

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS

We have determined that construction and operation of the proposed Texas Gas Fayetteville/Greenville Expansion Project would result in limited adverse environmental impacts based on information provided by Texas Gas and information developed from data requests; our field investigations; literature research; alternatives analysis; comments from federal, state, and local agencies; and input from public groups and individual citizens.

As part of our review, we developed measures to avoid, minimize, or mitigate environmental impacts resulting from construction and operation of the proposed Project. We are, therefore, recommending that our mitigation measures be attached as conditions to any authorization issued by the Commission. A summary of the anticipated Project impacts and our conclusions are provided below by resource. We believe that if the proposed Project is constructed and operated in accordance with applicable laws and regulations, Texas Gas's proposed mitigation, and our additional recommended mitigation measures, it would be an environmentally acceptable action.

Geology

Construction and operation of the proposed Project would have minimal impact on geologic resources. About 55 miles of the westernmost portion of the proposed Fayetteville Lateral would cross Southwestern's Fayetteville Shale gas production area, and 10 active wells would be within 0.5 mile of the Project. Active well drilling and gathering line installation was observed during our site visits to this area. Therefore, additional wells may be within 0.5 mile of the proposed Fayetteville Lateral in the future. Texas Gas has consulted with Southwestern to develop a pipeline route through the gas production area to minimize conflicts with ongoing development of this resource and to plan locations for M&R stations to interconnect with Southwestern's gathering pipelines.

Construction and operation of the proposed Project is not likely to adversely affect development of oil and gas in the area. Operation of the Project could assist in developing this resource since the purpose of the Project is to provide pipeline capacity to transport the new natural gas supplies being developed from the Fayetteville Shale gas production area.

The Project would cross an area of relatively low seismic risk, and the potential for damage to the pipeline from earthquake or soil liquefaction hazard would be minimal. There are no areas prone to landslides or sinkhole development along any of the proposed pipeline routes or at any proposed aboveground facility site. Geologic risk associated with construction and operation of the Project would not be significant. Blasting may be required along portions of the Fayetteville Lateral but would not be required for construction of the Greenville Lateral. Blasting for grade or trench excavation would be considered only after all other reasonable means of excavation have been evaluated and determined to be unlikely to achieve the required results. Texas Gas may specify locations (foreign line crossings, nearby structures, etc.) where consolidated rock would be removed by approved mechanical equipment (e.g., rock trenching machines, rock saws, hydraulic rams, and jack hammers) in lieu of blasting. All blasting activities would comply with federal, state and local regulations and permit conditions and would be conducted by or under the direct supervision of experienced, licensed, and certified personnel. If blasting is required, Texas Gas would use the minimum explosive charge necessary to fracture bedrock and keep shot-rock from leaving the construction right-of-way in accordance with its blasting specifications (see section 4.1.3.5). Where necessary, excess rock would be hauled off site, away from the right-of-way or, subject to landowner approval and applicable permit conditions, disposed of on the right-of-way. We

believe that impacts due to blasting would be minimized by implementing Texas Gas's blasting specifications, and further, Texas Gas has agreed to repair, replace, or compensate landowners for damage caused by blasting.

No areas of special or unusual paleontological resources were identified within the proposed Project construction workspaces or within the footprints of associated aboveground facilities. If significant paleontological resources are identified during construction, Texas Gas would report findings to the Arkansas Geologic Commission or the MDEQ. Based on the lack of unusual or significant paleontological resources within the Project area, we believe that construction and operation of the proposed Project would not significantly affect paleontological resources.

Soils

Construction activities such as clearing, grading, trenching, and backfilling, as well as the movement of equipment along the construction right-of-way, may result in adverse impacts on soil resources. These impacts would include soil mixing, compaction, and erosion by water and wind. To minimize mixing of topsoil and subsoil during pipeline construction in agricultural areas, and residential areas where requested, a maximum of the upper 12 inches of topsoil would be excavated and segregated from subsoil trench spoil. The topsoil would be returned during right-of-way restoration. Texas Gas would implement decompaction measures such as para-plowing, deep tillage, or planting and plowing-in a green manure crop to improve soil bulk density for severely compacted soils. Appropriate erosion control measures, including the installation of slope breakers and sediment barriers such as silt fence or hay bales, the use of mulch and erosion control fabrics, and the restoration of the right-of-way within 20 days of backfilling the trench, weather conditions permitting, would be used to minimize and control erosion. If active drainage tiles, culverts, or other drainage facilities are damaged during construction, Texas Gas would replace or repair them to a condition that is equal to or better than preconstruction condition. No areas of soil contamination were identified within the construction footprint of the Project area.

About 32 percent of the soil along the Fayetteville Lateral and about 90 percent of the soil along the Greenville Lateral are considered hydric. Areas where hydric soils would occur with wetland hydrology and vegetation are identified in section 4.4. Hydric soils are prone to compaction and rutting due to extended periods of saturation and high clay content. If construction occurs when these soils are saturated, heavy equipment operation would be impaired and compaction and rutting could occur. Texas Gas would decompact soils during restoration to alleviate compaction. High groundwater levels that accompany hydric soils could create a buoyancy hazard for the pipeline. The pipeline would have concrete coating and would be weighted to overcome buoyancy when the pipeline is buried so that the buoyancy hazard would be minimized during operation. Texas Gas also would install the pipeline and restore the right-of-way in accordance with our Plan and Procedures; therefore, we conclude that impacts on hydric soils would be minimized during construction and operation of the Project.

Water Resources

Groundwater

Construction of the pipeline and aboveground facilities could affect groundwater in several ways. Clearing, grading, trenching, and soil stockpiling activities could temporarily alter overland flow and groundwater recharge. Near-surface soil compaction caused by the operation of heavy construction equipment could reduce the soil's ability to absorb water, which could increase surface runoff and the potential for ponding and could alter aquifer recharge. However, these impacts would be localized and temporary. Upon completion of construction, Texas Gas would restore the ground surface as closely as

practicable to original contours, conduct decompaction where appropriate, and revegetate the right-of-way to restore preconstruction overland flow and recharge patterns.

Unconfined aquifers and shallow groundwater areas could be vulnerable to contamination caused by inadvertent surface spills of hazardous materials used during construction. Texas Gas has developed its SPCC Plan (appendix D), which conforms to section IV.A of our Procedures, to address preventive and mitigative measures to avoid or minimize the potential for hazardous material spills during construction. We have reviewed the SPCC Plan and find that it adequately addresses the storage and transfer of hazardous materials and the response to be taken in the event of a spill.

No public water supply wells would be within 150 feet of the Fayetteville Lateral. Three public water supply wells would be within 150 feet of the Greenville Lateral workspaces. The MDEQ has no specific requirements for construction near these wells other than a request that caution be observed to avoid damage to the wellheads. Texas Gas would clearly mark the wellheads to prevent damage during construction activities. Texas Gas also would use BMPs and implement the procedures of its SPCC Plan if any spill of hazardous materials occurs during construction.

The ADHHS identified three WHPAs and water supply watersheds (Brewer Lake and Little Red River watersheds) within 1 mile of the proposed Fayetteville Lateral. The ADHHS suggested a route variation and alternative, respectively, to move the Fayetteville Lateral out of these watersheds or for Texas Gas to provide the ADHHS with its plan for constructing through the watersheds so that ADHHS may document any potential impact on the water supply. We analyzed the route variation and alternative suggested by the ADHHS but concluded that the corresponding segments of the proposed route were the preferred alternatives (see section 3.3.3). We are, however, recommending that Texas Gas consult with the ADHHS about the construction methods it would use to cross the Brewer Lake and Little Red River watersheds so that any additional mitigation measures to protect these resources could be identified prior to construction.

Fifteen private water supply wells would be within 150 feet of construction workspaces, and three private wells would be within 150 feet of access roads along the Fayetteville Lateral. For the proposed Greenville Lateral, 12 private wells would be within 150 feet of the construction footprint, three private wells would be within 150 feet of access roads, and four private wells would be within 150 feet of storage yards. Texas Gas would conduct pre- and post-construction yield and water quality tests on water wells within 150 feet of construction workspaces, with landowner permission, and would repair any water supply systems damaged by construction activities. Texas Gas would provide a temporary source of water if water supplies are disrupted until repairs are made.

No workspaces would be within 150 feet of springs. However, they may be identified during easement negotiations with landowners prior to construction, and the locations of water wells may also be known with greater refinement at that time. Therefore, we are recommending that Texas Gas update the locations of water wells and springs within 150 feet of construction workspaces prior to construction.

If Texas Gas uses BMPs during Project construction and operation, implements the mitigation measures in our Plan and Procedures and in its SPCC Plan, then impacts on groundwater resources would be minimized to the greatest extent practicable.

Surface Water

The Fayetteville and Greenville Laterals and the Kosciusko 36-inch Tie-in Lateral would cross a total of 70 perennial and 413 intermittent waterbodies. No waterbodies would be crossed by the Kosciusko 20-

inch Tie-in Lateral. No potable water intakes would be within 3 miles downstream of any proposed waterbody crossing. The Project pipelines would cross 13 waterbodies that may contain contaminated sediments, six by the Fayetteville Lateral and seven on the Greenville Lateral. Of these waterbodies, seven would be crossed by HDD methods, thereby avoiding sediment disruption. The remaining six waterbodies would be crossed by conventional open-cut methods. The ADEQ and MDEQ would require Texas Gas to coordinate with them about crossing these waterbodies and would require appropriate construction, notification, and mitigation procedures in any permits they issue for the Project. Texas Gas would file these permits with the FERC when they are received.

The proposed pipelines would cross nine ecologically unique or significant waterbodies, seven in Arkansas and two in Mississippi. In addition, the proposed pipelines would cross 12 waterbodies that do not meet water quality standards associated with their designated uses, eight in Arkansas and four in Mississippi. Eight of these waterbodies would be crossed by HDD, which would minimize the potential for impact on the ecologically significant or unique waterbodies and would minimize the potential for further degradation of water quality in waterbodies that have suspected impairment. The remaining waterbodies would be crossed using an open-cut method. The ADEQ and MDEQ have recommended no additional mitigation measures. We are recommending additional mitigation be developed for crossing Cadron Creek (see below).

The proposed pipelines would cross four waterbodies listed on the NRI: Big Creek (MP 46.1), Cadron Creek (MP 14) and Bayou De View (MP 96.0) on the Fayetteville Lateral; and Big Black River (MP 77.7) along the Greenville Lateral. With the exception of Cadron Creek, Texas Gas proposes to cross these waterbodies by HDD. We believe use of the HDD method to cross these NRI-listed waterbodies would minimize impacts to the greatest extent practicable. We are recommending that Texas Gas consult with the NPS and ADEQ about its proposed site-specific crossing plan for crossing Cadron Creek by open-cut and to file a supplemental site-specific plan with additional mitigation measures that would minimize and control sedimentation downstream from the proposed crossing for review and inclusion in the final EIS.

The proposed pipelines would cross 17 major waterbodies, including the Mississippi River. Of these waterbodies, 14 would be crossed by HDD. The remaining waterbodies would be crossed using open-cut methods. Texas Gas has not yet completed geotechnical investigations to determine if the proposed HDDs could be successfully completed. Therefore, we are recommending that Texas Gas file the reports for these investigations prior to the end of the draft EIS comment period. If an HDD is not completed successfully, Texas Gas would need to obtain permits for an alternate crossing plan from the USACE and the appropriate state agency. Therefore, we are recommending that if any of the HDDs are unsuccessful, Texas Gas should file with the Secretary a site-specific alternative crossing plan for each waterbody where the planned HDD could not be completed. Texas Gas would implement its proposed HDD Contingency Plan to minimize impacts in the event that HDD attempts fail. We reviewed this plan and find it acceptable.

Texas Gas would hydrostatically test its pipeline prior to operation in compliance with DOT regulations. No chemicals would be added to the water during testing. Texas Gas has identified 12 waterbodies as potential hydrostatic test water source and discharge locations. Some of these waterbodies are identified as ecologically significant (Big Black River and Cadron Creek), a trout fishery stream (Little Red River), as not meeting water quality standards (Cadron Creek, Little Red River, and Big Black River), or are known to have contaminated sediments (Yazoo River, Big Sunflower River, and Big Black River). Our Procedures require that state-designated exceptional value waters and waters that provide habitat for federally listed threatened or endangered species cannot be used for hydrostatic test water withdrawal or discharge unless appropriate federal, state, and/or local permitting agencies grant written permission (Procedures, section VII.C.2). The use of these waterbodies as hydrostatic testing water sources or

discharges would be subject to approval pursuant to any required NPDES permit. Texas Gas would be required to obtain and comply with the requirements of permits issued by the ADEQ, ANRC, and MDEQ for the withdrawal and discharge of hydrostatic test water. Compliance with the requirements of our Plan and Procedures and the permitting requirements from state and local agencies would mitigate potential impacts resulting from the withdrawal and discharge of hydrostatic test water.

We believe that impacts due to construction and operation of the Project on surface water resources would be minimized by implementation of BMPs and our Procedures.

Wetlands

Construction and operation of the proposed Project would affect a total of 141.5 acres of wetlands, of which 107.4 acres would be temporarily impacted during construction and allowed to revert to pre-construction conditions. The remaining 33.9 acres would be permanently altered to some degree within the maintained permanent right-of-way. Of those 33.9 acres, about 13.2 acres would be permanently converted from forested and scrub-shrub wetland types to wetlands with herbaceous vegetation. These impacts would occur in a 10-foot-wide herbaceous strip Texas Gas would maintain above the centerline to facilitate operation and maintenance of the pipeline. The remaining 20.7 acres of impact would be associated with the conversion from a forested community to a shrub-scrub or emergent system within two 10-foot-wide strips on either side of the centerline strip. Texas Gas has indicated that 0.2 acre would be permanently lost due to the installation and operation of the permanently maintained Kosciusko Compressor Station; however, we are recommending that Texas Gas evaluate an alternative compressor station configuration to avoid impact on the 0.2-acre of wetland. Of the remaining acreage, about 13.2 acres would be permanently converted from forested and scrub-shrub wetlands to herbaceous vegetation since Texas Gas would maintain a 10-foot-wide herbaceous strip above the centerline to facilitate operation and maintenance of the pipeline. The remaining 20.7 acres of impact would be associated with the conversion from a forested community to a shrub-scrub or emergent system within 15 feet of either side of the pipeline centerline.

Texas Gas would use BMPs and the measures identified in our Procedures and in any permit that may be issued by other agencies to minimize impacts on wetlands during construction and operation of the Project. All wetlands in temporary construction workspaces would be allowed to revegetate and return to preconstruction conditions. Within the 50-foot-wide permanent right-of-way, maintenance activity would be limited to annual mowing along a 10-foot-wide strip centered over the pipeline and to selective cutting of vegetation that is more than 15 feet tall within a 30-foot-wide strip centered over the pipeline centerline. This would allow an additional 20 feet of wetland restoration to occur, thereby further minimizing permanent impacts on wetlands.

Texas Gas proposes using ATWSs in wetlands at certain locations, affecting about 10.7 acres of wetlands. Our Procedures require that an ATWS be located at least 50 feet away from wetland boundaries, and the proposed ATWSs would not have a 50-foot setback. In compliance with our Procedures, Texas Gas must file site-specific plans for use of each of the ATWSs in wetlands. We are recommending that, prior to construction, Texas Gas file a site-specific construction plan for each ATWS with a less than 50-foot setback from wetland boundaries (except where adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.

The USACE will verify the potential wetland impacts due to Project construction as part of its permitting process. Texas Gas would provide compensation for any permanent loss of wetland resulting from construction and operation of the proposed Project, as well as long-term conversion of forested wetlands to non-forested conditions. Texas Gas would develop compensatory mitigation for all wetland impacts,

in consultation with the USACE Little Rock, Memphis, and Vicksburg Districts. Texas Gas is proposing to compensate for wetland impacts through purchase of wetland mitigation bank credits, but specific compensation would be finalized during the course of the USACE Section 404 permitting for the proposed Project, if approved. Mitigation for these wetland impacts would be at a mitigation ratio as determined by the USACE. We have recommended that Texas Gas file the final wetland Mitigation Plan it develops with the USACE prior to construction.

Texas Gas would implement the construction, restoration, and maintenance measures described in our Procedures for Project construction and operation. The Project pipeline routes have been developed in consultation with us and the USACE and would avoid wetlands to the greatest extent practicable. Wetland impacts would be further minimized by using HDDs to cross several larger wetlands and associated waterbodies since wetlands within the path of the HDD would be avoided. Therefore, we believe that the proposed Project would have minimal impact on wetlands.

Vegetation

Project impacts on vegetative communities would vary depending upon disturbance duration, magnitude, and vegetation cover type. Most of the affected land would be in actively cultivated agricultural land (3,222.8 acres), which is regularly disturbed. The other primary vegetative types include upland forest (688.0 acres) and managed forest (59.4 acres). The remaining affected land would be in other land and open water (1,087 acres). The primary wetland community impacted would be palustrine forested/emergent (see above for a summary of wetland impacts). Long-term to permanent impacts would occur on forested habitat due to construction and operation. Although temporarily disturbed forested areas would be allowed to revegetate, it may take over 20 years for this type of vegetation to recover, depending on the age of the cleared trees. Following construction, all construction work areas would be restored, seeded with conservation grasses, legumes, native plant species or other standard erosion control/cover species, where required, and generally allowed to revegetate to preconstruction conditions in accordance with our Plan. The FWS recommends that native or non-persistent annual species be used to revegetate works areas. We are recommending that Texas Gas consult with the NRCS or other local soil conservation authorities regarding seeding and revegetation practices for the proposed Project and to file any agency-recommendations about this issue. The permanent right-of-way would be maintained in an herbaceous state following construction. In areas other than those with active cultivation, the permanent right-of-way would be maintained by mowing or vegetative clearing in accordance with our Plan and Procedures. There would be no long-term impacts in areas with existing herbaceous cover types following restoration. However, about 340 acres of upland forest and about 33.9 acres of forested wetlands would be permanently converted from forest land to an herbaceous cover.

The wetlands associated with the Cache River and Bayou De View have been identified as wetlands of international importance by the Ramsar Convention and as the most important wintering area for mallards by the North American Waterfowl Management Plan. The ivory billed woodpecker (*Campephilus principalis*) was identified within the Bayou De View portion of the Cache River NWR. The Cache River basin contains a variety of wetland communities, including some of the most intact and least disturbed bottomland hardwood forests in the Mississippi Valley Region. The White River area also contains bottomland hardwood forests. Texas Gas proposes to use HDDs to cross the White and Cache Rivers and Bayou De View and their associated forested wetlands. We believe that Texas Gas's use of HDDs to avoid impacts on these waterbodies and adjacent forested wetlands and their use of our Procedures would minimize impacts on these vegetative resources.

The temporary removal of vegetation may result in increased opportunities for invasive and exotic species to establish themselves in Project rights-of-way and extra workspaces. Adherence to Texas Gas's proposed Exotic and Invasive Species Control Plan, in conjunction with consultations with local, state,

and federal agencies, would minimize the potential for introduction or establishment of nuisance and exotic species within the Project area. Reestablishment of vegetation in all disturbed areas soon after backfilling the trench and final grading would minimize the opportunities for invasive species to become established. We believe that Texas Gas's use of its Exotic and Invasive Species Control Plan would minimize the spread of noxious weeds and invasive plants.

Wildlife and Aquatic Resources

Wildlife

Direct impacts of construction on wildlife would include displacement of wildlife from the right-of-way and direct mortality of some individuals. The cutting, clearing, and/or removal of existing vegetation would involve temporary alteration and permanent loss of habitat. In general, these effects are not expected to have a significant impact on wildlife populations because all of the habitats that would be affected are relatively abundant elsewhere in the proposed Project area, and about 64 percent of the land use that would be affected by the Project is already disturbed by agriculture. Furthermore, Texas Gas's implementation of our Plan and Procedures and use of seed mixes prescribed by the local NRCS offices or the appropriate land management agency would improve the potential for successful revegetation of the right-of-way after construction. Habitat loss in agricultural land and pasture would not have a significant effect on wildlife in the area because of the abundance of these types of habitat in the vicinity of the proposed Project and the limited value of these habitat types to wildlife.

The permanent pipeline right-of-way 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 reestablished.

The Project would be within the Mississippi flyway and the eastern edge of the Central flyway in Texas for migratory birds. Texas Gas would minimize impacts on migratory birds and their habitats by crossing the Mississippi River, White River, Cache River, Bayou De View, and their associated riparian habitats by HDD.

The Project corridor includes areas of emergent marsh and riparian habitat that could provide habitat for colonial nesting waterbirds. However, no documented rookeries would be within 0.5 mile of the Project. Given the abundant adjacent areas that can provide alternative habitat, we conclude that there would be minimal impact on colonial nesting waterbirds.

The proposed Pipeline would cross two NWRs: the Cache River NWR in Woodruff County, Arkansas, and Hillside NWR in Holmes County, Mississippi. Texas Gas proposes to cross under the NWRs by HDD, thereby avoiding impacts on these resources. In the event that the HDD attempt fails, Texas Gas would be required to consult with appropriate state and federal agencies prior to implementing an alternative crossing method.

Aquatic Resources

The proposed Project would cross 70 perennial waterbodies. Potential impacts on aquatic resources from Project construction and operation include those associated with and pipeline construction across waterbodies and through wetlands. Waterbody crossings would be accomplished using open-cut or HDD

methods. Impacts on fisheries resources resulting from open-cut pipeline construction activities at waterbody crossings can include sedimentation and turbidity, alteration or removal of in-stream and stream bank fish cover, introduction of water pollutants, and entrainment of small organisms during hydrostatic testing. Generally, pipeline construction through waterbodies results in temporary impacts, and there are no long-term effects on water temperature, pH, dissolved oxygen, benthic invertebrate populations, or fish populations. The open-cut method would also affect fish by blocking migration pathways and interrupting spawning activities. Our Procedures require that, in waterbodies with cold-water fisheries, in-stream work be completed between June 1 through September 30; and in waterbodies with warm-water fisheries, in-stream work be completed between June 1 and November 30. Although construction disturbances would temporarily displace fish or hinder migrations in waterbodies, we anticipate that these effects would be localized, temporary, and generally minor.

Overall impacts on the fishery resources in the Project area generally would be minimal and short-term. Pipeline construction and restoration activities within and adjacent to waterbodies would be conducted in accordance with our Plan and Procedures to minimize impacts on fisheries, their habitat, and other aquatic organisms. In addition, Texas Gas would implement additional protective measures as may be required by state and federal agencies as part of their permitting processes.

Direct spills of petroleum or other toxic products into waterbodies during construction and facility operation 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, Texas Gas would implement the procedures in its SPCC Plan, including restrictions on refueling equipment and storing fuel and other potentially toxic materials at least 100 feet from waterbodies during construction.

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 would be expected from maintenance mowing or manual removal of woody vegetation since maintenance activities would be conducted in accordance with our Plan and Procedures.

Threatened and Endangered Species

Based on the presence of habitat and historical records of occurrence, 12 federally listed endangered and threatened species potentially occur within the proposed Project area. These include: one mammal (Louisiana black bear), four bird species (bald eagle, interior least tern, ivory-billed woodpecker, and woodstork), one fish species (pallid sturgeon), four mussel species (fat pocketbook, pink mucket, scaleshell, and speckled pocketbook), one insect (American burying beetle), and one plant species (pondberry). In addition, one candidate fish species was identified: the yellow cheek darter. A number of state-listed plant and mussel species also were identified within the vicinity of the Project area.

The FWS and AGFC recommended that a survey for the listed mussel species be conducted in 12 specific Arkansas waterbodies that would be crossed by the open-cut method. Texas Gas completed this survey in October 2007; however, they have not yet provided the report about the survey to the FERC or the FWS. Texas Gas has indicated, however, that none of the federally listed mussel species were found.

No federally or state listed species were observed during field surveys of the Project area. The FWS and ANHC have expressed concern regarding impacts on habitat of the pondberry, and the ANHC has recommended avoiding its potential habitat. We are recommending that Texas Gas identify the milepost locations of potential pondberry habitat within or immediately adjacent to construction workspaces and explain how it would implement the ANHC's recommendations to avoid suitable pondberry habitat (i.e., sandpond forest and wooded depressional habitat) at each location. We believe that, except for the federally listed mussel species, the Project is not likely to adversely affect federally listed threatened or

endangered species. A determination on the federally listed mussel species would be made only after review of Texas Gas's pending mussel survey report. We are recommending that Texas Gas not begin construction activities until our consultation with the FWS about impacts on federally listed threatened or endangered species is concluded.

Land Use, Recreation, and Visual Resources

Construction of the Project would disturb about 5,057.2 acres of land, including about 3,199.6 acres during construction of the proposed pipeline facilities, 113.5 acres during construction of aboveground facilities, 635.0 acres for ATWS, 946.6 acres for pipe and contractor storage yards, and 162.5 acres for access roads. About 1,731.2 acres would be required for the permanent pipeline right-of-way and aboveground facilities. Agricultural land would be the primary land use affected by construction (3,222.8 acres) and operation (1,108.5 acres) of the Project. Upland and managed forest land use would have the next greatest impact (747.4 acres during construction, 340 acres during operation). Open land use types include non-forested rangeland, pastureland, non-agricultural fields, prairie, and open land in the early stages of succession. Upland forest impact would be followed by open land use (437.4 acres during construction, 124.3 acres during operation). About 174.8 acres of commercial/industrial land use would be impacted by the Project, of which about 0.5 acre would be required for the permanent pipeline right-of-way. The remaining land use affected includes other land and open water (474.8 acres during construction, 157.9 acres during operation). Texas Gas would obtain an easement from landowners to construct and operate the pipeline and associated facilities.

The primary impact on agricultural land would be the loss of crops within the work area, and possibly immediately adjacent areas, since this land would be taken out of production for one growing season. In addition, construction-related activities could damage or interrupt irrigation. If the flow of irrigation water is disrupted for a prolonged period, crops outside the Project right-of-way could be damaged and crop yields reduced. Following construction, the majority of agricultural land uses would continue within the permanent right-of-way. Because the right-of-way could be used for crop production following construction, any loss of production would be a short-term impact. About 99 acres of the agricultural land that would be crossed by the Project has pivot-irrigation. During construction of the pipelines, the presence of large piles of topsoil, an open trench, and construction equipment, etc., would likely make the movement of a pivot irrigation system across the pipeline corridor problematic. Texas Gas plans to coordinate closely with landowners about the feasibility of pivot irrigation during the construction period. Following construction of the pipeline, there would be no permanent impacts on any pivot irrigation systems.

Texas Gas would segregate topsoil in lands with annually cultivated or rotated crops, in hayfields, and at the landowner's request. Texas Gas would implement its agriculture compensation program for impacts resulting from construction and operation of the proposed Project, including compensating landowners for anticipated crop losses. Based on the mitigation measures that Texas Gas would implement as part of construction and operation of the proposed Project, we believe that impacts on agricultural lands would not be significant along the proposed permanent pipeline right-of-way. However, where aboveground facilities such as the proposed Kosciusko Compressor Station, are sited on agricultural land, the land use would be permanently changed from agricultural to developed (industrial) land. In addition, some activities within the permanent right-of-way, such as planting of trees and shrubs, would be prohibited.

The primary impact of construction on forestland by the Project would be the removal of trees and shrubs from the 100-foot-wide construction right-of-way. Following construction, trees and shrubs would be allowed to regenerate within the areas that would not be retained as part of the 50-foot-wide permanent right-of-way. After final construction cleanup, the temporary workspaces would be restored in accordance with our Plan, agency requirements associated with applicable permits, and landowner

requests. The impact on forest land use within the permanent 50-foot-wide right-of-way would be the permanent change to open land. Texas Gas would compensate landowners for loss of timber in accordance with negotiated easement agreements.

Pipeline construction results in long-term to permanent impacts on managed forest land use. Temporary workspaces would revegetate naturally, but since regrowth of forests could take over 20 years, the impact would be long-term to permanent. The impact on managed forest land use within the permanent 50-foot-wide right-of-way would be the permanent change to open land. Texas Gas would compensate landowners for loss of timber in accordance with negotiated easement agreements.

Texas Gas identified the locations of special crops (e.g., rice, cotton, sorghum) and orchards (e.g., fruit trees, nut trees) that would be crossed by the Project. About 270.5 acres of special crops would be affected by Project construction, with 120.9 acres occurring within the permanent rights-of-way. About 30.6 acres of orchards would be affected by Project construction, with 15.4 acres occurring within the permanent rights-of-way. Texas Gas would compensate landowners for the loss of orchard crops. Since rice fields would need precision leveling during restoration to restore productivity, we are recommending that, prior to construction, Texas Gas develop site-specific crossing plans in consultation with the landowner for each identified rice field impacted by construction.

The proposed Project would cross one tract of land enrolled in the WRP. Coordination with the NRCS is ongoing about crossing this area. The NRCS states that Texas Gas would be required to obtain a subordination of NRCS's easement for this tract prior to construction. We are recommending that Texas Gas complete consultation with the NRCS and develop a site-specific restoration plan for the affected WRP land prior to construction. Based on our consultation with NRCS, the proposed route through the WRP tract would be acceptable.

Affected land uses include roads, railroads, and utility corridors (e.g., pipelines and powerlines) perpendicularly crossed by or collocated along the proposed pipelines. These areas could be temporarily disturbed during grading, trenching, drilling, and backfilling. Texas Gas would obtain any required permits for crossing roads or working within road rights-of-way, and would coordinate with the owners/operators of the utilities to address any issues about working in proximity to their facilities. Following final construction cleanup, these areas would be returned to preconstruction conditions, where feasible, and agency requirements associated with applicable permits would be adhered to. Impacts on this land use would be short-term and temporary.

Twenty-two residences have been identified within 50 feet of the proposed pipeline construction work areas. Of these, 12 would be within 25 feet of proposed construction workspaces. Texas Gas states that it would file site-specific plans for all residences within 50 feet of construction workspaces prior to construction. However, we are recommending that Texas Gas file these site-specific plans prior to the end of the draft EIS comment period. Texas Gas also would install and maintain construction fencing at the edge of the construction work area for a distance of 100 feet on either side of the residence and, at a minimum, maintain this fencing throughout the open trench phases of pipe installation, as well as maintain a buffer of vegetation, leaving mature trees and landscaping within the edge of the construction work areas, where practicable and feasible. In addition, Texas Gas would restore all work areas following construction in accordance with our Plan. To ensure that all landowner concerns are identified and resolved during construction, we are recommending that Texas Gas develop a complaint resolution procedure.

Construction of the proposed Project would have some short-term impacts on industrial land use, but operation of the Project is not anticipated to have any significant impact on this land use.

The proposed Fayetteville Lateral would cross the Cache River NWR between MP 82.0 and MP 82.8, and the Bayou De View portion of the NWR between MP 95.9 and MP 96.6. To minimize impacts on the Cache River NWR, Texas Gas would cross this resource by HDD. The proposed Greenville Lateral would cross the northern tip of the Hillside NWR between MP 54.1 and MP 55.9, in Holmes County. To avoid impacts on Hillside NWR, Texas Gas would cross the NWR by HDD. The Natchez Trace Parkway is a 444-mile parkway system that connects southern portions of the Mississippi River valley, northern Alabama, and central Tennessee. Recreational opportunities associated with the parkway include scenic driving, hiking, biking, horseback riding, and camping. The proposed Greenville Lateral would cross the Natchez Trace Parkway from MP 92.8 to MP 93.0 in Attala County, Mississippi. To minimize impacts, Texas Gas consulted with the NPS to develop an appropriate crossing location and method. Impacts to the Natchez Trace Parkway would be minimized by crossing it by HDD. The NRI-eligible Big Black River would be crossed by the proposed Greenville Lateral near MP 77.7. It possesses ORVs related to scenery, recreation, fish, wildlife, history, and culture. Big Black River would be crossed by HDD, thereby avoiding impacts on its ORVs.

Visual impacts would result from the removal of existing vegetation along construction workspaces and by the construction of the permanent aboveground facilities. Visual impacts would be greatest where the Project right-of-way would parallel or cross roads, trails, or prominent observation points, and where the pipeline right-of-way would be obvious to passing motorists or recreational users. Visual impact on the Natchez Trace Parkway would be minimized by crossing this historic feature by HDD. Topographic alterations such as side hill cuts, which could be necessary for construction, would be re-contoured and re-vegetated during right-of-way restoration. The visibility of such alterations would diminish over time as the affected areas are restored and begin to blend in with the surrounding landscape. The primary Project components that could have a visual impact on the surrounding areas would be the aboveground facilities. However, existing topography and vegetation would conceal them in most instances, and landscaping would be added where feasible around the new M&R stations, MLVs, and launcher and receiver assemblies to further help these facilities blend into the surrounding landscape. Therefore, construction and operation of the proposed aboveground facilities would have a permanent impact on visual resources, but this impact would be minimized by vegetative screening, topography, and remote location.

The Kosciusko 36-inch Tie-in Lateral would cross Little Conehoma Creek, which was previously remediated for PCBs by Texas Eastern. Based on available information, we do not believe that PCB levels in Little Cohoma Creek are significant. If petroleum-stained soil is identified during excavation near Little Conehoma Creek, it would be segregated, properly characterized for disposal, and managed appropriately in accordance with all applicable regulations and handling protocols.

Socioeconomics

Construction and operation of the Project would result in short- and long-term socioeconomic impacts. The construction workforce for the pipeline is expected to average 1,800 workers over a 9-month period. About 95 percent of the workforce would be comprised of non-local workers migrating into the Project area. The temporary influx of the construction workforce would cause a short-term increase in population but should not have any adverse impact on housing or public services.

Temporary and permanent fiscal benefits would result from construction and operation of the Project in the form of additional tax revenues paid to local jurisdictions. Texas Gas would employ four full-time workers to maintain and operate the Project.

Cultural Resources

Texas Gas consulted with the Arkansas and Mississippi SHPOs and performed cultural resource investigations for areas that would be potentially affected by construction and operation of the Project.

In Arkansas, surveys to date for the Fayetteville Lateral have identified 110 archaeological sites and 75 historic architectural resources. Of these, 36 archaeological sites and 2 architectural resources have been recommended as potentially eligible for the NRHP. Thirty-seven of these would be avoided by deviations, realignments, or HDD, and one is currently undergoing additional testing. The Arkansas SHPO has requested additional information.

In Mississippi, surveys to date for the Fayetteville and Greenville Laterals have identified 180 archaeological sites and 21 historic architectural resources. Of these, 18 archaeological sites and 5 architectural resources are or have been recommended as potentially eligible for the NRHP, and one architectural resource is undetermined. All of these would be avoided by deviations, realignments, or HDD. We are currently awaiting the Mississippi SHPO's comments.

Some surveys are outstanding and the consultation process for the Project is not yet complete. Therefore, we are recommending that construction not be authorized until the required studies have been completed and we have received the SHPOs' comments on such studies.

Texas Gas prepared a Plan for the Unanticipated Discovery of Historic Properties and Human Remains during Construction for the Project, to be used in the event that any unanticipated historic properties (consisting of prehistoric or historic archaeological resources) or human remains are encountered during construction of the proposed Project.

Air Quality and Noise

Air emissions resulting from construction of the Project would not significantly affect air quality in the region. Air pollutant emissions from the operation of vehicles and the generation of fugitive dust during construction activities are expected to be minor and temporary. Texas Gas would maintain vehicles so that emissions are minimized and would minimize fugitive dust by the use of dust suppression techniques such as watering.

No impacts to air quality would result from the operation of the pipeline facilities. Emissions associated with the operation of the Kosciusko Compressor Station would be below the NAAQS.

Noise would be generated during construction of the pipeline and aboveground facilities. Construction activities in any one area could last from several weeks to several months on an intermittent, as-needed basis. While individuals in the immediate vicinity of the construction activities would experience an increase in noise, this effect would be temporary and local. Nighttime noise is not expected to increase during construction because most construction activities would be limited to daytime hours. Noise levels associated with HDD activities could potentially exceed 55 dBA at the closest NSAs. Therefore, we are recommending that Texas Gas develop specific mitigation plans if HDD activities result in exceedances of 55 dBA at the nearest NSAs. Permanent noise impact would result from operation of the proposed Kosciusko Compressor Station. Calculated noise levels anticipated from operation of the Kosciusko Compressor Station would be below 55 dBA. No adverse, long-term impacts would, therefore, be anticipated. However, to ensure that noise levels from operation of the Kosciusko Compressor Station do not adversely impact the surrounding area, we are recommending that Texas Gas make all reasonable efforts to ensure its predicted noise levels are not exceeded at nearby NSAs.

Cumulative Impacts

In addition to Texas Gas's proposed pipeline project, one other major project has been proposed for construction in the vicinity of the Fayetteville Lateral, Ozark's East End Expansion Project. This project is being reviewed in the pre-filing process and no certificate application has been filed with the FERC. Cumulative impacts would be greatest where the proposed Project and the East End Expansion Project would be adjacent or in proximity to each other in Conway, Faulkner, and White Counties, Arkansas. If the proposed Project and the East End Expansion Project are both approved, the effects of their construction could overlap in time from the years 2008 through 2010.

Although each of the unrelated projects would result in temporary and minor effects during construction, each project would be designed to avoid or minimize impacts on wetlands, waterbodies, species of concern, and other sensitive resources. In addition, any identified significant but unavoidable impacts on sensitive resources resulting from these projects would be mitigated. Mitigation generally leads to avoidance or minimization of cumulative impacts. Therefore, we consider the cumulative impacts of these two projects currently under our review to have been, or would be, minimized. The environmental impacts associated with the proposed Project and the East End Expansion Project would be minimized by careful project routing, utilization of HDD techniques to avoid and minimize impacts on some sensitive resources, and implementation of appropriate mitigation measures. Consequently, only a small cumulative effect is anticipated when the impacts of the proposed Project are added to reasonably foreseeable future projects in the area.

Reliability and Safety

The pipeline and aboveground facilities associated with the proposed Project would be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. Therefore, we believe that the proposed Project would be operated safely.

Alternatives Considered

We evaluated the No-Action or Postponed-Action alternatives, the effects of energy conservation, system alternatives, route alternatives, route variations, aboveground facility site alternatives, and aboveground facility alternative configurations. We also considered the potential impacts on environmental resources and land uses in our alternatives analysis and evaluated alternatives that would avoid or minimize impacts on environmental resources such as forests, wetlands, and waterbodies.

Selection of the No-Action Alternative would not meet the purpose and need of the proposed Project. While the No-Action Alternative would eliminate the environmental impacts identified in this EIS, Texas Gas's customers would be denied access to the new natural gas transportation capacity that would be created by construction and operation of the proposed Project. Other gas transportation projects would still be required to meet the demand for natural gas and to transport the new Fayetteville Shale production. If other natural gas facilities are approved and constructed, each project would result in its own set of specific impacts that could be greater than, equal to, or less than those associated with the current proposal. The use of alternative energy sources is infeasible because solar, wind, hydroelectric, and other energy sources such as geothermal or fuel cells are either not physically or commercially available in the market region or have not been developed to the point where they would be viable substitutes for natural gas. In addition, the purpose of the proposed Project is to transport new supplies of natural gas being produced from the Fayetteville Shale production area to market areas by constructing

new pipeline capacity in this capacity-constrained area; thus, the use of alternative energy sources would not meet the Project's purpose. A delay in approval (Postponed-Action Alternative) would only defer any construction-related environmental impacts to the future.

Our analysis of system alternatives included an examination of existing and proposed natural gas systems that currently or would eventually serve the markets targeted by the proposed Project, and considered whether those systems would meet the proposed Project's need and purpose while offering an environmental advantage over the proposed Project. None of the additional existing pipeline systems in the Project area are located in the appropriate area to meet the purpose and need of the proposed Project, unless major laterals and aboveground facilities similar to those proposed in this Project are constructed. Construction and operation of these alternative facilities would have environmental impacts similar to those identified and analyzed for the proposed Project. We did not identify any existing pipeline system or proposed pipeline system whose expansion would be environmentally preferable to the proposed facilities. Therefore, we eliminated other pipeline system alternatives from further consideration.

In evaluating pipeline alternatives, we reviewed both alternative corridors and specific route variations. These alternatives were evaluated during the pre-filing period and were critical to development of the Project as it was ultimately filed with the FERC in Texas Gas's certificate application. As part of its Project development and route selection process, Texas Gas identified two significant route alternatives to the Fayetteville Lateral, Alternatives A and B, and one alternative to the Greenville Lateral, Alternative C.

Prior to and during pre-filing, Texas Gas identified 59 minor route variations to the initially planned route for the Fayetteville Lateral and 26 route variations to the initially planned route for the Greenville Lateral through consultation with affected landowners and subsequent field surveys. These were incorporated into the proposed Project that was evaluated in this EIS. The advantages of these variations include lower potential impacts on the environment, cultural resources, and residences; lower cost; and improved safety conditions during construction.

Consultation with federal (USACE and FWS) and state (ADHHS) resource agencies resulted in analysis of five route alternatives and 23 route variations. These were suggested to evaluate their potential to minimize impacts on various resources, but primarily forests and wetlands. One of the route alternatives (USACE Alternative 4 [in part]) and five of the route variations (FWS Variations 10, 11 [in part], 12, 15, and 16 [in part]) were incorporated by Texas Gas into its proposed Project. The others were not selected for various reasons, including the proposed route followed existing utility corridors more closely, avoided residential areas, avoided cultural resources, avoided side hill construction, or improved constructability at waterbody/road/railroad crossings. We concur that use of this route alternative and five route variations would be preferred routes. The USACE and FWS agree with our assessment of these alternatives. The ADHHS suggested a route alternative and variation that would move the Fayetteville Lateral out of the Little Red River and Brewer Lake watersheds, respectively. It also commented that, if its suggested route alternative and variation were not used, Texas Gas should provide the ADHHS with its plans for construction methods for review and to consult with it regarding construction within the Little Red River and Brewer Lake watersheds. We are not recommending these alternatives since they would be longer and would impact many more residential areas compared to the proposed route. We are, however, recommending that Texas Gas continue to consult with the ADHHS to address any additional concerns it may have about construction in these areas.

We looked at alternative sites for M&R stations, MLVs, and pig launchers/receivers. The locations of many of these facilities would be determined by the locations of the interconnections with other pipelines and DOT regulations. No comments were filed about the locations of aboveground facilities. We

concluded that alternative sites offered no environmental advantages and we eliminated them from further consideration.

The Kosciusko Compressor Station would be located on largely agricultural land, although 0.2 acre of wetland would be permanently impacted by site development. With the exception of the minimal wetland acreage identified on site, we identified no significant advantages to other adjacent parcels near the terminus of the proposed Greenville Lateral. We are, however, recommending that Texas Gas evaluate an alternative compressor station configuration to avoid permanent wetland impacts.

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 construction and operation of the proposed Project:

1. Texas Gas 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. Texas Gas 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 all environmental resources during construction and operation of the Project. This authority shall allow:
 - a. the modification of conditions to the Commission's Order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop work authority) to ensure 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,** Texas Gas shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's 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,** Texas Gas 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 this Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Texas Gas's exercise of eminent domain authority granted under NGA Section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Texas Gas's right of eminent domain granted under 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. Texas Gas 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 **prior to construction** in or near that area.

This requirement does not apply to route variations required herein or minor field realignments per landowner needs and requirements that 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 acceptance of the Certificate and prior to the start of construction, Texas Gas shall file** an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how Texas Gas will implement the mitigation measures required by the Order. Texas Gas must file revisions to the plan as schedules change. The plan shall identify:
 - a. how Texas Gas 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 on-site 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 Texas Gas 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(s);
 - e. the company personnel (if known) and specific portion of Texas Gas's organization having responsibility for compliance;
 - f. the procedures (including use of contract penalties) Texas Gas will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or Program Evaluation and Review Technique (PERT) chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the mitigation training of on-site personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. Texas Gas shall employ one or more EIs 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 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 this Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.

8. Texas Gas shall file updated status reports with the Secretary on a **weekly** basis **until all construction-related activities, including restoration, are complete for each phase of the Project**. 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 each spread, 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 EI(s) 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. a description of 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 that 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 Texas Gas from other federal, state, or local permitting agencies concerning instances of noncompliance, and Texas Gas's response.
9. Texas Gas must receive written authorization from the Director of OEP **before commencing service** on each pipeline segment. Such authorization will only be granted following a determination that rehabilitation and restoration of the project area is proceeding satisfactorily. (page 2-12)
10. **Within 30 days of placing the certificated facilities in service**, Texas Gas 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 Texas Gas 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.
11. Texas Gas 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**, Texas Gas shall mail the complaint procedures to each landowner whose property would be crossed by the Project.
 - a. In its letter to affected landowners, Texas Gas 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 Texas Gas'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 Texas Gas's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030, or at hotline@ferc.gov.
- b. In addition, Texas Gas 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 and an approximate MP;
 - (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. (page 2-15)
12. Texas Gas shall evaluate an alternate compressor station configuration at the Kosciusko Compressor Station to avoid impact on the 0.2 acre of delineated wetland. Texas Gas shall file with the Secretary a revised plot plan of the compressor station showing how this wetland has been avoided **prior to the end of the comment period of the draft EIS.** (page 3-33)
 13. Texas Gas shall file with the Secretary the MP locations of water wells and springs within 150 feet of construction workspaces and include their distance and direction from the construction workspace, **prior to construction.** (page 4-25)
 14. Texas Gas shall consult with the ADHHS about the construction methods that would be used to cross the Brewer Lake and Little Red River Watersheds and shall file the results of that consultation, including any ADHHS-recommended modifications to those methods, with the Secretary, **prior to construction,** for review and written approval of the Director of OEP. (4-29)
 15. Texas Gas shall supplement its site-specific plan for crossing Cadron Creek (MP 14 on the Fayetteville Lateral) to include additional mitigation measures that will minimize and control sedimentation downstream from the proposed crossing. Texas Gas shall consult with the NPS and ADEQ about the crossing plan and include any NPS- or ADEQ-recommended BMPs in the plan. Texas Gas also shall file with the Secretary the supplemented site-specific waterbody crossing plan and the results of its consultation with NPS and ADEQ **prior to the end of the comment period of this Draft EIS.** (page 4-33)

16. Texas Gas shall file reports on the geotechnical investigations for all proposed HDDs **prior to the end of the draft EIS comment period.** (page 4-34)
17. Texas Gas shall file with the Secretary a site-specific crossing plan for each waterbody if the directional drills are unsuccessful. Each site-specific plan shall address how Texas Gas would seal the abandoned drill hole and shall include scaled drawings identifying all areas that would be disturbed by construction. Texas Gas shall file each plan concurrent with its application to the USACE for a permit to construct using this plan and the USACE permit when it is obtained. The Director of OEP must review and approve this plan in writing **prior to construction of the crossing.** (page 4-35)
18. **Prior to construction,** Texas Gas shall file with the Secretary for review and written approval by the Director of OEP a site-specific construction plan for each ATWS with a less than 50-foot setback from wetland boundaries (except where adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback. (page 4-47)
19. **Prior to construction,** Texas Gas shall file with the Secretary a copy of the Section 404/10 permit issued by the USACE and the finalized wetland Mitigation Plan developed in consultation with the USACE. (page 4-50)
20. **Prior to the end of the draft EIS comment period,** Texas Gas shall file with the Secretary a table that identifies the milepost locations of potential pondberry habitat within or immediately adjacent to construction workspaces and explain how it will implement the ANHC's recommendations to avoid suitable pondberry habitat (i.e., sandpond forest and wooded depressional habitat) at each location. Texas Gas shall also file an update of its consultation with the FWS and ANHC about the pondberry. (page 4-72)
21. Texas Gas shall **not** begin construction activities **until:**
 - a. the FERC completes any necessary consultations with the FWS; and
 - b. Texas Gas receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin.

If construction of the pipeline system has not begun within 1 year from the date of FERC approval of the Project, Texas Gas shall consult with the appropriate offices of the FWS to update the species list and to verify that previous consultations and determinations of effect are still current. Documentation of these consultations, and additional surveys and survey reports, if required, and FWS comments on the survey and its conclusions, shall be filed with the Secretary **prior to beginning construction.** (page 4-75)

22. Texas Gas shall develop site-specific crossing plans in consultation with the landowner for each identified rice field impacted by construction and file them with the **prior to the end of the draft EIS comment period.** (page 4-81)

23. **Prior to construction**, Texas Gas shall file with the Secretary the site-specific restoration plan for construction and restoration of the WRP tract crossed between MP 43.0 and 43.3 of the Greenville Lateral developed in consultation with the NRCS. (page 4-85)
24. Texas Gas file site-specific plans for the residential properties listed on table 4.8.1-5 of the draft EIS **prior to the end of the comment period for the draft EIS**. (page 4-88)
25. Texas Gas shall defer construction of the pipeline, compressor station, meter stations, and use of all staging, storage and temporary work areas and new or to-be improved access roads **until**:
 - a. Texas Gas addresses the Arkansas SHPO's comments on the Arkansas Phase I survey report, including addressing the SHPO's comments regarding avoidance and protection of historic architectural resources 38, 39, 46 and 71, and files a revised Phase I report and the Arkansas SHPO's comments on the report;
 - b. Texas Gas files a Phase II NRHP-eligibility testing report for Site 20E-1 in Arkansas and the SHPO's comments on the report;
 - c. Texas Gas files the Mississippi SHPO's comments on the Mississippi Phase I survey report;
 - d. Texas Gas files the Mississippi SHPO's comments on the existing Greenville Compressor Station;
 - e. Texas Gas files a Phase I survey report for the two pipe storage yards on the Fayetteville Lateral in Arkansas, any newly identified areas requiring survey, and the SHPO's comments on the report(s);
 - f. Texas Gas provides interested Native American tribes with any requested information;
 - g. the ACHP is afforded an opportunity to comment if historic properties would be adversely affected;
 - h. Texas Gas files any required treatment/mitigation plans and the SHPO's and NPS', as appropriate, comments on the plans; and
 - i. the Director of OEP reviews and approves all reports and plans and notifies Texas Gas in writing that it may proceed with treatment/mitigation or construction. (page 4-117)

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."**

26. For the HDD locations listed in table 4.11.2-2 with projected noise levels above 55 dBA L_{dn} at the closest NSA, Texas Gas shall file noise mitigation plans with the Secretary for review and written approval by the Director of OEP, **prior to construction**. The noise

mitigation plan shall include either a commitment to daytime drilling only or provide mitigation measures to reduce noise levels at the NSAs. (page 4-129)

27. Texas Gas shall make all reasonable efforts to ensure its predicted noise levels from the Kosciusko Compressor Station are not exceeded at nearby NSAs and file with the Secretary noise surveys showing this **no later than 60 days** after placing the Kosciusko Compressor Station in service. However, if the noise attributable to operation of the Kosciusko Compressor Station at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, Texas Gas shall file a report on what changes are needed and shall install additional noise controls to meet the level **within 1 year** of the in-service date. Texas Gas shall confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (page 4-130)