

5.22 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

To facilitate comparison of project alternatives, the National Environmental Policy Act (NEPA) requires a consolidated discussion of environmental consequences to focus on any irreversible and irretrievable commitments of resources. This section describes the effects of the proposed Project in relation to such irreversible and irretrievable commitments of resources. An irreversible commitment of resources represents a loss of future options and applies primarily to the use of nonrenewable resources, such as cultural resources or fossil fuels, and to resources renewable only over a long period of time. An irretrievable commitment of resources represents opportunities foregone for the period of the proposed action and relates to the use of renewable resources, such as timber or human effort, and to other utilization opportunities foregone in favor of the proposed action.

5.22.1 Applicable Regulations

NEPA section 102 (42 United States Code [U.S.C.] § 4332) and Council on Environmental Quality regulations (40 Code of Federal Regulations [C.F.R.] § 1502.16) require that all agencies of the Federal Government shall:

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on –

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

5.22.2 Resource Commitments

Implementation of the proposed action would result in the commitment of natural and man-made resources for a gas pipeline and support facilities construction and operation. Sections 5.1 through 5.17 describe the potential impacts on physical, biological, and human resources by specific resource area. The commitment of resources would be generally similar for the proposed action and the action with the Denali National Park Route Variation or Yukon River Crossing Option. This section does not address the No Action Alternative because there would be no irreversible and irretrievable commitment of resources related to the proposed Project under that alternative.

5.22.2.1 Construction Materials and Labor

If the proposed Project is implemented, it would require the commitment of large amounts of construction materials. Sands, gravels, rip rap, and other materials would be required at various locations for infrastructure, pad construction, and production and ancillary facilities along the proposed Project right-of-way (ROW). The Alaska Gasline Development Corporation (AGDC) has estimated that approximately 13.1 million cubic yards of material could be required for total

construction of the proposed Project. These sand and gravel resources would likely be irretrievable for the lifetime of the proposed Project. However, should the proposed Project be decommissioned at some future date, some amount of these materials could likely be salvaged for reuse. Sand and gravel sites along the proposed Project ROW would provide needed borrow material. Geotechnical data regarding material availability is in development; however, a total of 546 existing material sites along the main alignment have been identified using existing Alaska Department of Transportation & Public Facilities (DOT&PF) material site information sources. As identified in Table 5.1-3, approximately 93.7 million cubic yards of material (36.7 million of which are from open active sites) are available to provide the total of 13.1 million cubic yards that would be needed for the mainline construction. Prior to excavation of needed sand and gravel resources from borrow sites, selected based on geotechnical investigations that would occur later in the proposed Project design process, assessments of the site-specific impacts of borrow excavation would occur as part of the permitting process with Alaska Department of Natural Resources (ADNR) and other agencies. Prior to site development, during detailed construction and permitting efforts, Material Site Mining Plans and Reclamation Plans would be developed specific to each material site and submitted for agency approval. These plans would include information describing habitat types, access locations, temporary stockpile areas, excavation limits and depths, archaeological and environmental information, and site restoration planning. Reclamation Plans specific to each material site that would detail the actions necessary to return the site to a stable condition would be developed and submitted for agency approval. At this time, material sites are not under consideration for waste disposal sites. Human effort would be irretrievably committed during the proposed Project planning, construction, and operation phases. The commitment of time and available labor to design, construct, and maintain the proposed Project would represent an irretrievable commitment of resources.

5.22.2.2 Physical Setting

Irreversible impacts to the physical setting would be associated with maintenance of access in the ROW, various landform changes including earthwork and rock formation alteration, pipeline markers, and new aboveground structures located along the route such as compressor stations, mainline valves, pig launchers/receivers, and a straddle and off-take facility. Operations structures would also be located at the northern and southern end points of the route: at the northern starting point there would be a gas conditioning facility, and at the southern terminus there would be a NGL extraction facility.

Nearly the entire proposed Project would follow existing utility rights-of-way and roads. Many of the new structures and landform and vegetation changes during construction and operation would occur along the major transportation corridors in the vicinity of the proposed Project, including the Dalton Highway and the Parks Highway as well as railroad and river corridors. During the final stages of construction, backfilling and grading would restore the construction ROW to its approximate previous contours, and reclamation and re-vegetation would ultimately return the ROW to its approximate previous condition, except in currently forested areas.

Material sites would cease to be operated by the AGDC during the operations and maintenance phase of the proposed Project. Prior to development, the AGDC would develop a Material Site Reclamation Plan. Following reclamation, the visual impact of material sites would be reduced by restoration of the area with native vegetation and re-grading construction disturbances to a condition that blends with the surrounding terrain and surface drainage patterns.

5.22.2.3 Water Resources

The proposed Project would require a total of 1.09 billion gallons of surface water for construction ice workpads, ice access road construction, ice armoring of snow roads, earthwork (dust control and compaction), hydrostatic testing of the pipeline, and horizontal directional drilling (HDD) operations. Additional water would be needed for cleanup of equipment at camps and material sites, and construction camp usage. During operations, minimal water use would be required for compressor station operation.

5.22.2.4 Biological Resources

Vegetation and habitats in the permanent pipeline ROW would be altered due to the requirements of maintenance and inspection activities. The presence of aboveground facilities would alter vegetation and habitats, resulting in changes to use patterns for wildlife. In addition, disturbance of areas for temporary construction activities could result in changes to habitats that would be irreversible over the long term. The permanent alteration of vegetation resources and wildlife habitat along the ROW and at associated facilities could represent an irreversible commitment of biological resources for the life of the proposed Project and beyond if areas are not restored, or if former vegetation cover and composition did not recover. Losses of wildlife during pipeline construction and operation would represent an irretrievable commitment of biological resources. Potential impacts to wetlands and riparian habitats due to proposed Project construction would represent an irreversible rather than irretrievable commitment of resources if these resources were not restored following abandonment.

As described in Section 5.9, Land Use, approximately 4,500 acres of forested lands that could contain timber resources would be affected by construction of the mainline and Fairbanks Lateral ROW, including Temporary Extra Workspaces (TEWs). After proposed Project construction, those timber areas outside of the proposed Project's permanent facilities (i.e., permanent right-of-way, new access roads, and aboveground facility footprints) would be allowed to revert to pre-project condition. Timber resources would not be restored within the proposed Project's permanent footprint; therefore, there would be a long-term conversion and irretrievable loss of approximately 1,339 acres of forested land within the permanent ROW that could contain timber in these areas. The volume of commercial timber within areas that would be cleared for the proposed Project ROW has not been quantified by a timber survey.

5.22.2.5 Cultural Resources

As described in Section 5.13, cultural resources (archaeological sites, historic trails, structures and sites, cultural landscapes, and traditional cultural properties) are nonrenewable resources, and any loss of such resources would be irreversible and irretrievable.

If cultural resources in the area of potential effects were found to meet National Register of Historic Places inclusion criteria, compliance with Section 106 regulations also would include an application of the criteria of adverse effect (36 C.F.R. § 800.5). The U.S. Army Corps of Engineers (USACE) is currently consulting with 22 federally recognized tribes in the vicinity of the proposed Project to assist with evaluation of potential cultural resources to determine their eligibility for inclusion on the National Register of Historic Places, to assess potential effects to eligible cultural resources from the proposed Project and to minimize impacts to cultural resources in the area of potential effects. The proposed Project would intersect and affect historic trails, and known cultural resources within the ROW. The proposed Project ROW and aboveground permanent facilities would potentially directly impact 37 known cultural resources and potentially impact an additional 693 sites outside the ROW, but within 1 mile of the ROW centerline. The proposed Project ROW would cross 23 historic trails, and there would be 13 additional trails within 1 mile of the ROW. The Denali National Park Route Variation would not directly impact any reported sites, and 12 sites would fall within the area of indirect effects. No historic trails would be crossed within this segment. An option to cross the Yukon River would be to utilize the existing E. L. Patton Bridge on the Dalton Highway. The pipeline infrastructure would hang below the bridge surface and would not result in additional impacts to cultural resources or historic trails.

5.22.2.6 Land Use and Ownership

Proposed pipeline construction and operation would require permanent commitment of land for the ROW, access roads, and associated aboveground facilities. Land owners in the study area include the federal, state, and municipal governments, private citizens, and Native Corporations established under the Alaska Native Claims Settlement Act of 1971, 43 U.S.C. § 1601, and land given to an authorized individual Indian, Aleut, or Eskimo in Alaska under the Native Allotment Act of 1906, 43 U.S.C. § 270. Table 5.22-1 identifies, by land owner type, the maximum amount of acreage within the 100 foot proposed construction ROW. As described in Section 5.21, Long-Term Versus Short-Term Productivity of the Environment, construction of the proposed Project would convert undeveloped land and land used or planned for public recreation, wildlife habitat, low-density residential development, light industrial uses, agriculture, timber harvesting, and mining to a pipeline ROW. As allowable land uses generally permitted within the permanent ROW would include agriculture, including the use of farming equipment and the cultivation of row crops, and pastureland, impacts to these agricultural lands would generally be limited to the duration of proposed Project construction. However, some current land uses would be converted to long-term utility use for the life of the proposed Project. The long-term conversion would put permanent constraints on development of private land. To facilitate pipeline integrity management and safety inspection activities, it is assumed that the AGDC would not permit permanent structures that are not easily removed to remain on the permanent

ROW. No dwellings could be placed within the permanent ROW, which would be maintained in an open condition for the life of the pipeline.

TABLE 5.22-1 Land Ownership Affected by the Construction ROW (Acres)

Segment	Federal	State	Private	Municipal/ Borough	Native Allotments	Native Corporation	Water
Construction ROW							
GCF to MP 540	1515.1	4957.9	49.1	234.2	24.7	57.6	20.5
Fairbanks Lateral	0	232.5	86.0	98.7	0	0.0	0
MP 540 to MP 555	0	233.3	7.6	0	0	208.1	0
MP 555 to End	3.7	1951.3	44.2	112.2	8.9	58.2	20.4
Temporary Extra Workspaces							
TEW GCF to MP 540	323.8	311.7	10.1	21.1	5.9	12.0	0.8
TEW MP 540 to MP 555	0	19.5	0	0	0	9.9	0
TEW MP 555 to END	2.2	187.9	16.9	28.4	3.6	21.7	3.1
Proposed Action Total	1844.7	7894.0	213.9	494.6	43.1	367.0	44.6
Denali National Park Route Variation^a	95.3	67.8	0	0	22.4	0	0

^a Denali National Park Route Variation source Alaska General Land Status (Alaska State Geo-spatial Data Clearinghouse DNR July 2011)

Note: Totals may not sum due to rounding.

Source: Landownership provided by AGDC, June 2012.

If the AGDC selects the Yukon River Existing Bridge Option, which would use the existing bridge to cross state waters, the construction ROW would affect less land than under the suspension bridge option or the HDD method.

5.22.2.7 Energy Resources

All proposed Project construction activities would consume fuel, mostly in the form of diesel. This would be an irreversible use of nonrenewable fossil fuels.

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