

DEPARTMENT OF ENERGY
Western Area Power Administration

Finding of No Significant Impact and Floodplain Statement of Findings
Beaver Creek-Hoyt-Erie 115-kV Transmission Line Upgrade
Morgan and Weld Counties, Colorado

Summary - The Western Area Power Administration (Western) proposes to upgrade approximately 78 miles of 115-kV transmission line between the Beaver Creek Substation, east of Brush, Colorado; the Hoyt Substation, west of Hoyt, Colorado; and the Erie Substation, near Brighton, Colorado. The line is proposed to be rebuilt as a double-circuit 230-kV transmission line. Of the 78 miles, approximately 70 are located on private lands and 2 miles are located on City of Brush and State of Colorado property. Western prepared an Environmental Assessment (EA) for the proposal. A number of environmental protection measures are included with the proposed action and alternatives to minimize potential adverse environmental effects.

Two routing alternatives are evaluated in the EA for portions of the Beaver Creek to Hoyt transmission line: 1) the Beaver Creek-Brush Prairie Ponds State Wildlife Area (SWA) Reroute; and 2) the Bijou Creek Crossing Reroute. In addition, the EA addresses the relocation of a portion of the Beaver Creek to Big Sandy transmission line. All three routing alternatives are located in Morgan County and pertain to portions of the Beaver Creek-Hoyt transmission line. These alternatives were developed by Western in response to landowner comments and suggestions on how to minimize impacts to land use and agricultural operations, as well as natural resources.

The proposed action was to rebuild the transmission line on the existing right-of-way (ROW) and to acquire additional ROW to accommodate the upgraded line. As a result of comments received during the scoping process and in subsequent conversations with landowners and agencies, Western identified alternative routes for two sections of the transmission line. Two routing alternatives are examined in the EA. One reroute would place the line on approximately 7 miles of new ROW. This alternative places the new line in an established utility corridor, reduces impacts to irrigated agriculture and other land uses, improves visual impacts, avoids wetlands, reduces the likelihood of impacts to waterfowl, avoids impacts to most recreational uses on the Brush Prairie Ponds SWA, and improves Western's capability to maintain the line. The second reroute (Bijou Creek Crossing alternative) was developed in cooperation with landowners who wanted to improve their ability to use center pivot irrigation and to provide for expansion of their use of their property. This reroute also reduces the number of turning structures in the line. Western adopts the alternative routes as part of the proposed constructed project.

The availability of the pre-approval draft of the EA entitled "Beaver Creek-Hoyt-Erie Transmission Line Rebuild Project Environmental Assessment (DOE/EA-1508)" was distributed

to Federal, State and local agencies, interested Native American Tribes (Tribes), and landowners on September 30, 2005. The end of the review period was November 6, 2005.

One comment was received on the pre-approval draft EA from a landowner adjacent to the existing easement. The commenter is the Executive Director of a not-for-profit sanctuary for exotic and native wildlife species which have been abandoned, abused, injured or confiscated by State or Federal wildlife agencies. The sanctuary contains large areas where the animals are allowed to roam. Some of these areas are located adjacent to the existing transmission line easement. The Executive Director expressed concerns that project construction activities would upset certain species of large cats. Western is working with the Executive Director to reduce disturbance to these animals.

Other comments received during the public review of the pre-approval draft EA were inquiries on project schedule, and land acquisition policies and practices not related to the content or adequacy of the EA.

Based on the information in the EA, Western has determined that the proposed transmission line rebuild project along the existing route and alternative routes would not result in significant environmental impacts, and the preparation of an environmental impact statement (EIS) will not be required. Mitigation measures adopted as part of the proposed project are contained in a Mitigation Action Plan and will be implemented by Western. The basis for this determination is described in this Finding of No Significant Impact (FONSI).

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Additional information and copies of the FONSI are available to all interested persons and the public from the person named above.

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Purpose and Need - The Beaver Creek-Hoyt-Erie 115-kV transmission line, constructed in 1952, is an original facility in the Colorado-Big Thompson Project. Although the line has operated reliably, its limited capacity impacts the rating of the constrained transmission path between southeastern Wyoming and northeastern Colorado (referred to as TOT3), of which it is a component. Due to its limited capacity, the existing transmission line reduces the capability of the path to carry its full designed load. Increasing the carrying capacity of the Beaver Creek-Hoyt-Erie transmission line will avoid further reduction of the path constraints. If no action is taken on the existing line, the circuit will overload to 130 percent of the line's present thermal capacity within 5 years. After another 5 years, the line will exceed the rated capacity by 145 percent. If the line is rebuilt as a single circuit 115-kV line, with larger conductor (795 kcmil ACSR), it is forecast to overload within 15 years, shorter than the expected life of the proposed 230-kV line.

Without the proposed project, the TOT3 transfer path would have to be reduced by up to 400 MW in order to avoid future projected overloads. Western's reduction would be 25 percent (100 MW). This scenario is not acceptable to Western as it would restrict the ability of Western to move Wyoming hydroelectric power to Colorado Federal firm electric service loads.

The proposed transmission line rebuild will utilize larger conductors (1272 kcmil ACSR), thus yielding greater capacity. The greater capacity of the 230-kV transmission line will help alleviate overloading problems already experienced on the line. The existing 115-kV transmission lines are also approaching the predicted useful life of the wood H-frame structures. Anticipated maintenance costs required to continue operating the existing transmission line will be deferred when the transmission line is rebuilt.

In summary, the proposed action will accomplish the following objectives:

- Increase the operating capacity of the Beaver Creek-Hoyt-Erie transmission line.
- Ensure that the electric system in the area will continue to operate within acceptable reliability criteria while accommodating future load growth.
- Allow Western to continue to serve its network customers in a reliable manner.
- Ensure that customers with existing 115-kV interconnections are served.
- Provide line-switching capability at the Morgan County Rural Electric Association's (MCREA) Adena Substation.
- Ensure that updated communication and control facilities are provided to reliably operate and control the transmission line.
- Ensure that the line can be operated at its full capacity without impacting other interconnected transmission lines in the southeastern Wyoming and northeastern Colorado.

- Increase Western's ability to serve Colorado Federal firm electric service loads with Wyoming hydroelectric power.

Project Description - The existing Beaver Creek-Hoyt transmission line is 32 miles long and crosses through Morgan County, Colorado. The Hoyt-Erie transmission line is 46 miles long and crosses portions of Morgan and Weld Counties, Colorado. Western proposes to upgrade the existing transmission lines by removing the existing 115-kV H-frame structures, conductors, and hardware, and installing a double circuit 230-kV transmission line on single-pole steel structures. New H-frame structures would also be installed at specific locations including, among others, four locations where the proposed 230-kV transmission line would pass under existing transmission lines owned by other utilities. Long term, the proposed action would result in a reduction in the number of structures compared to the existing 115-kV transmission line that would be removed. Western would widen the existing ROW as necessary to allow adequate electrical clearances. The proposed action entails the following:

Beaver Creek-Hoyt-Erie Transmission Line Rebuild (78.3 miles)

Approximately 78 miles of the existing Beaver Creek-Hoyt-Erie 115-kV transmission line would be dismantled. This would include the removal of 595 existing transmission structures, conductors and hardware.

- Approximately 400 double circuit 230-kV single pole steel structures would be installed from the Beaver Creek Substation to the Erie Substation. The new double-circuit single-pole steel structures would support the 230-kV circuits. One circuit would be operated at 115 kV for the foreseeable future in order to retain interconnection with MCREA's Adena Substation; Tri-State Generation and Transmission Association, Inc's, Sand Creek Tap and Prospect Valley Substation; United Power, Inc's, Brighton Substation; and Western's Hoyt Substation.
- Approximately 18 new 230-kV steel H-frame structures would be installed at four transmission line crossings and 10 H-frame structures would be installed near the Beaver Creek Substation (8 structures) and Hoyt Substation (2 structures).
- The existing Beaver Creek-Hoyt-Erie ROW would be widened as necessary to meet National Electrical Safety Code standards and provide increased flexibility for maintenance activities for the proposed 230-kV transmission line. The existing ROW is typically 75 feet wide, and would be increased to widths ranging from 85 feet to 125 feet. ROW expansion requirements would vary depending on the width of the existing ROW, structure designs, and whether the existing ROW overlaps with adjacent transmission line ROWs. The ROW would be expanded to 125 feet in width at the four crossings where multiple H-frame structures would route the line under existing transmission lines.
- No major new access roads would be constructed. Existing public and private roads would be used to access the ROW. Within the ROW, Western would access the construction sites and structure sites via existing roads or minor new roads, and with the use of overland construction vehicles. Some grading within the ROW may be required to reach new structure sites, stringing sites, or other construction areas.

- Two sections of the existing Beaver Creek to Hoyt transmission line would be rerouted as described in the EA.
- One section of the existing Beaver Creek to Big Sandy transmission line would be rerouted as described in the EA to place it adjacent to the rerouted section of the Beaver Creek-Hoyt transmission line. Transmission line structures identified for this segment will not include single-pole steel structures as described in the EA, but will include smaller H-frame structures similar to the structures currently in use. Impacts identified and described in the EA for the original proposal to place the rerouted section of the Beaver Creek to Big Sandy line on single-pole steel structures would be similar or reduced by the use of the smaller H-frame structures.

Beaver Creek Substation, Erie Substation, and Hoyt Substation Expansions and Adena Substation Modifications

To accommodate the operation of the proposed double-circuit 230-kV transmission line, the Beaver Creek and Erie Substations would be expanded to accommodate new electrical equipment such as transformers and breakers. Line sectionalizing switches would be installed at the existing Adena Substation.

- The Beaver Creek Substation would be expanded to the east of the existing substation. The existing 5.3 acres would be enlarged to approximately 9 to 10 acres. A potential disturbance area of 31.2 acres is evaluated in this EA.
- The Erie Substation would be expanded from its existing 1.5 acre substation size to approximately 5 acres. The substation expansion would occur to the east and/or north of the existing facility. This EA evaluates a potential disturbance area of approximately 9.5 acres.

The timeframe for expansion or additions in the vicinity of the Hoyt Substation have not been determined. The existing Hoyt Substation is located in a floodplain. Any future 230-kV additions are likely to be constructed outside the floodplain. Modifications to the Hoyt Substation are not addressed in this EA due to these uncertainties and would be subject to NEPA compliance in the future.

The Public Process - Public and regulatory agency involvement is important for analyzing the proposed transmission line upgrade and ensuring that relevant environmental impacts are evaluated. During the early stages of the project planning, Western notified stakeholders of the project and solicited information on their concerns in a scoping letter dated October 22, 2004. Stakeholders contacted included local and State government agencies, landowners along the existing ROW, and Tribes with historical ties to the area. Western met with the Colorado Division of Wildlife (CDOW), the City of Brush Administration and Utilities, and the Morgan County Water Quality District to discuss specific issues. One project update letter was sent to local government officials in June 2005.

Nearly every landowner was personally contacted about the project. Landowners who requested meetings with Western were accommodated. Western also met with landowners along the alternative reroutes.

Additional consultation with Tribes occurred through written correspondence. The correspondence with Tribes helps Western meet the requirements for consultation under agency policy and as required by Executive Orders and Regulations. Much of the correspondence dealt with survey results and recommendations for management of historical properties that are eligible for the National Register of Historic Places (NRHP).

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Alternatives - Western considered several replacement options for the Beaver Creek-Hoyt-Erie transmission line. Alternatives considered and eliminated from further study would not meet Western’s purpose and need for the project, or reduce potential adverse impacts. The 230-kV voltage was identified as the best solution based on electrical systems studies. Without the proposed rebuild and upgrade project, the TOT3 transfer path between southeastern Wyoming and northeastern Colorado would have to be reduced by up to 400 MW in order to avoid future overloads. The greater capacity of the 230-kV transmission line (with larger conductors-1272 ACSR) will help alleviate overloading problems that would result from the continued operation of 115-kV transmission line.

Alternatives considered and eliminated from further study included reconductoring the existing 115-kV line, constructing a new 115-kV line on wood H-frame or light duty steel H-frame structures, and constructing a new 115/230-kV line on lattice steel structures. The 115 kV only alternatives would not prevent a decrease in the TOT3 total transfer capacity. The lattice steel structure alternative was eliminated because the larger structure footprint would likely increase impacts to both natural resources and agricultural lands as compared to single pole steel structures. Visual impacts would also be greater with the lattice structures.

Environmental Impacts - Summary of Findings - The EA evaluates the short-term and long-term impacts that may result from the construction and operation of the proposed action and alternatives. Impacts are assessed on a resource by resource basis, and include the project area that may be affected either directly or indirectly by the proposed project. All impacts have been determined to be less than significant with implementation of Western’s standard practices and project-specific mitigation measures. The results of the resource evaluations are compared in Table S-1 of the EA for the proposed action and alternatives. The following is a summary of the findings for the proposed action and routing alternatives:

Air Quality - Construction along the existing alignment and routing alternatives would have localized, short-term direct effects on air quality. Impacts would primarily be temporary and periodic emissions from construction and maintenance vehicles, and fugitive dust generated by construction activity. The project would have no effect on climate. The project and alternatives

would not cause, nor contribute to a violation of Federal or State standards. The project and routing alternatives would be in compliance with National Ambient Air Quality Standards and the Colorado State Implementation Plan. There are no Federal or State permitting requirements for this source type. There are no notable differences in air quality impacts between the proposed action and routing alternatives. The no-action alternative would also continue to have periodic and temporary impacts on air quality, as maintenance of the existing lines would increase over time.

Geology and Soils - There are no known geologic hazards (i.e., areas prone to earthquake, landslide, rockfall, or subsidence) within the project area. No active faults, inferred active faults, or geologic hazards are documented in the project area. The project area contains a number of facilities related to oil and gas production and coal resources. The project would not impact these resources, however, as it would be located along existing and expanded transmission line ROWs and at substation expansion sites.

Construction along the existing alignment and routing alternatives would mainly result in short-term soil disturbances at localized areas within Western's ROW. Short-term impacts on soils would result where project construction activities cause the loss of vegetation cover at structure sites, stringing sites, and where Western's existing access roads are improved or short spur roads to new structure sites require grading. Installation of the new steel structures would require excavations for holes up to 30 feet deep, depending on soil and geologic conditions. Soil disturbances would also occur at the substation expansion sites. Disturbed soils would be spread around the proposed facilities in a manner to facilitate revegetation. Short-term disturbances for construction are estimated to include 198.7 acres for the proposed transmission line rebuild and less than the 40.7 acres at substation sites. Long-term soil losses are estimated to be less than 2 acres for all transmission structure sites, and approximately 15 acres for the Beaver Creek and Erie Substation expansions.

Impacts to soils would be considered significant if the project or alternatives caused a major acceleration of soil erosion which resulted in, or contributed to, violations of water quality or impacts to existing water uses. Within the project area, increased soil erosion has the greatest potential to occur in areas susceptible to wind erosion. Western would implement both standard practices and project specific measures to ensure that disturbed areas are stabilized (e.g., seeding, mulching, or other techniques) and indirect effects from soil erosion are minimized. Areas susceptible to wind erosion would be monitored to ensure successful stabilization of soils is achieved.

Impacts to soils from the alternatives would be similar to those along the existing alignment overall; however, the Brush Prairie Ponds SWA Reroute and Big Sandy Reroute Alternatives would cross slightly more areas susceptible to wind erosion.

Paleontology - The existing alignment and alternatives would cross geologic formations with known paleontological resource potential, including the Pierre Shale and Denver Formation. No resources have been documented along the existing alignment and alternatives. The likelihood of encountering resources during construction is considered low given topsoil and agricultural land use conditions. Western would avoid and minimize potential impacts to paleontological

resources during construction through data recovery procedures if fossil remains are uncovered during construction.

Surface Water Resources - The project area is within the South Platte River watershed and would have short-term impacts on water resources. The existing alignment crosses 22 stream channels and 26 irrigation ditches or canals. Surface water within the project area generally meets water quality standards for designated uses except for one stream (Beaver Creek), which exceeds state water quality standards for selenium. Surface water use is primarily for aquatic life and agriculture. The proposed project would have no direct impacts on surface waters and water quality since all surface waters would be spanned, and no surface water use is proposed. Standard construction measures, including erosion control measures, would also be implemented to reduce the potential for sedimentation and water quality impacts. National Pollutant Discharge Elimination System Permits would be obtained as necessary.

Groundwater - Impacts to groundwater could occur during construction of foundations for structures near the Brush Prairie Ponds Recharge Area. Seasonally saturated soils typically require installation of deeper foundations than soils that are not saturated. The existing alignment and alternatives cross the Beaver Creek Basin south of the City of Brush (Brush). The Brush municipal well fields are located south of Brush Prairie Ponds Recharge Area and south of the existing transmission line. The Beaver Creek alluvium supplies water to the Brush well fields, as well as the Fort Morgan Reservoir and Irrigation Company. The Brush Prairie Ponds SWA alternative route is the closest to Brush's water wells. Impacts to the groundwater could occur and would be potentially significant if construction of the project impacted the protective clay layer that lies approximately 40 to 60 feet below the surface. Direct impacts to the protective clay layer are considered unlikely since the proposed structures would require foundations from 10 to 30 feet deep. In order to ensure that impacts to groundwater resources does not occur, Western would conduct geological investigations at each proposed structure site within the Brush well field and/or Brush Prairie Ponds Recharge Area (structures within Sections 22 and 21 T3N, R56W and/or Sections 27 and 28, T3N, R56W). Borings would extend 5 feet beyond the depth of the structure foundations to determine if the clay layer would be encountered during project construction. Alternative structure designs would be used that would allow for shallower foundations in the unlikely event that the standard foundations would reach the clay layer. In the event that water is encountered during construction of foundations, Western would obtain a Permit for Construction Dewatering Wastewater Discharge.

Floodplains - The existing alignment crosses floodplains at 12 locations on the Beaver Creek-Hoyt-Erie transmission line ROW. Seven of the 12 floodplains would be spanned, thus, there would be no direct impact to these floodplains. The remaining floodplain crossings are too wide to be spanned. Since the spacing of the proposed structures would be greater than the spacing of the existing structures, actual numbers of structures located within floodplains would be reduced over the existing conditions. One structure would be required to span the Antelope Creek floodplain and two structures could be required in the Muddy Creek floodplain. The largest floodplains include Badger Creek, Beaver Creek, and the South Platte River, with an estimated five structures, four structures, and three structures to be installed respectively within each of these floodplains. Long-term disturbance would be limited to the footprint of the structures (approximately 50 square feet per structure). Western would cross floodplains in compliance

with Permit 12 (utilities) of the Army Corps of Engineers Nationwide Permit. Western would not propose to fill or dredge in floodplains. Western would follow Federal Emergency Management Agency (FEMA) approved floodplain construction requirements. Western would also require the construction contractor to implement spill control and response procedures to control and clean up accidental spills of fuels and oils.

The impacts of the alternatives would be the same or similar to construction along the existing alignment. The Brush Prairie Ponds SWA Reroute and Beaver Creek-Big Sandy Alternatives cross four floodplains compared to five floodplains for the existing alignment. The Brush Prairie Ponds SWA Reroute alternative would be located in the section to the north of the section containing the Brush municipal well field, but it would be closer than the existing line. Consequently, the reroute would have a greater potential conflict with the Brush municipal wells than the existing alignment. However, since Western would implement project mitigation measures to avoid construction of structure foundations that would impact the protective clay layer that lies over the well field aquifer, long-term impacts would be similar to those associated with constructing along the existing alignment.

The alternative routes would have similar potential impacts to floodplains as the existing alignment. The Brush Prairie Ponds SWA Reroute and Beaver Creek-Big Sandy Reroute would cross the Beaver Creek floodplain to the south of the existing transmission line and would require three structures to cross the floodplain compared to five structures for the present alignment. The Bijou Creek Crossing Reroute would require one intermediate structure to cross the floodplain, compared to no structures for the existing alignment.

In summary, all impacts are expected to be of short duration and less than significant for constructing along the existing alignment and the alternatives. There are no long-term impacts expected to surface water, floodplains, or groundwater from the existing or the alternative routes.

Vegetation and Wetlands - The proposed transmission line would result in the short-term disturbance of approximately 198.7 acres. The majority of disturbances (138.3 acres) would occur in agricultural land. Predominant vegetation types affected include agricultural lands, native prairie, and non-native grassland. The vast majority of area affected during construction would be reclaimed following construction. Less than 3 acres would be disturbed long-term within the ROWs. Impacts to vegetation and wetlands would be considered significant if the project resulted in the loss or substantial impact to a designated conservation area, the establishment of noxious weeds that reduce agricultural productivity, or wetland fill impacts of 0.5 acre or greater. The project area contains no designated conservation areas. Western would use standard construction practices and project measures to ensure the introduction and/or spread of invasive species or weeds are minimized to less than significant levels.

The current ROW would intersect or cross approximately 33 wetlands. Most are associated with stream channels, ephemeral drainages, or irrigation ditches. Potential direct impacts to wetlands would be avoided through structure placement that would allow spanning of all wetlands. Indirect impacts could result if increases in erosion and sedimentation affected wetlands across the Brush Prairie Ponds SWA where the existing ROW crosses nearly a mile of intermittent wetlands and aquatic habitat. These types of indirect impacts would be minimized through

implementation of Western's standard practices that provide for erosion control and avoidance of wetlands during construction and maintenance operations. Some direct impacts to riparian/cottonwood woodlands would occur, however. Cottonwoods and other trees that could impact the safe operation of the transmission line would be removed. Less than 0.1 acre riparian woodlands would be affected. There would be no significant impacts to wetlands, riparian vegetation or other potentially sensitive habitats from the expansion of the Beaver Creek and Erie Substations. Construction of the substations would impact agricultural, native prairie, and previously disturbed and weedy vegetation. Long-term impacts to vegetation at the substation sites would include up to 10 acres at the Beaver Creek Substation and 5 acres at the Erie Substation.

The routing alternatives would have similar potential for adverse impacts to vegetation as would constructing along the present alignment. The Brush Prairie Ponds SWA Reroute would result in fewer impacts than the existing alignment since the alternative would avoid the long-term presence of the project near wetlands and aquatic habitat in the SWA by routing south of the wetlands area. The Bijou Creek Crossing would potentially have slightly greater impacts than the existing alignment on riparian woodland habitat in the Bijou Creek floodplain.

Wildlife - The project area supports habitat for a number of wildlife species, including big game (mule deer, white-tailed deer, and pronghorn), smaller mammals (including black-tailed prairie dogs), waterbirds (waterfowl, shorebirds, and waders), raptors, and other birds (songbirds). Impacts to wildlife would be significant if the project resulted in a long-term decrease in economically or ecologically important wildlife populations or a population trend warranting listing as Federally threatened or endangered. The construction of the project would have the potential to result in the direct mortality of small, less mobile mammals within the corridor, disturb active raptor nests, or disturb black-tailed prairie dog towns. The long-term direct loss of habitat would be slightly adverse, however, given the small amount of long-term habitat loss (less than 2 acres for the transmission line and approximately 15 acres at the substation sites).

Impacts to wildlife would be minimized with Western's standard practices and project mitigation measures. Western's high-voltage transmission lines are designed to comply with the recommendations of the Avian Powerline Interaction Committee and U.S. Fish and Wildlife Service (USFWS) for minimizing electrocution hazards to raptors. Risks of collision would be slightly increased over the existing conditions because of the increased number of lines that would be present with the 230-kV transmission line compared to the existing 115-kV transmission line. The highest potential for waterbird collisions is where the existing transmission line is in proximity to the Brush Prairie Ponds SWA ponds. To avoid or minimize impacts to raptors, Western would conduct raptor nest inventories prior to construction, and would implement appropriate mitigation to prevent the project from disrupting active nests. Impacts to migratory bird nests would also be minimized by avoiding ground-clearing activities in the Brush Prairie Ponds SWA during the nesting season, or conducting surveys for nests prior to construction so that they may be avoided. The potential impacts to black-tailed prairie dogs, nesting raptors, and waterbirds would not occur with the substation modifications since suitable habitat does not exist in the proposed expansion areas.

The impacts of the alternative routes would be similar to, or less than, those of constructing entirely along the existing alignment. The Brush Prairie Ponds SWA Reroute would minimize long-term risks associated with waterbird collisions with the powerlines since the reroute would be out of the direct flight path of the birds coming into and leaving the SWA or flying between ponds. Potential impacts to the existing black-tailed prairie dog town would be eliminated with the Bijou Creek Crossing alternative. The new ROW for the Bijou Creek Crossing alternative would be close to a red-tailed hawk nest and would cross a wider expanse of riparian/cottonwood woodland habitat.

Special Status and Sensitive Species - Special status and sensitive species include those species and critical habitats listed, or candidates for listing, under the Endangered Species Act of 1973 (ESA). Other species considered include state-listed species and species of concern listed with the Colorado Heritage Program. The following Federally threatened, endangered, proposed, and candidate species (TEP&C) and/or their critical habitats are known to occur within the project area: Black-footed ferret (endangered), Preble's meadow jumping mouse (threatened, recently recommended for de-listing), Least tern (endangered), Piping plover (threatened), Whooping crane (endangered), Bald eagle (threatened), Plains sharp-tailed grouse (state endangered), Mexican spotted owl (threatened), Burrowing owl (state threatened), Pallid sturgeon (endangered), Colorado butterfly plant (threatened), and Ute ladies tresses (threatened). Western would avoid habitats for these species either through facility placement or construction timing restrictions.

Impacts to special status species would be considered significant if the project resulted in a "jeopardy" biological opinion under Section 7 of the ESA, or if a population reduction is caused by the project, resulting in its listing under the ESA. Western would implement both standard measures and project measures to ensure impacts are less than significant. Black-footed ferrets are believed to be extirpated in eastern Colorado. Field reconnaissance of the project area identified two prairie dog towns as possibly meeting the criteria for potential habitat for black-footed ferret. Western has consulted with the USFWS, and USFWS has determined that limiting conditions are applicable to the project area that would make it unlikely to support black footed ferrets. Consequently, no surveys are required for this species for ESA compliance. Burrowing owls may inhabit prairie dog towns. USFWS and CDOW recommended surveys for the owls if construction cannot be avoided between March 1 and October 31.

Western would minimize the potential to impact other TEP&C species through preconstruction surveys and avoidance measures that include limiting construction activities during breeding periods and avoiding construction activities within 0.5 mile of active raptor nests. Avoidance and mitigation measures for TEP&C species are incorporated in Western's standard construction and project specific mitigation measures. With implementation of these measures, the proposed and alternative would not affect listed species.

Cultural Resources - Class I and Class III cultural resource surveys were conducted for the existing alignment and alternatives. Significant cultural resources are defined as those listed on, or eligible for listing on, the NRHP. Impacts to cultural resources would be significant if the project impacted cultural resources considered eligible for, or listed on, the NRHP. Twenty eligible or recommended as eligible sites were recorded on the Beaver Creek-Hoyt-Erie

transmission line ROW; nineteen historic sites and one pre-historic site. Western's standard construction and mitigation practices and project specific mitigation for cultural resources would be implemented to minimize the impacts on cultural resources. These measures include avoiding direct impacts to sites where feasible through careful structure placement and avoidance of sites during construction. None of the historic properties along the Beaver Creek-Hoyt-Erie transmission line currently have existing transmission structures within the site boundaries. No known archaeological sites or historic properties exist within the expansion areas of the substations, the Brush Prairie Ponds SWA Reroute, or Beaver Creek-Big Sandy Reroute. The Bijou Creek Crossing Reroute is similar to the existing Bijou Creek Crossing. Since the span length between structures would be increased with the proposed upgrade project compared to the existing transmission line, avoidance of direct impacts to cultural resources is considered feasible. Consequently, impacts to cultural resources are not anticipated. If avoidance of all eligible sites is not feasible, a mitigation plan would be implemented prior to construction.

Land Use - The project crosses portions of Morgan and Weld Counties that are primarily in agriculture related land uses. The transmission line also crosses the Brush Prairie Ponds SWA, managed by the CDOW. Several communities and a number of dispersed rural residences are located within 2 miles of the proposed project including Brush, in Morgan County, and the communities of Lochbuie, Wattenberg, and Brighton in Weld County. Several utility corridors occur in the project area. These corridors contain pipelines, transmission lines and communication facilities. Western's existing transmission lines and ROWs have been established land uses since the 1950's.

Impacts to land use would be significant if the proposed action or alternatives were inconsistent with the adopted land use plans and regulations of local, State and Federal agencies, or resulted in long-term impacts to the region's prime farmland productivity or the economic viability of area farms and businesses. The proposed project would not conflict with the Weld County and Morgan County land use plans. Prime farmland exists along both segments of the existing transmission line, and is crossed by the Beaver Creek-Hoyt segment for 7 miles and the Hoyt to Erie segment for 35.5 miles. Impacts to prime farmlands would primarily be short-term during construction, and less than the existing 115-kV transmission line long-term, once the project is in operation. Long-term impacts to area businesses or farms would be similar to the existing 115-kV transmission line that would be removed. The Brush Prairie Ponds SWA, which provides hunting and wildlife viewing opportunities, is crossed diagonally by the existing transmission line but would be crossed south of the wet areas by the alternative route.

Construction along the existing alignment and routing alternatives would result in short-term disruptions to agricultural lands and practices during construction. Long-term effects to agricultural land and operations would be less than the existing conditions since the project (and routing alternatives) would result in fewer structures being required in cultivated farmland and the proposed single pole structures would result in less land permanently taken out of production. Overall, the proposed project would result in fewer structures being located on private properties than the no action alternative, due to the greater span length of the single-pole steel 230-kV structures compared to the existing H-frame structures. The proposed project would have short-term adverse impacts on farm operations (crop loss, soil compaction interference with equipment, access roads, and irrigation systems) that would be mitigated to the extent feasible

with Western's standard construction practices and landowner notification procedures. Long-term impacts to agricultural land would include land permanently lost from production and potential interference with ground equipment and aerial spraying operations. These impacts would be less than significant since impacts would be localized and similar to the constraints posed by the existing transmission line.

The upgrade project would result in similar impacts to the Brush Prairie Ponds SWA as the existing 115-kV transmission line. Short-term impacts to hunting activities during construction would be avoided since Western would not conduct ground disturbing activities in the SWA during the hunting season. Long-term effects to the SWA would be very similar to the existing conditions. Construction-related impacts to local residents and communities would be short term and adverse, and result from the intermittent presence of construction crews and vehicles and related noise; dust and traffic that would be evident as crews work along the ROW dismantling the existing transmission line and installing the new 230-kV transmission line. Long term, the upgraded transmission line would result in less frequent maintenance activities being necessary during the life of the project.

The routing alternatives would result in reduced long-term impacts to land use compared to constructing entirely along the present alignment. The Brush Prairie Ponds SWA Reroute would reduce existing impacts to the SWA by moving the transmission line south of the waterfowl concentration areas and hunting areas and avoiding some pivot irrigation systems. Similarly, the Beaver Creek-Big Sandy and Bijou Creek Crossing alternatives would reduce on-going impacts to several landowner's irrigation systems and agricultural fields. Short-term impacts for all alternatives would be similar to those described for construction along the existing alignment.

Short-term and long-term impacts from construction activities at the Beaver Creek or Erie Substation expansion sites would be similar to the impacts described above. No significant adverse long-term impacts to existing land uses are expected from ROW changes since existing land uses would not be prohibited or removed. There are no known conflicts with any planned developments in Weld or Morgan Counties.

Visual Resources - The proposed project would be visible from the Brush Prairie Ponds SWA; from major travel routes in Morgan and Weld Counties, Colorado, including I-76, U.S. Highway 85 and State Route 71; from residential areas including homes near the communities of Brush, Wattenberg, Lochbuie, and Brighton; and from dispersed rural residences and recently developing subdivisions in Morgan and Weld Counties. Visual impacts would be significant if the project or alternatives caused long-term visual changes that diminished the value or use of established parks or recreation areas of national and regional importance or designated scenic areas with recognized regionally important viewsheds. These types of regionally important visual resources do not exist in the project area.

Visual impacts would primarily be the direct, long-term effects that would result from the installation of the taller 230-kV single-pole steel structures and increased number and diameter of conductors, as well as the removal of the existing 115-kV transmission line. The new single-pole structures would be approximately twice as tall as the existing H-frame structures (average 100 feet versus 55 feet); however, fewer structures would be required for the 230-kV

transmission line since span lengths would be increased from 700 feet to approximately 1,000 feet. Consequently, depending on individual viewing conditions, long-term visual impacts could range from adverse to beneficial. Adverse to slightly adverse visual impacts would result to rural residences, the Brush Prairie Ponds SWA, and at several highway crossings (I-76, U.S. Highway 85 and State Route 71), where the new structures and conductors would be visible within foreground (within 0.5 mile) distances. The perceived visual changes would range from weak to moderate depending on the landscape character and specific viewing conditions and distances. Beyond 0.5 mile, the changes in visual character between the existing transmission line and proposed transmission line rebuild would appear incremental. Construction-related impacts to landscape aesthetics would be short-term and intermittent. Western would implement both standard practices and project measures to ensure that ground disturbances are mitigated and restored to pre-existing conditions following construction, and that long-term visual contrasts of the new structures are minimized to the extent feasible.

Compared to constructing entirely along the existing alignment, the Brush Prairie Ponds SWA Reroute and Beaver Creek-Big Sandy Reroute alternatives would result in similar or slightly reduced visual impacts near Brush, from State Route 71, and from the Brush Prairie Ponds SWA. These alternatives would have reduced visual impacts to area residents and highway travelers since the alternatives would result in the consolidation of utilities to the east and south of the Beaver Creek Substation, further away from most residents' views. These alternatives would also have beneficial visual effects where the removal of the 115-kV transmission line near Beaver Creek improves views from homes and roads. Visual impacts to the SWA would similarly be reduced since the 115-kV structures, hardware, and conductor would be removed from the center of the wildlife area and ponds that are used most intensely for hunting and fishing, and instead routed further away from these recreational areas to the south. No substantial differences in visual impacts would result from the Bijou Creek Crossing Reroute or the expansion of the substations.

Socioeconomics and Environmental Justice - The proposed project would have no long-term adverse impacts to socioeconomic conditions or community resources. The project would not disproportionately affect minority or low-income populations. Short-term impacts would be beneficial economic activity in the project area.

Transportation - The proposed project would have significant impacts on transportation if the project restricted public roads, resulting in adverse impacts to emergency response capabilities or economic hardships to local businesses. No significant impacts would occur since traffic restrictions would be very short-term and intermittent, and no businesses would be impacted by limited access conditions. Short-term and slightly increased traffic would result on two Interstate Highways (I-76 and I-25) and five U.S. Highways (34 and 85) and State Highways (71, 52, and 79) serving the area. Short-term increases in construction traffic and traffic delays would also occur on local Morgan and Weld county roads.

Cumulative Effects:

Climate and Air Quality - Because of the nature of the proposed project and alternatives, any potential air quality impacts would be minor, localized, temporary, and short term. Therefore, there is little likelihood of cumulative impacts occurring with other sources of air pollution. If

cumulative impacts occur, the proposed project would not cause or contribute to a violation of applicable standards. Because the proposed project would not affect local climatic conditions there would be no cumulative impacts on climate.

Soils - There are 12 defined projects, as well as a number of undefined projects, occurring or proposed to occur within the vicinity of this transmission line rebuild effort. The types of projects proposed range from residential developments to industrial parks to gravel pits. Each of these developments would entail surface soil disturbances that would increase erosion potentials and reduce soil productivity for various periods of time. It is assumed that surface soil stabilization would be required for the majority of these projects, limiting soil loss due to wind erosion. Portions of these developments that result in building construction and hard surfacing would, in effect, eliminate soil productivity in perpetuity. The proposed disturbed acreage associated with this project would be limited and would occur intermittently across a 78-mile corridor. The revegetation and mitigation activities required for this project would serve to stabilize the surface soils and return the majority of affected soils to a productive condition across a comparatively short timeframe. Therefore, it is reasonable to assume that impacts to the soil resource resulting from this project are minor when considered in the context of the cumulative regional impacts associated with known regional developments.

Paleontology - With the application of appropriate standard construction measures, this project, and other projects planned and executed with similar sensitivity to paleontology, are likely to have only a small cumulative adverse impact on paleontological resources. This and additional development in the region may result in paleontological discoveries that would otherwise not occur.

Water Resources

Surface Water. The proposed project would not directly impact surface water and thus no direct cumulative impacts would occur. The project would have the potential to contribute to indirect effects to water quality, resulting from incremental increases in sedimentation caused by surface ground disturbances at substation sites and structure sites. Similar impacts would be expected from residential and industrial construction. The overall short-term disturbance area of the proposed project construction would be approximately 197 acres and would be dispersed over 78 miles. Disturbances would occur in phases, beginning in 2006 and ending by 2010. Western would use best management practices to avoid surface water pollution and minimize indirect cumulative impacts to surface waters, and would therefore not contribute to any significant cumulative impacts. Operations would not impact surface waters and thus would not cause additional cumulative impacts.

Floodplains. Waters of the United States are protected under the *Clean Water Act*; many floodplains are defined as waters of the United States. The rebuild project and each reasonably foreseeable project described above would comply with *Clean Water Act* regulations to protect these areas; therefore, cumulative impacts to floodplains and wetlands would be minor and of short duration. Operations would not impact floodplains or wetlands and thus would not cause additional cumulative impacts.

Ground Water. The proposed rebuild project is not expected to impact groundwater and would not contribute to any cumulative impacts to ground water resources. The proposed project is located near groundwater resources used by the City of Brush and Fort Morgan Reservoir and Irrigation Company. Impacts to groundwater resources would be avoided by preconstruction testing and monitoring to ensure structure foundations do not impact groundwater resources. Alternative structure designs and adjustments to structure locations would be implemented as necessary to avoid impacts to local groundwater resources and recharge areas. Any dewatering from construction will be mitigated locally and cumulative ground water impacts are expected to be minor and of short duration.

Vegetation, Wetlands, Wildlife, and Sensitive Species - Based on other reasonably foreseeable projects in Morgan and Weld counties, the proposed rebuild project would contribute to a short-term cumulative loss of native habitats if any of the other foreseeable projects are in native habitats. However, losses of native habitat to occur with the transmission line rebuild project would be short term since they would be reclaimed and not contribute to a long-term cumulative loss of native habitats. No cumulative environmental impacts would occur with threatened or endangered species since the transmission line rebuild project would not impact any populations or habitats of listed species.

Cultural Resources - Cumulative impacts to cultural resources would be minor. Cumulative impacts are minimized through implementation of Federal Laws and Regulations to protect historic resources, prehistoric resources, and sites important to Native American heritage.

Land Use - The proposed project would make a minor contribution to cumulative land use effects resulting from the reasonably foreseeable future projects shown on Table 3.16-1 in the EA. Future actions that could impact the land use character of the region to the greatest degree are continued residential development adjacent to the transmission line corridor. Bedroom communities continue to expand as the price of real estate in the urban areas continues to escalate. Impacts from these reasonably foreseeable projects will continue to occur presently. For the short term, the proposed reasonably foreseeable projects would not have a dramatic impact on the region. However, the proposed project would not change the land use character of the area since the proposed project consists of replacing and modifying existing transmission lines within established utility corridors.

The project would provide a reliable source of power that would allow future development to occur, and the availability of adequate power supplies could contribute to growth and development in the region. Because of the vast amount of private agricultural land in Weld and Morgan Counties, land use activities and characteristics are likely to remain in spite of the proposed cumulative development. The proposed project would not directly cause or contribute to the long-term cumulative impacts to land uses.

Visual Resources - The proposed project would contribute to regional changes in land use character and related visual quality that would result from the reasonably foreseeable projects outlined in Table 3.16-1 in the EA. Overall, cumulative visual changes would entail the conversion of natural and agricultural landscapes to increasingly developed urban and utility corridor landscapes. The proposed project's contribution to these regional, long-term aesthetic

changes would be very minor and incremental since Western is proposing to utilize established utility corridors and upgrade existing facilities. As reasonably foreseeable residential and community projects develop, there will be increased areas of visual sensitivity due primarily to greater numbers of residents located near the ROW and utility facilities. While visual sensitivity may increase, the project's contribution to cumulative adverse impacts would remain minor compared to the existing conditions.

Socioeconomics and Community Resources - The proposed project would make a minor and short-term contribution to the cumulative socioeconomic impacts that would result from construction and operation of other reasonably foreseeable projects listed in Table 3.16-1 of the EA. Build-out of these projects would contribute to changes in local population, employment, housing, public services and facilities, the economy, and the transportation network. Many of these projects would affect the overall socioeconomic environment of the project area, primarily in the areas of increased population and employment, increased income in the project area, and increased revenues generated particularly in Weld County, but also in the towns affected by the developments. It is difficult to identify the secondary and induced growth effects from commercial, industrial, and residential activity within the project area.

The Beaver Creek-Hoyt-Erie Rebuild Project would have a very minor contribution to these cumulative socio-economic changes since project-related effects would be short term and occur primarily during project construction in the next 4 to 5 years.

Transportation - During construction, the proposed project would result in short-term and insignificant impacts to local transportation systems. Impacts to transportation systems would result from the intermittent presence of construction crews and vehicles and associated increased traffic. These effects could occur simultaneously with other proposed developments, however. The proposed projects contribution to cumulative impacts is considered short-term, and could be partially mitigated through the coordination with other local agencies regarding construction plans and schedules, particularly in areas where suburban development is occurring in Weld and Morgan County. Over the long term, the proposed project would not change traffic-related activity throughout the project area.

Floodplain Statement of Findings:

FEMA maps show 100-year floodplain delineations at five locations on the Beaver Creek-Hoyt corridor and seven locations of the Hoyt-Erie corridor. A total of 33 wetland crossings were identified within the proposed action transmission line ROWs and alternative ROWs. Most are associated with stream channels, ephemeral drainages, or irrigation ditches, and the most extensive wetland crossings are associated with Beaver Creek, the Upper Platte and Beaver Canal, Brush Prairie Ponds, Horse Creek, and South Platte River areas. A "Notice of Floodplain/Wetlands Involvement and Opportunity to Comment" was sent to Federal, State and local agencies. One letter was received from the U.S. Army Corps of Engineers in response to the Notice.

The EA includes a floodplain assessment as required by DOE's Floodplain/Wetlands Environmental Review Requirements (10 CFR part 1022). Work within the boundaries of the

floodplains would be required as the proposed transmission line route would cross floodplains. To the extent practicable, Western would avoid placing structures within the 100-year floodplains. Several floodplains are considerably wider than the span between transmission structures. Western would have to place structures within the floodplains that could not be spanned. If placement of structures within the floodplain cannot be avoided, structures would be reinforced and engineered to withstand flood events. These structures would be designed to the applicable standards. Transmission line structures would not significantly change the drainage patterns of the floodplains crossed, nor would they contribute to flooding or cause worse flooding to occur. The no action alternative would also require action within floodplains since the floodplains currently contain structures, many of which have been in place since 1952. Fewer structures would be located in floodplains with the proposed action because the spans are longer for the single-pole steel structures. There is no practicable alternative to placing structures within the floodplains that are too wide to span. The drainages occur across the route of the transmission line requiring that they be crossed.

All activity proposed within the floodplains would be conducted in accordance with applicable regulations and floodplain protection requirements. Based on the measures proposed for the transmission line no direct, indirect or cumulative floodplain impacts are expected from the proposed project.

Determination - Based on the analysis in the EA, Western has determined that mitigation measures would reduce the potential for significant environmental impacts. The implementation of these measures is addressed in a Mitigation Action Plan (MAP) issued concurrently with the EA. The analyses contained in the EA, along with the mitigation commitments in the MAP, indicate that the proposed action and alternative routes are not a major Federal action significantly affecting the quality of the human environment. Western has determined that preparation of an EIS is not required

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