

5 WHAT UNAVOIDABLE ADVERSE IMPACTS MIGHT BE CAUSED BY CORRIDOR DESIGNATION AND LAND USE PLAN AMENDMENT?

The designation of the Section 368 energy corridors and amendment of land use (or equivalent)¹ plans under the Proposed Action would not result in unavoidable adverse impacts. Unavoidable adverse impacts to resources could occur as a result of the development and operation of energy transport projects within the corridors designated under the Proposed Action or within project-specific ROWs under No Action. The magnitude of the unavoidable adverse impacts, as well as the degree to which they could be mitigated, would vary by project type and location.

Many of these project development and operational impacts could be reduced through implementation of the mitigation practices identified in this PEIS, which could be stipulated as part of the ROW permitting processes used by the agencies under both alternatives. The magnitude and extent of unavoidable adverse impacts associated with project development in corridors designated under the Proposed Action could be further mitigated through the consideration and implementation of the IOPs identified in this PEIS (Section 2.4).

5.1 POSSIBLE IMPACTS TO LAND USE

Designation of energy corridors and land use plan amendment under the Proposed Action could result in unavoidable changes in land use within the designated corridors. Land use within most designated corridors would be changed for multimodal energy transport, except in areas locally designated as energy corridors (within

locally designated corridors incorporated into the Proposed Action). The construction and operation of energy transport projects under each of the alternatives could result in temporary, unavoidable impacts to recreation, livestock grazing, timber harvest, oil and gas leasing, and minerals extraction. Long-term unavoidable impacts to current and future uses may also occur under each alternative, depending on the type of energy transport project developed and its operational requirements (such as the need for a treeless ROW).

5.2 POSSIBLE IMPACTS TO GEOLOGIC AND PALEONTOLOGICAL RESOURCES

No adverse impacts to geologic and paleontological resources are anticipated with corridor designation or land use plan amendments. Unavoidable adverse impacts could be incurred under both alternatives during the construction of an energy transport project on federal and nonfederal land. Project construction could result in unavoidable impacts to natural topography, soil erosion, drainage patterns, and slopes as well as damage or destroy paleontological resources along the project-specific ROW on federal and nonfederal land. Project construction could also result in the compaction, excavation, and removal of soil from the project area (depending on the specific type of energy transport system being developed). Long-term removal of sand, gravel, and crushed stone to support project needs would also be unavoidable in some locations. The likelihood, magnitude, and extent of unavoidable impacts could be reduced under both alternatives through the implementation of the mitigation measures identified in this PEIS. The consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts of project construction and operation.

¹ Shaded text indicates portions of the document that underwent revision between the draft and the final PEIS in response to comments received during the public comment period as well as additional information provided by local federal land managers and resource specialists.

5.3 POSSIBLE IMPACTS TO WATER RESOURCES

Corridor designation and land use plan amendment are not expected to adversely impact water resources (either surface water or groundwater). Unavoidable adverse impacts could be incurred under both alternatives only as a result of construction of an energy transport project on federal and nonfederal land. While there is a potential for unavoidable adverse impacts to water resources from construction under both alternatives, the likelihood, magnitude, and extent of impacts could be reduced under each alternative through the implementation of the mitigation measures identified in this PEIS.

Similarly, consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts of project development and operation in corridors designated under the Proposed Action. There could be minor loss of floodplain area because of placement of project infrastructure within a floodplain. It is assumed that projects would be designed to minimize placement of infrastructure within floodplains, and any infrastructure located within floodplains would be relatively small in number and size. Thus, neither floodwater movement nor floodwater storage capacity are expected to be impacted by project development or operation.

An accidental petroleum pipeline spill contacting a surface water body or infiltrating into an aquifer could impact surface water and groundwater quality and use in the vicinity of the accidental release. Implementation of spill prevention, control, and cleanup procedures would minimize the likelihood, magnitude, and extent of unavoidable adverse impacts of an accidental spill to water quality.

5.4 POSSIBLE IMPACTS TO AIR QUALITY AND AMBIENT NOISE LEVELS

No adverse impacts to air quality or ambient noise are anticipated with corridor designation and land use plan amendment under the Proposed Action. Unavoidable adverse impacts could be incurred during the construction of energy transport projects on federal and nonfederal lands under both alternatives. Unavoidable impacts could also occur under each alternative during operation of energy transport projects requiring the use of compressor or pump stations or from corona effect noise during electricity transmission. Construction, clearing and grading, trenching, excavation, and construction vehicle traffic would result in fugitive dust and vehicle emissions. During operation of energy transport systems, unavoidable air impacts would occur primarily during operation of natural gas compressor stations powered by gas turbines or reciprocating engines.

Construction and operation of energy transport projects could result in unavoidable noise impacts under both alternatives. Elevated noise levels would be generated during various construction activities, such as vegetation clearing and ROW grading, excavation and blasting, and vehicle traffic (including helicopter delivery of electricity transmission towers in remote areas). Noise levels may also be elevated during operations of turbines and reciprocating engines at pipeline compressor and pump stations.

The likelihood, magnitude, and extent of unavoidable adverse impacts could be reduced under each alternative through the implementation of the mitigation measures identified in this PEIS. Similarly, the

consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts from project development and operation in corridors designated under the Proposed Action.

5.5 POSSIBLE IMPACTS TO ECOLOGICAL RESOURCES

No adverse impacts to ecological resources are anticipated with corridor designation and land use plan amendment under the Proposed Action. Unavoidable adverse impacts would be incurred on federal and nonfederal lands under both alternatives during the future construction and operation of authorized energy transport projects. The construction and maintenance of project-specific ROWs under each alternative would result in unavoidable temporary and permanent changes in vegetation and wildlife habitats.

Vegetation and habitats immediately within a project ROW would be destroyed during clearing and grading. Unavoidable impacts to wildlife could include habitat loss, disturbance and/or displacement, mortality, and obstruction to movement. Increased noise during construction and operation of compressor stations could disrupt local wildlife foraging and breeding of some wildlife. Aquatic biota and habitats could be affected by siltation resulting from runoff from areas of disturbed soils, and from accidental releases of hazardous materials from construction equipment (such as fuels) and from an accidental petroleum pipeline release. Under No Action, there is a greater potential for habitat fragmentation because individual energy transport projects would be less likely to be colocated than they would be under the Proposed Action. In addition, in areas where the combined project ROWs within the corridors designated under the Proposed Action would be greater than the widths of the No Action ROWs, wildlife species may have greater difficulty crossing the wider corridors.

The likelihood, magnitude, and extent of unavoidable adverse impacts to ecological resources could be reduced under both alternatives through the implementation of the mitigation measures identified in this PEIS, while consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts from the development and operation of projects within corridors designated under the Proposed Action.

5.6 POSSIBLE IMPACTS TO VISUAL RESOURCES

Corridor designation and land use plan amendment are not expected to adversely impact visual resources. Unavoidable adverse impacts would be incurred on federal and nonfederal lands under both alternatives during the construction and operation of an energy transport project. Under each of the alternatives, short-term impacts could be incurred during the construction of an energy transport project. Fugitive dust and the presence of construction equipment and crews would be visible in the vicinity of the construction site, potentially affecting local viewsheds and recreational experiences. Because project-specific ROWs and infrastructure (e.g., electricity transmission towers, compressor stations) would be visible throughout the lifespan of the project, there could be long-term unavoidable impacts on some viewsheds and the recreational experiences of visitors in those viewsheds. More viewsheds could be affected by projects developed under the No Action Alternative than under the Proposed Action because individual energy transport projects would be less likely to be colocated under the No Action Alternative than they would under the Proposed Action, and thus would occur in more viewsheds.

The likelihood, magnitude, and extent of unavoidable adverse impacts to visual resources could be reduced under both alternatives through the implementation of the mitigation measures

identified in this PEIS, while consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts of project development and operation in corridors designated under the Proposed Action.

5.7 POSSIBLE IMPACTS TO CULTURAL RESOURCES

No adverse impacts to cultural resources would be anticipated with corridor designation and land use plan amendment under the Proposed Action. Unavoidable adverse impacts could be incurred during the construction and operation of an energy transport project within a corridor designated under the Proposed Action or within a No Action ROW. Under both alternatives, cultural resources could be destroyed on federal and nonfederal lands by construction activities such as clearing and grading, pipeline trenching, and transmission tower placement. Development of new ROWs under each of the alternatives could also increase access to previously inaccessible areas on federal and nonfederal lands, which could lead to vandalism of both known and undiscovered cultural sites.

The likelihood, magnitude, and extent of unavoidable adverse impacts to cultural resources could be reduced under both alternatives through the implementation of the mitigation measures identified in this PEIS, while consideration and implementation of the IOPs identified in this PEIS could further minimize unavoidable adverse impacts of projects developed and operated on corridors designated under the Proposed Action.

5.8 POSSIBLE IMPACTS TO TRIBAL TRADITIONAL CULTURAL RESOURCES

The designation of Section 368 energy corridors and land use plan amendment would

not result in adverse impacts to Tribal traditional cultural resources. Unavoidable adverse impacts to some Tribal resources could be incurred on federal and nonfederal lands under both alternatives during the construction and operation of energy transport projects. Clearing and grading, pipeline trenching, and transmission tower placement could result in unavoidable adverse impacts to some Tribal interests and treaty rights. These project-specific activities could impact resources of interest to Tribes, as well as affect burial and ceremonial rituals. Project-specific ROWs may also increase access to previously inaccessible areas, which could lead to vandalism of both known and undiscovered sacred sites. The likelihood, magnitude, and extent of unavoidable adverse impacts to Tribal interests and treaty rights could be reduced under both alternatives through implementation of the mitigation measures identified in this PEIS. Under the Proposed Action, the potential for unavoidable impacts of project construction and operation may be further minimized by the consideration and implementation of the IOPs identified in this PEIS.

5.9 POSSIBLE SOCIOECONOMIC IMPACTS

Designation of energy corridors and land use plan amendment under the Proposed Action are not expected to result in unavoidable adverse socioeconomic impacts. Construction of energy transport projects under each of the alternatives would produce employment and income and state tax revenues and would likely require the temporary in-migration of workers for certain occupational categories, affecting rental housing markets and creating the need for additional state and local government expenditures and employment. These socioeconomic effects would be incurred on federal and nonfederal lands under both alternatives.