, and therefore, does not require further consideration or protection. The Hualapai and Hopi Tribes requested avoidance and monitoring of one previously recorded prehistoric site. The site is outside of the APE and would be avoided; however, Western will monitor the site

when construction activities occur in proximity to the site. There are no known traditional cultural properties or sacred sites within the project area.

Western determined the Proposed Action would have no adverse effect on historic properties provided Western complies with the Special Conditions of Compliance. The special conditions in Nevada consist of monitoring project activities at the site and requiring vehicles and equipment to remain on the existing access road with no upgrading or realignment in the area of the site. In Arizona, the special conditions include monitoring project activities at the site; hand carrying the old and new conductors within site boundaries and a surrounding 50-foot-wide buffer area and transported outside the area prior to pulling or winding; and avoidance of the site and buffer area by equipment and vehicles. The Proposed Action would not damage or result in the loss of a site of archaeological, Tribal or historical value that is listed, or eligible for listing, on the NRHP. Concurrence on the no adverse effect determination was received from the Arizona SHPO on September 26, 2007 and from the Nevada SHPO on October 23, 2007. Western has concluded that no direct, indirect or cumulative significant impacts to cultural resources would occur from the Proposed Action. The Special Conditions of Compliance will be implemented to avoid a significant impact and is addressed in the MAP, issued concurrently with this determination.

Visual Resources. Visual effects would occur during construction due to the minor removal of vegetation in limited areas, fugitive-dust generation, increased traffic and transport of materials on local roads, and the presence of construction equipment and materials in the existing ROW. Initially, the new conductor would have greater reflectivity, and therefore, would be more visible than the aging, 50+-year-old conductor. This increased visibility would likely diminish over time. The greater visibility could have a positive effect with regard to reducing the potential for bird collisions with the transmission line. Construction and operation of the Proposed Action would not result in substantial dominant changes in the landscape. As noted previously in Air Resources, air pollutant emissions from the Proposed Action would not cause a change in visibility that would exceed Class I standards. Western has concluded that no direct, indirect or cumulative significant impact to visual resources would occur from the Proposed Action.

Noise. Population density in the majority of the project area is low. There are no noise receptors within 500 feet of the transmission line. Noise generated during construction activities would be short-term and localized. Construction activities of this type usually generate noise in the range of 89 to 103 decibels. At over 500 feet, the noise would drop to about 40 to 50 decibels, which is equivalent to typical background noise. The Proposed Action includes environmental protection measures to control construction-related noise generation. Noise generated following reconductoring would not be perceptibly different from the noise generated by the existing transmission line. The Proposed Action would not expose sensitive receptors or areas of ecological concern to harmful noise levels. Western has concluded that no direct, indirect or cumulative significant noise impacts would occur from the Proposed Action.

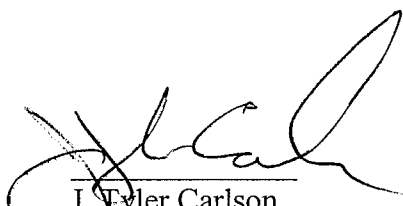
Safety and Health Issues. Due to the rural nature of the Proposed Action, potential impacts to public health and safety would be minimal. During construction, standard health and safety practices would be conducted following the Occupational Health and Safety Administration's policies and procedures. The Proposed Action is not expected to result in serious injuries to workers or visitors to the area or area land users. Population density in the

majority of the project area is low and few if any individuals would experience long-term exposure to electrical and magnetic fields (EMF). Under the Proposed Action, the smaller diameter conductor would decrease the electric field. The magnetic field would increase under the Proposed Action due to an increase in the electrical current. The EMF at the edge of ROW would be well below limits and guidelines set by the International Commission on Non-Ionizing Radiation Protection, the American Council of Governmental Industrial Hygienists, and several states. Therefore, the Proposed Action would not create electric and magnetic fields that would pose a plausible risk to human health. Western has concluded that no direct, indirect or cumulative significant impacts to health and safety would occur from the Proposed Action.

Environmental Justice. According to the U.S. Census Bureau's 2000 data, the highest racial population in the study area is identified as white (Caucasian), which represents 95 percent of the area studied. Population is sparse in the vicinity of the project area and no residential or community displacements would occur. No population would be affected by reconductoring the existing line. Therefore, the Proposed Action would not have a disproportionate effect on minority or low-income populations in the area. Native American Tribes were contacted about the Proposed Action and given the opportunity to express their concerns and interests. Written comments about cultural resources were received from the Hualapai Tribe, the Hopi Tribe, the Quechan Indian Tribe, the Cocopah Indian Tribe, and the Navajo Nation. Western has concluded that no direct, indirect or cumulative significant impacts to Environmental Justice communities would occur under the Proposed Action.

**Determination** – Based on the analysis in the EA, Western has determined that the terms and conditions of the BO and the Special Conditions of Compliance are needed to reduce the potential for significant environmental impacts. These measures will be implemented as addressed in the MAP issued concurrently with this determination. The analyses contained in the EA, along with the mitigation commitments in the MAP, indicate that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment. Western has determined that the preparation of an EIS is not required.

Issued:



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