

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS

We have determined that construction and operation of the KMLP Project would result in limited adverse environmental impacts. If the Project is constructed and operated in accordance with recommended mitigation measures, it would be an environmentally acceptable action. Our conclusion is based on information provided by KMLP and data developed from data requests; field investigations by Commission staff; literature research; alternatives analysis; comment from federal, state, and local agencies; and input from the public.

As part of our review, we developed measures that we believe would appropriately and reasonably avoid, minimize, or mitigate environmental impacts resulting from construction and operation of the Project. We are, therefore, recommending that our mitigation measures be attached as conditions to any authorization issued by the Commission.

5.1.1 Geology

Construction and operation of the Project would have minimal impact on geological resources. No bedrock blasting is anticipated for the Project. The Project would be located in a region with a low risk of seismic activity, soil liquefaction, landslide susceptibility, and subsidence. Oil and natural gas extraction is common in the project area, but construction and operation of the Project is not expected to have an impact on exploitable oil or natural gas resources. The Project pipeline would HDD under a current sand and gravel pit. The borrow pit owner is in the process of obtaining a permit to use the site as a construction and demolition landfill starting in 2008. Since the pipeline would be separated from the bottom of the pit by a distance determined to be safe by KMLP engineering analysis, no impact to the integrity of the pipeline is anticipated nor would it cause any disruption to the disposal operation.

KMLP proposed an alternative measure to item V.A.5 of our Plan, which requires land surfaces to be restored to pre-construction contours, unless such contours threaten the integrity of the pipeline. We are not approving this proposal because KMLP did not provide sufficient site-specific justification. However, if KMLP identifies a location where it cannot comply with item V.A.5, we are recommending that KMLP file with the Secretary any alternative measures that it would use to ensure pre-construction contours are restored without compromising pipeline integrity.

5.1.2 Soils

The Project would traverse a variety of soil types and conditions, and approximately 79 percent of the soils that would be affected by the proposed pipeline are classified as prime farmland. Construction activities associated with the Project, such as clearing, grading, trenching, and backfilling, would adversely affect soil resources by resulting in erosion, compaction, and the loss of soil productivity and fertility by mixing of topsoil and subsoil horizons and changing drainage patterns. KMLP would implement the mitigation measures contained in our Plan to control erosion, ensure successful revegetation, and minimize any potential adverse impacts to soil resources. In addition, potential soil impacts to rice fields and crawfish ponds would be mitigated by attempting to schedule construction during dry periods, re-installing and testing the underlying low-permeability layer needed to hold water, and other measures.

There are no known contaminated soils in the project area. In case contaminated soils are encountered, we are recommending that KMLP file a Plan for the Discovery and Management of

Contaminated Soils and Groundwater. To further reduce the potential for contamination from an accidental release of petroleum hydrocarbons or other hazardous materials, we are recommending that KMLP develop and file a project-specific SWPPP, including an E&SC Plan and SPRP.

5.1.3 Water Resources

Groundwater

Construction and operation of the Project would not have a significant impact on groundwater resources in the project area, including the Chicot Aquifer. Based on current information, 28 wells would be located within 150 feet of the construction right-of-way, including eight domestic supply wells (two of which are either abandoned or plugged), two industrial wells, nine irrigation wells, four monitoring wells (all four are plugged), and five rig supply wells (three of which are plugged). Affected landowners in the general vicinity of the construction right-of-way would be notified about their ability to request well testing and monitoring. In case water quality or well yield is affected, we are recommending KMLP file a statement agreeing to provide a temporary water supply and well re-testing, and replacement of the potable water supply system if water capacity and quality cannot be restored.

The greatest potential for impact on groundwater would be from spills, leaks, or other releases of hazardous substances during project construction or operation. We are recommending KMLP develop and implement a project-specific SWPPP and SPRP that would conform to the guidelines in our Procedures to prevent and minimize accidental or inadvertent chemical spills. Based on land use activities in the project area, the potential exists for contaminated groundwater to occur in the area. We are recommending KMLP develop a Plan for the Discovery of Contaminated Soil and Groundwater that would specify measures for protecting the environment in the event an unanticipated encounter with contaminated groundwater. With the implementation of the proposed construction measures, our Plan and Procedures, and our recommendations, we believe that there would be no impacts on groundwater resources as a result of construction and operation of the Project.

Surface Water

The Project would cross a total of 310 waterbodies. To minimize impacts on these water bodies, KMLP would implement our Procedures, its project-specific SPRP and SWPPP, site-specific waterbody crossing plans (appendix G), and an HDD Contingency Plan (appendix I), as well as requirements in the permits issued by other federal and state agencies.

KMLP proposes to use the HDD crossing method in 21 locations to avoid impacts to 26 waterbodies (some HDDs would cross more than one waterbody). The use of the HDD method would avoid or minimize in-stream disturbance and impacts on aquatic resources. In response to a recommendation in the draft EIS, KMLP agrees to cross Tiger Point Gulley at MP 113.3 on Leg 1 and Bayou des Cannes at MP 1.6 on the FGT Lateral by HDD and proposes to cross Bayou Barwick at MP 109.2 on Leg 1 with open-cut construction. The open-cut of Bayou Barwick would be completed using a reduced construction right-of-way width of 80 feet for a distance of approximately 500 feet on either side of the waterbody, as recommended by COE to minimize impacts to associated forested areas. With these measures, our concerns expressed in the draft EIS regarding potential impacts to Tiger Point Gulley, Bayou des Cannes, and Bayou Barwick would be minimized.

KMLP proposes to cross Sabine Lake by HDD at the lake's southern and northern shorelines and it would use the open-cut construction method with spud barges across the lake's open water. KMLP would use the open-cut construction method from MP 4.8 to MP 17.9 of Leg 1. The use of HDD would resume at MP 17.9 within Sabine Lake, exiting on land at MP 18.6, to avoid shoreline erosion. By

implementing the HDD crossing method at the northern and southern banks of Sabine Lake, it would avoid impacts to the shoreline, oyster reefs, EFH wetlands, and aquatic resources. Open-cut construction would affect water quality during construction, causing sediment resuspension and related impacts in the water column. To minimize impacts, KMLP would utilize BMPs as part of the SWPPP to address hazardous materials handling and storage, as well as spill prevention and response.

KMLP would install the pipeline across Calcasieu River between MP 49.6 and MP 51.1 with a series of HDDs. One of the HDD pull strings would lie across a COE dredge spoil area. We are recommending KMLP complete consultation with COE regarding the related impacts and file documentation of its consultations with the Secretary prior to construction. Crossing the Calcasieu River by HDD would minimize impacts to the river and associated riparian vegetation.

KMLP proposed to construct/modify Access Roads 15 and 19 across drainage ditches, which according to the COE, qualify as flowing waters that must be protected. KMLP also proposed to construct Access Road FGT-2 across a minor tributary of Bayou des Cannes. In response to a recommendation included in the draft EIS, KMLP has provided documentation of consultation with COE that concludes there are no feasible alternatives to crossing these waterbodies and that proposes the use of culverts to accommodate the water's flow. With these measures, we believe the impacts associated with these access roads would be minor and short-term and have been adequately mitigated.

5.1.4 Wetlands

The Project would be constructed in areas of extensive estuarine and palustrine wetlands, affecting a total of 352 wetlands covering approximately 504.2 acres. Temporary impacts resulting from installation of the Project would include approximately 28.3 acres of forested wetlands and 475.9 acres of non-forested wetlands. These temporary impacts include 99.5 acres of EFH wetlands and 179.4 acres of two CWPPRA projects crossed by the pipeline. Operation of the pipeline facilities would result in the permanent conversion of 14.9 acres of forested wetlands to emergent or scrub-shrub wetlands. The COE has not yet verified the KMLP wetland delineation for the Project; therefore, the acreage of wetlands affected by the Project may change.

KMLP requested a 125-foot-wide construction right-of-way for wetland crossings of greater than 100 feet and a 100-foot-wide construction right-of-way for wetland crossings of less than 100 feet. We agree that the large diameter of Legs 1 and 2, unstable soil conditions, and safety concerns justify the use of a construction right-of-way wider than 75 feet as limited by our Procedures. However, we believe a 100-foot-wide construction right-of-way is adequate in wetlands where the push-pull method would be used and a 120-foot-wide construction right-of-way is adequate in wetlands where conventional construction methods would be used. We also believe a 75-foot-wide construction right-of-way is reasonable for installing the FGT Lateral in wetlands. Therefore, we are recommending that KMLP file revised construction drawings and alignment sheets showing these approved right-of-way widths in wetlands or provide site-specific justifications for why these right-of-way widths are not feasible.

To minimize impacts to wetlands, KMLP would implement our Procedures, with accepted alternative measures, which include measures to minimize sediment runoff into wetlands and minimize impacts from construction equipment. Use of HDD construction methods along the pipeline route would avoid the need to clear or otherwise disturb 7.0 acres of forested wetlands and 100.8 acres of non-forested wetlands. The impact to wetlands would be further reduced because KMLP is proposing to use the HDD method at two additional waterbodies and associated wetlands (Tiger Point Gully along Leg 1 and Bayou des Cannes along the FGT Lateral) and is proposing to use a narrower construction right-of-way width for the Leg 1 crossing of Bayou Barwick, as mentioned above. We are also recommending that KMLP use hand clearing methods for clearing vegetation in the path of all HDDs in wetlands, and

requiring KMLP to reduce the width of its construction right-of-way in wetlands. In addition, we are recommending that KMLP file construction plans for Access Roads 2, 3, and 4-5 in wetlands that include details on culvert size and placement to maintain wetland hydrology.

FWS and COE submitted comments on the draft EIS stating that construction rights-of-way in wetlands should not be revegetated using plants from adjacent wetlands, which are already stressed as a result of Hurricane Rita in 2005. In response to these comments, we are recommending that KMLP revegetate the construction right-of-way in coastal (and other submerged) wetlands using appropriate plant species from local commercial nurseries or vegetation that came from the right-of-way before construction. NRCS submitted a comment on the draft EIS stating that measures to minimize saltwater intrusion in wetlands should be recommended. In response to this comment, we are recommending that KMLP install trench breakers between freshwater and marine/brackish boundaries of wetlands crossed by the Project to minimize the intrusion of saltwater into freshwater hydrologic conditions.

KMLP would also implement its Aquatic Resources Mitigation Plan (see appendix J) to ensure no net loss of wetland functions and values. KMLP is still developing its draft Aquatic Resources Mitigation Plan in consultation with COE, FWS, NOAA Fisheries Service, and LDWF and we are recommending that the final Aquatic Resources Mitigation Plan be filed with the Secretary prior to construction.

5.1.5 Vegetation

Construction of the pipeline, aboveground facilities, access roads, pipe storage and contractor yards, and extra workspaces would require the clearing of 1,843.3 acres of upland vegetative lands, including 115.5 acres of upland forest. Upon completion of construction approximately 43.8 acres of upland forest would be converted to a permanent pipeline right-of-way and maintained in an herbaceous state. Additionally, 16.5 acres of upland vegetation would be permanently converted to aboveground facilities or permanent access roads.

KMLP has requested a construction right-of-way width for Leg 1 through upland habitats that would range from 125 feet to 165 feet, depending on construction methods; a construction right-of-way for the FGT Lateral through upland habitats that would range from 100 feet to 130 feet wide, depending on construction methods; and maintenance across the entire 50-foot-wide permanent right-of-way on an annual basis. We believe the use of a 120-foot-wide construction right-of-way for Leg 1 in uplands, a 100-foot-wide construction right-of-way for the FGT Lateral in uplands, and a 100-foot-wide construction right-of-way for Leg 2 in uplands when not parallel to Leg 1 are reasonable due to the large diameter of the pipe and local soil conditions, and to accommodate right-of-way topsoil segregation. If additional right-of-way width in uplands is necessary, we are recommending that KMLP file site-specific construction plans and justifications for review and approval prior to construction. We are denying the requested annual maintenance of the permanent right-of-way to avoid excessive and continuous disruption of upland habitats. With these measures, construction and operation of the Project would not significantly affect vegetation.

5.1.6 Wildlife and Aquatic Resources

Wildlife

The impact of construction and operation of the Project on wildlife would be the temporary alteration of wildlife habitat. Initial clearing and construction activities would result in the disruption of wildlife habitat. Once construction is completed, wildlife would re-occupy the temporarily disturbed habitat along the Project corridor. The areas disturbed by construction, excluding areas occupied by

aboveground facilities, would be revegetated after construction has been completed. Although temporary and permanent impacts on food, cover, and water sources may occur, none of the species identified within the project area are specialized in such a way that construction of a pipeline would inhibit the overall fitness or reproductive viability of the populations as a whole. Many of the mammal, bird, reptile, and amphibian species are adaptive to changing habitat conditions and have the capability of temporarily expanding or shifting their home ranges to find alternative sources of food, water, and shelter until the right-of-way habitats become re-established. The impact on wildlife would be temporary and short-term. We believe, with the implementation of our Plan and Procedures and recommended measures, impact on wildlife would be minimal.

Approximately the first 50 miles of the Project consists of emergent marsh and coastal prairie/grassland that provide habitat for wintering waterfowl and rookeries. Given the abundant adjacent areas that can provide alternative habitat, we conclude that there would be no significant impact on migratory waterfowl. The Project route could include suitable nesting habitat for various species of colonial wading birds, including the roseate spoonbill. To avoid impacts to these species, KMLP has stated that they would employ a qualified biologist to survey the proposed work area during the 2007 nesting season, and again immediately prior to construction scheduled during the nesting season to determine the presence of colonial waterbird rookeries. KMLP would further consult with FWS and the NHP of LDWF in order to determine mitigation measures to minimize potential impacts to these nesting areas, should they be found.

Aquatic Resources

The pipeline would cross 310 waterbodies, including Sabine Lake, the GIWW, and Calcasieu River. Potential impacts on aquatic resources from project construction and operation include those associated with pipeline construction across waterbodies and through wetlands.

Impacts on fisheries resources resulting from pipeline construction activities at waterbody crossings may include sedimentation and turbidity, alteration or removal of instream and stream bank fish cover, introduction of water pollutants, or entrainment of small organisms during hydrostatic testing. Studies generally have indicated that pipeline construction through waterbodies results in temporary impacts on streams and rivers, and that there are no long-term effects on water temperature, pH, dissolved oxygen, benthic invertebrate populations, or fish populations. KMLP would implement the measures in our Procedures, which include the use of screening on intake hoses, to minimize entrainment or impingement of fish when withdrawing water for hydrostatic testing.

The primary impacts on aquatic resources would be associated with open-cut construction in Sabine Lake. This would include entrainment of organisms by construction machinery and increased turbidity due to the re-suspension of bottom sediments. Incidental take of benthic organisms due to entrainment during the offshore construction process would not be extensive enough to have a significant impact on the fishery resources of the area. The LDWF is mandated under Louisiana law to protect oyster resources. Sabine Lake contains a public tonging area for oysters, and was surveyed to determine the extent of oyster resources in the project area. Although no oyster reefs would be directly impacted by the construction of the Project, suitable substrate would be within the construction right-of-way and potentially lost. KMLP has stated that it would compensate LDWF for each bottom substrate directly impacted by pipeline construction and has committed to compensate LDWF for the three-year average dockside value of live oysters impacted by sedimentation within 1,500 feet of construction. Specific requirements to provide compensation for impacts to oysters, as well as additional provisions to further protect the public oyster tonging area in Sabine Lake, would be included in LDNR's CUP.

Direct spills of petroleum or other toxic products into waterbodies during construction could be harmful to aquatic organisms, depending on the type, quantity, and concentration of the spill. To reduce the potential for direct surface water contamination, KMLP would develop and implement the procedures in a project-specific SWPPP and SPRP. KMLP requested an alternative measure to items IV.A.1.d and e of our Procedures to allow refueling and storage of hazardous materials near a waterbody. We are approving this measure only for construction in Sabine Lake and the Sabine River, where there is no practicable alternative to refueling from barges.

Post-construction or operational impacts of the pipeline would be minimal. Restoration of the vegetation along the pipeline construction work areas would minimize erosion potential relative to waterbodies. Minimal impact on fisheries is expected from maintenance mowing or manual removal of woody vegetation in the vicinity of the pipeline right-of-way as maintenance would be in accordance with our Plan and Procedures.

Essential Fish Habitat

Construction of the Project is not expected to have a significant impact on EFH. Impacts on EFH from the construction of the Project are associated with loss or alteration of habitat. These impacts can be further divided into those that result in temporary or permanent effects on EFH and species. The primary impact of construction and operation of the Project would be the alteration and, to a lesser extent, direct loss of habitat types that could function as EFH for the various species.

NOAA Fisheries Service identified aquatic and tidally influenced wetland habitats in the project area as designated EFH for postlarval, juvenile, and subadult life stages of two species of shellfish (brown and white shrimp); postlarval, juvenile, and subadult life stages of red drum; and the late juvenile, subadult, and adult life stages of bonnethead shark. Construction through the first 50 miles of the proposed pipeline route would impact approximately 99.5 acres of EFH wetlands along the northern and southern banks of Sabine Lake, Shell Island, the Sabine and Calcasieu Rivers, and the GIWW.

Construction through Sabine Lake would result in a temporary loss of soft bottom habitat due to the excavation of the floatation channel and pipe trench, as well as the placement of the spoil piles, which would cover the habitat at that location. These activities would also cause an increase in turbidity and sedimentation. Managed mobile species utilizing soft bottoms or the water column would be temporarily displaced; however, less mobile stages of managed species that utilize soft bottom habitat could be smothered and experience mortality through placement of the spoil pile. Oyster reefs do not occur within the construction right-of-way for the pipeline in Sabine Lake. Impacts to these oyster reefs would be limited to increased turbidity and sedimentation.

Operation of the pipeline facilities would have minimal impacts on EFH since the pipeline would be buried and the existing EFH would become reestablished in the construction corridor. KMLP proposes to monitor the created or restored tidal wetlands annually for at least 3 years and to consult with appropriate agencies if monitoring indicates poor plant survival or insufficient coverage. Monitoring protocols were developed in consultation with NOAA Fisheries Service and are included in the draft Aquatic Resources Mitigation Plan (appendix J). In its comments on the draft EIS, NOAA Fisheries Service stated that it concurs with our findings and that EFH coordination requirements have been fulfilled unless the Project is revised further.

5.1.7 Threatened and Endangered Species

Agency consultations resulted in the identification of 12 federally listed threatened or endangered species that potentially occur in the project area. These include: five sea turtles (the green, leatherback,

loggerhead, Kemp's ridley, and hawksbill sea turtles); one marine mammal (the West Indian manatee); four bird species (the bald eagle, brown pelican, RCW, and piping plover), and two fish species (the Gulf sturgeon and smalltooth sawfish).

The FWS stated that the Project would not affect the West Indian manatee, three of the four bird species (the bald eagle, brown pelican, and piping plover), the two fish species, and four of the five sea turtle species. Based on a survey report filed by KMLP in late January 2007, FWS also stated that the Project is not likely to adversely affect the RCW. NOAA Fisheries Service has joint jurisdiction over the Gulf sturgeon, smalltooth sawfish, and the five species of sea turtle. NOAA Fisheries Service agreed that the project would not affect the Gulf sturgeon or smalltooth sawfish, and requested that Project impacts be assessed for the five species of sea turtles.

The construction impacts to sea turtles would include noise disturbance, alteration or loss of habitat, effects on prey species, and changes in water quality. These impacts are expected to be temporary, localized, and minor. KMLP would implement NOAA Fisheries Service's "Sea Turtle and Smalltooth Sawfish Construction Conditions" and "Vessel Strike Avoidance Measures and Injured or Dead Species Reporting" guidelines (see appendix K).

NHP of LDWF has identified 10 state-listed species of concern that may occur in the Project area. Seven species of plants were eliminated from concern because none of them are located within 0.5 miles of the Project. However, the Roseate Spoonbill (colonial waterbirds), Crested Caracara, and Old Prairie Crawfish, may be located in the project area. KMLP has committed to engaging a qualified biologist to perform surveys during the 2007 nesting season and immediately prior to construction to determine the presence or absence of colonial waterbird nesting areas. If any nesting areas are found, KMLP would consult further with FWS and the NHP of LDWF to determine mitigation measures and BMPs to minimize potential impacts to the Roseate Spoonbill and Crested Caracara. KMLP also would implement our Plan and Procedures, which include measures to minimize impacts to the general habitats used by these species. These measures would reduce the loss of vegetated habitats, minimize impacts to water quality, and result in restoration of areas temporarily disturbed during construction. In its letter, LDWF requested that measures be taken to protect Old Prairie Crawfish habitat, including roadside ditches. We are recommending KMLP file documentation of consultations with LDWF to develop mitigation measures for the crossing of roadside ditches.

Our consultation with NOAA Fisheries Service regarding sea turtles is still ongoing. Therefore, we are recommending that KMLP not begin construction activities until we complete any necessary consultations NOAA Fisheries Service, and KMLP receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin.

5.1.8 Land Use, Recreation, and Visual Resources

Construction of the Project would affect approximately 3,030.7 acres of land, including 2,274.1 acres for the pipeline construction right-of-way; 12.3 acres for the aboveground facilities; and 744.4 acres for extra workspaces, pipe storage and contractor yards, and access roads. Agricultural land comprises about 49 percent of the project area and about 19 percent is open water. Beaches, forestland, developed land, open land, and other land (including strip mines, quarries, and gravel pits) account for the remaining 32 percent of this acreage. Following construction, all affected areas outside the permanent pipeline right-of-way and aboveground facility sites would be restored and allowed to revert to preconstruction conditions and uses. During operation of the Project, the permanent pipeline right-of-way would consist of approximately 822 acres, and the aboveground facility sites and permanent access roads would permanently convert about 19 acres to developed land.

KMLP identified 15 structures within 50 feet of the construction right-of-way. None of these structures are residences. However, in response to a recommendation in the draft EIS, KMLP has clarified that 9 of the 15 structures are barns, sheds, or other buildings located on residential property. A total of five structures (two sheds, a cattle loading pen, a goat shelter, and a dog kennel) would fall within the proposed workspace and would be directly affected by the pipeline construction. KMLP proposes to relocate these structures or compensate the landowners for their loss.

The Project would potentially affect several recreational and special interest areas, including CRP lands administered by the NRCS and FSA; FWS-administered conservation easement areas; two wetland and hydrologic restoration projects, the Black Bayou Hydrologic Restoration Project sponsored by NOAA Fisheries Service and the LDNR and the Perry Ridge Shore Protection Project sponsored by NRCS and the LDNR; and one scenic by-way, the Creole Nature Trail. According to local FSA offices, the Project would not cross any CRP lands with the possible exception of such lands in Jefferson Davis Parish, where consultations are still ongoing. Therefore, we are recommending that KMLP continue consultations with FSA and NRCS to identify the extent and location of any CRP lands within Jefferson Davis Parish that would be affected by the project. We are also recommending that KMLP consult with FWS to determine if FWS conservation easement properties are crossed by the Project. In addition, we are recommending that KMLP consult with LDNR, NOAA Fisheries Service, FWS, and NRCS, and develop site-specific construction and restoration plans for crossing the Black Bayou Hydrologic Restoration Project and the Perry Ridge Shore Protection Project.

Commercial and recreational activities, such as boating, fishing, and oyster harvesting would potentially be impacted by pipeline installation through Sabine Lake. KMLP would utilize special construction methods and sequencing to help mitigate such impacts, as well as provide project-specific details to the U.S. Coast Guard.

No known hazardous waste sites occur within 0.25 miles of the Project right-of-way. We are including a recommendation for KMLP to develop a Plan for the Discovery and Management of Contaminated Soils and Groundwater that identifies the procedures that would be implemented during construction to identify, test, treat, and dispose of such materials, if found, in accordance with the appropriate state and federal regulations.

The Project would cross numerous foreign pipelines. The KMLP pipeline would be installed by horizontal bore under most single pipelines, but in areas where foreign pipelines are highly congested or near waterbodies or wetlands, HDD would be used. To ensure KMLP's plans for HDDs under foreign pipelines are complete, we are recommending that KMLP file a site-specific construction plan for the crossing of foreign pipeline corridors between MP 25.3 and MP 26.8.

Visual resources along the Project route would not be adversely affected. There are several existing pipelines in the vicinity of the Project, and the KMLP pipeline would parallel some of these existing rights-of-way. Many areas along the Project are either inaccessible or do not provide long-range unobstructed views, but public viewpoints are present along some of the roadways in the area. The Transco interconnect site would be within 0.5 mile of several residences that would likely have a direct view. KMLP states that it would file with the Secretary for review and written approval by the Director of OEP a site-specific screening plan for this facility prior to construction.

Portions of the Project lie within Louisiana's coastal zone that is managed by the CMD of the LDNR. KMLP has consulted with the CMD and has filed a CUP application as part of the Joint Permit Application with the COE. Upon receipt and review of that document, CMD will determine if the Project is consistent with Louisiana's Coastal Zone Management Program. We are recommending that KMLP file a copy of the CZMP consistency determination issued by the LDNR before construction begins.

5.1.9 Socioeconomics

Construction of the Project would not have a significant impact on local populations, housing, employment, or the provision of community services. Construction of the Project would temporarily increase the demand for public services such as emergency response, medical, and traffic control but these effects would be offset by increases in local government revenues. Operation of the project would have stimulatory effects on local spending, employment, and government revenues but such effects would be minor.

5.1.10 Cultural Resources

KMLP consulted with the Louisiana SHPO and performed cultural resource investigations for the APE for the proposed pipeline corridor and ancillary facilities. A total of 15 cultural resources were discovered within the terrestrial portion of the pipeline route and five additional cultural resource locations were identified at ancillary sites. None of the properties identified to date have been determined eligible for the NHRP, though KMLP proposed to use HDDs to avoid four previously recorded sites along the pipeline corridor.

Underwater surveying of Sabine Lake revealed 15 targets along the proposed pipeline corridor. However, only one of these identified targets was designated as a potential submerged cultural resource after consultation with archaeologists. The target is more than 1,000 feet from the pipeline center line. KMLP proposes to avoid the target, including no activities within 300 feet of the target. The SHPO has accepted and approved the marine cultural resources survey, and has stated that the Project is not expected to affect any significant marine cultural resources.

Present evidence suggests that no historic properties eligible for the NRHP would be affected by the construction of the project. However, surveys have not been conducted for about 9.9 miles of the proposed pipeline route and a few ancillary facilities where permission from landowners is pending, and the Louisiana SHPO's comments are awaited.

In order to assure that the ACHP would have the opportunity to comment on any historic properties that might be identified by these studies, we are recommending that KMLP not be allowed to construct any facilities, use any staging, storage, or temporary work areas, or use any access roads, until it files the survey reports, required treatment plans, and the SHPO comments with the Commission, and is given written authorization to proceed by the Director of the OEP.

5.1.11 Cumulative Impacts

We identified three types of past, present, and reasonably foreseeable future projects that would potentially result in a cumulative impact when considered with the proposed Project. These include other natural gas transmission pipelines in the area, nonjurisdictional facilities associated with the Project, and transportation and other infrastructure projects in the vicinity of the proposed pipeline route. The potential impacts associated with these projects that are most likely to be cumulatively significant are related to wetlands and waterbodies, vegetation and wildlife, federally and state-listed endangered and threatened species, land use, air quality, and noise. We believe that, overall, impacts associated with the Project would be relatively minor, and we included recommendations in this EIS to further reduce the environmental impacts associated with the Project. Similarly, each of the projects considered in our analysis has been or would be designed to avoid or minimize impacts to sensitive environmental resources. Additionally, it is anticipated that any significant unavoidable impacts to sensitive resources resulting from these projects would be mitigated. Consequently, only a small cumulative effect is

anticipated when the impacts of the KMLP Project are added to past, present, or reasonably foreseeable future projects in the area.

5.1.12 Air Quality and Noise

Construction of the Project is expected to have short-term minor impacts on air quality from fugitive dust and emissions from construction equipment. Operation of the Project is expected to have long-term minor impacts on air quality from emissions from heaters installed at interconnect locations.

Construction activities are expected to have a short-term minor impact on the noise environment provided that mitigation measures are employed during HDD operations. Recommended mitigation measures include the development of a noise mitigation and compliance plan that would address potential mitigation measures such as sound barriers or temporary housing to ensure the NSAs at MP 44.5 and MP 99.8 are not exposed to noise greater than 55 dBA. Operation of the project is not expected to have an impact on the noise environment.

5.1.13 Reliability and Safety

The proposed Project would be designed, constructed, operated, and maintained to meet or exceed all DOT safety standards for natural gas pipelines. KMLP requested a waiver to operate at higher than normal pressures, but if DOT approves this waiver, the pipeline would still meet DOT specifications with respect to safety. Following construction, KMLP would also initiate a pipeline integrity management plan to ensure public safety during operation. The Project would result in only a slight increase in risk to the nearby public.

5.1.14 Alternatives

We evaluated the no action or postponed action alternatives, which would involve not building or deferring construction of the proposed Project facilities. While the no action or postponed action alternative would eliminate the short- and long-term environmental impacts identified in this EIS, the objectives of the Project would not be met, and KMLP would not be able to deliver re-gasified LNG to markets in Louisiana and the rest of the United States as proposed.

We evaluated system alternatives, including alternatives involving the approved Sabine Pass Pipeline, to examine whether other existing or proposed natural gas pipeline systems would meet the proposed Project objectives while offering an environmental advantage over the Project. Currently, there is no existing pipeline system that could be used to move vaporized LNG from the Sabine Pass LNG Terminal location to the existing interstate and intrastate natural gas pipeline systems. Within 3 miles of the LNG Terminal in the Sabine Pass area, there are two 30-inch-diameter NGPL pipelines and two 24- and one 16-inch-diameter Transco pipelines. The combined capacity of these existing pipeline systems are inadequate to meet the objectives of the KMLP Project. We identified two proposed pipeline systems that, with significant additional construction and adaptation, could potentially meet the KMLP Project's objectives in terms of take-away capacity from the Sabine Pass LNG Terminal and downstream interconnecting capacity to other pipelines that serve the same markets proposed to be served by KMLP's shippers. Based on our analysis, however, we do not believe that the system alternatives offer substantial environmental benefits relative to the proposed action.

We also evaluated four major route alternatives to the Project route. However, none of these would offer significant environmental advantages over the proposed route, and we eliminated them from further consideration. Lastly, we considered route variations to resolve or reduce construction impacts to localized, specific resources. We evaluated a total of 17 route variations and considered their associated

environmental consequences as part of our environmental analysis of the Project. Variations that lessened environmental impacts were adopted by KMLP as part of the proposed Project route.

In summary, with KMLP's proposed mitigation and our recommendations, the proposed route is environmentally least damaging and we are recommending use of the proposed route as the preferred alternative.

5.2 FERC STAFF'S RECOMMENDED MITIGATION

If the Commission issues a Certificate for the proposed Project, we recommend that the Commission's Order include the following specific conditions. We believe that these measures would further mitigate the environmental impacts associated with the construction and operation of the Project:

1. KMLP shall follow the construction procedures and mitigation measures described in its application, supplemental filings (including responses to staff information requests), and as identified in the EIS, unless modified by the Order. KMLP must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of OEP **before using that modification**.
2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of life, health, property, and the environment during construction and operation of the project. This authority shall allow:
 - a. the modification of conditions of the Order; and
 - b. design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.
3. **Prior to any construction**, KMLP shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EIs' authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include all of the staff's recommended facility locations. **As soon as they are available, and before the start of construction**, KMLP shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

KMLP's exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. KMLP's right of eminent domain granted under NGA

section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. KMLP shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction** in or near that area.

This requirement does not apply to extra workspace allowed by the *Upland Erosion Control, Revegetation, and Maintenance Plan*, minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
 - b. implementation of endangered, threatened, or special concern species mitigation measures;
 - c. recommendations by state regulatory authorities; and
 - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **Within 60 days of the acceptance of this certificate and prior to construction**, KMLP shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how KMLP would implement the mitigation measures required by the Order. KMLP must file revisions to the plan as schedules change. The plan shall identify:
 - a. how KMLP will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - b. the number of EIs assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
 - c. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - d. the training and instructions KMLP will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session;
 - e. the company personnel (if known) and specific portion of KMLP's organization having responsibility for compliance;

- f. the procedures (including use of contract penalties) KMLP will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the mitigation training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. KMLP shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the right-of-way. **Prior to construction**, KMLP shall mail the complaint procedures to each landowner whose property would be crossed by the Project.
- a. In its letter to affected landowners, KMLP shall:
 - (1) provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;
 - (2) instruct the landowners that, if they are not satisfied with the response, they should call KMLP's Hotline; the letter should indicate how soon to expect a response; and
 - (3) instruct the landowners that, if they are still not satisfied with the response from KMLP's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030.
 - b. In addition, KMLP shall include in its weekly status report a copy of a table that contains the following information for each problem/concern:
 - (1) the date of the call;
 - (2) the identification number from the certificated alignment sheets of the affected property;
 - (3) the description of the problem/concern; and
 - (4) an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
8. KMLP shall employ a team of EIs (at least two per construction spread). The EIs shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.
9. KMLP shall file updated status reports prepared by the EI with the Secretary on a weekly basis **until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

- a. the current construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - b. a listing of all problems encountered and each instance of noncompliance observed by the EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - c. corrective actions implemented in response to all instances of noncompliance, and their cost;
 - d. the effectiveness of all corrective actions implemented;
 - e. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
 - f. copies of any correspondence received by KMLP from other federal, state or local permitting agencies concerning instances of noncompliance, and KMLP's response.
10. KMLP must receive written authorization from the Director of OEP **before commencing service of the Project**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.
11. **Within 30 days of placing the certificated facilities in service**, KMLP shall file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the certificate conditions KMLP has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
12. KMLP shall limit its construction right-of-way width in upland areas to 120 feet for Leg 1, 100 feet for the FGT Lateral, and 100 feet for Leg 2 when not parallel to Leg 1. If additional right-of-way width in uplands is necessary, KMLP shall file with the Secretary a site-specific construction plan and written justification for any additional right-of-way width for review and written approval by the Director of OEP **prior to construction**. (page 2-9)
13. KMLP shall file with the Secretary revised construction drawings and alignment sheets that identify a:
- a. 100-foot-wide construction right-of-way for Leg 1 and Leg 2 (where not parallel) in wetlands that would be crossed by the push-pull method;
 - b. 120-foot-wide construction right-of-way for Leg 1 and Leg 2 (where not parallel) in wetlands that would be crossed by conventional open-cut methods; and
 - c. 75-foot-wide construction right-of-way for the FGT Lateral in wetlands.
- For wetlands where these right-of-way widths are not feasible, KMLP shall file site-specific justifications for wider construction rights-of-way for review and written approval by the Director of OEP **prior to construction**. (page 2-10)
14. KMLP shall file its project-specific SWPPP, including an E&SC Plan and SPRP, with the Secretary for review and written approval by the Director of OEP **prior to construction**. (page 2-11)

15. KMLP shall revegetate the construction right-of-way in coastal (and other submerged) wetlands using appropriate plant species from local commercial nurseries or vegetation that came from the right-of-way before construction. KMLP shall not use plants from adjacent wetlands to restore the right-of-way. (page 2-32)
16. KMLP shall file with the Secretary a site-specific construction plan for the crossing of foreign pipeline corridors between MP 25.3 and MP 26.8. These site-specific plans shall include scaled drawings identifying all areas that would be disturbed by construction. KMLP shall file these plans for review and written approval by the Director of OEP **prior to construction**. (page 2-42)
17. KMLP shall comply with the requirements of item V.A.5 of our Plan. If KMLP identifies a location(s) where it can not implement item V.A.5 of our Plan, KMLP shall file with the Secretary for review and written approval by the Director of OEP, any alternative measures that it would use to ensure that pre-construction contours are restored without compromising pipeline integrity. (page 4-8)
18. **Prior to construction**, KMLP shall file with the Secretary for review and written approval by the Director of OEP, a Plan for the Discovery and Management of Contaminated Soils and Groundwater. (page 4-14)
19. **Prior to construction**, KMLP shall file with the Secretary a statement that if water quality or yield were found to be impaired due to the Project, KMLP would provide a temporary water supply and re-test the well within 30 days. In addition, KMLP shall replace any potable water supply system that it damages during construction and cannot repair to its former capacity and quality. KMLP shall identify in its report to the Secretary all potable water supply systems damaged by construction and how they were repaired. (page 4-19)
20. KMLP shall file with the Secretary a site-specific construction plan for the crossing of each waterbody proposed as a HDD crossing. These site-specific plans shall include scaled drawings identifying all areas that would be disturbed by construction. KMLP shall file these plans for review and written approval by the Director of the OEP along with the COE permit **prior to construction** across those waterbodies. (page 4-23)
21. **Prior to construction**, KMLP shall file the following environmental information with the Secretary for review and written approval by the Director of OEP:
 - a. site-specific construction plan for the HDD crossing of the Calcasieu River and marina between MP 49.6 and MP 51.1 along Leg 1; and
 - b. documentation of consultation with COE for the HDD crossing of the Calcasieu River and the use of COE dredge spoil area located at MP 50.0. (page 4-28)
22. KMLP shall use hand clearing methods for clearing vegetation in the path of all HDDs in wetland areas. (page 4-32)
23. **Prior to construction**, KMLP shall file with the Secretary for review and written approval of the Director of OEP, the construction plans for Access Roads 2, 3, and 4-5 that includes details on culvert size and placement to maintain wetland hydrology. Culvert size and placement shall be developed in consultation with FWS, LDWF, and COE. (page 4-36)
24. KMLP shall consult with LDNR, NOAA Fisheries Service, FWS, and NRCS, and develop site-specific construction and restoration plans for crossing the Black Bayou Hydrologic

Restoration Project and Perry Ridge Shore Protection Project. KMLP shall file with the Secretary copies of its consultation, along with construction and restoration plans, for review and written approval by the Director of OEP **prior to construction**. (page 4-38)

25. KMLP shall continue consultations with the FSA and NRCS to identify the extent and location of all CRP lands within Jefferson Davis Parish that would be affected by construction and operation of the Project. In addition, KMLP shall file with the Secretary **prior to construction** copies of its consultation and documentation of any stipulations or recommendations to avoid and minimize impacts to any CRP lands that would be affected. (page 4-39)
26. KMLP shall install trench breakers between the freshwater and marine/brackish boundaries of wetlands crossed by the project to minimize the intrusion of saltwater into freshwater hydrologic conditions. (page 4-40)
27. **Prior to construction**, KMLP shall file with the Secretary a copy of the finalized Aquatic Resources Mitigation Plan developed in consultation with COE, NOAA Fisheries Service, FWS, LDNR, and LDWF. (page 4-42)
28. KMLP shall consult with the NHP of LDWF and develop mitigation measures to protect the old prairie crawfish during construction through roadside ditches. KMLP shall file with the Secretary copies of its consultation **prior to construction**. (page 4-73)
29. KMLP shall not begin construction activities **until**:
 - a. the FERC completes any necessary consultations with NOAA Fisheries Service regarding potential impacts to sea turtles; and
 - b. KMLP receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin. (page 4-73)
30. KMLP shall consult with the FWS to determine if FWS conservation easement properties are crossed by the Project. KMLP shall file with the Secretary documentation of its consultation with FWS, including any recommended mitigation measures, for review and written approval by the Director of OEP **prior to construction**. (page 4-83)
31. KMLP shall not begin construction on any facilities associated with the KMLP Project **until** it files with the Secretary a copy of the CZM program consistency determination issued by the LDNR. (page 4-85)
32. KMLP shall defer construction and use of facilities and staging, storage, and temporary work areas and new or to-be-improved access **until** it files with the Secretary cultural resource reports, as appropriate, and the SHPO's comments; and the Director of OEP reviews and approves all reports and notifies KMLP in writing that it may proceed.

All material filed with the Commission containing **location, character, and ownership information** about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "**CONTAINS PRIVILEGED INFORMATION—DO NOT RELEASE.**" (page 4-96)

33. **Prior to construction**, KMLP shall file with the Secretary for review and written approval by the Director of OEP, a noise mitigation plan for HDD operations at MP 44.5 and MP 99.8. This plan shall identify what measures such as noise barriers and other controls it will

| implement prior to the start of drilling operations to reduce noise from HDD activities at NSAs. (page 4-115)

