1.0 INTRODUCTION

On July 11, 2007, Texas Gas Transmission, LLC (Texas Gas) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) for a Certificate of Public Convenience and Necessity (Certificate) to construct, operate, and maintain the Fayetteville/Greenville Expansion Project (Project). The application was filed in Docket No. CP07-417-000 pursuant to Section 7(c) of the Natural Gas Act (NGA) and Part 157 of the Commission's regulations. When completed, the Project would be capable of transporting 853 million cubic feet per day (MMcf/d)[1] of natural gas through the proposed Fayetteville Lateral and 751 MMcf/d[2] of natural gas through the proposed Greenville Lateral. The Project would transport gas produced from the Fayetteville Shale in north central Arkansas to markets served by Texas Gas and other interstate transportation companies. The pipeline system would consist of the following facilities:

- **Fayetteville Lateral.** Originating in Conway County, Arkansas, this approximately 166.2-mile-long, 36-inch-diameter pipeline would extend eastward through Faulkner, Cleburne, White, Woodruff, St. Francis, Lee, and Phillips Counties, Arkansas; cross the Mississippi River near Helena, Arkansas; and terminate at an interconnection with the existing Texas Gas Main Line in Coahoma County, Mississippi.

- **Greenville Lateral**. Originating at the existing Texas Gas Greenville Compressor Station in Greenville, Mississippi, this approximately 96.4-mile-long, 36-inch-diameter pipeline would extend southeastward through Washington, Sunflower, Humphreys, and Holmes Counties, Mississippi, to an interconnection with existing Gulf South Pipeline Company, LP (Gulf South) and Southern Natural Gas Company (Southern Natural) facilities in Attala County, Mississippi.

- **Tie-in pipelines.** A 0.8-mile-long, 36-inch-diameter tie-in pipeline would connect the proposed Greenville Lateral to Gulf South's existing pipeline; and a 0.4-mile-long, 20-inch-diameter tie-in pipeline would connect the proposed Greenville Lateral to Southern Natural's existing pipeline at the Greenville Lateral terminus near Kosciusko, Mississippi.

- **The Kosciusko Compressor Station.** One 10,650-horsepower (hp) compressor station would be constructed near milepost (MP) 96.4 on the Greenville Lateral in Attala County, Mississippi.

- **Piping Modifications.** Piping modifications would be made at Texas Gas's existing Greenville Compressor Station in Greenville, Mississippi.

- **Ancillary Facilities.** Ancillary facilities including interconnects, metering and regulating stations, block valves, etc., would be constructed at various locations along the proposed pipelines.

We[3] have prepared this Draft Environmental Impact Statement (EIS) to assess the environmental impacts associated with construction and operation of the Project.

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1 Based on 985.2 British thermal units (Btu) per standard cubic feet (scf), 841,000 million Btu per day (MMBtu/d) approximately equals 853 MMcf/d.

2 Based on 1,021.3 Btu/scf , 768,000 MMBtu/d approximately equals 751 MMcf/d.

3 "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects (OEP).

The Project would be constructed in two phases. Phase I would include the construction of the first 66 miles of the Fayetteville Lateral and related facilities from Conway County to the Bald Knob area of White County, Arkansas. Phase II would include construction of the remaining 100 miles of the Fayetteville Lateral from White County to Coahoma County, Mississippi, and the entire Greenville Lateral, including the Kosciusko Compressor Station and tie-ins. Texas Gas proposes beginning construction of both Phases I and II in June 2008. However, Phase I would be placed in service by August 1, 2008, and Phase II would be placed in service by January 1, 2009.

1.1 PROJECT PURPOSE AND NEED

Advances in technology have provided natural gas producers with the ability to produce significant amounts of natural gas from the Fayetteville Shale in north-central Arkansas. This region, however, currently lacks the pipeline infrastructure and capacity to transport this new and increasing natural gas supply to markets in the mid-western, northeastern, and southeastern U.S. Texas Gas states that the Fayetteville/Greenville Expansion Project is designed to meet the transportation and economic needs of these producers by creating new interstate transportation capacity from the north-central Arkansas production area to markets served by Texas Gas, Trunkline Gas Company, LLC (Trunkline), Columbia Gulf Transmission Company (Columbia Gulf), ANR Pipeline Company (ANR), Tennessee Gas Pipeline Company (Tennessee), and Texas Eastern Transmission System (Texas Eastern). Southwestern Energy Company (Southwestern), a natural gas producer and the anchor shipper of the Project, also requires that the Fayetteville Lateral route connect its production area to other existing pipeline systems at Bald Knob, Arkansas, in order to provide sufficient transportation flexibility.

Several government studies have demonstrated increasing demand and a need for additional supplies of natural gas nationally, and in the Midwest and Southeast specifically (DOE/EIA, 2001, 2004, 2005). The U.S. Department of Energy, Energy Information Administration (DOE/EIA) estimates that the total energy consumption in the U.S. will increase from 100.2 quadrillion Btu per year in 2005 to 131.2 quadrillion Btu per year in 2030 (DOE/EIA, 2007). To maintain pace with growing energy demands, the EIA anticipates that the consumption of natural gas in the U.S. will grow from 22.0 trillion cubic feet (Tcf) per year in 2005 to 26.1 Tcf by 2030. The growth in natural gas demand is being driven primarily by the increased use of natural gas for electricity generation and industrial applications (DOE/EIA, 2007).

Natural gas supplies in the U.S. currently come from three main sources: domestic production, pipeline imports from Canada and Mexico, and imported liquefied natural gas (LNG). Net pipeline imports of natural gas from Canada and Mexico are expected to decline in coming years, and although LNG represents an increasingly important source of natural gas, LNG imports are expected to account for only about 15 percent of the U.S. natural gas consumption by 2030. Domestically produced natural gas will continue to account for the majority of U.S. natural gas consumption, with onshore production expected to constitute the bulk of that supply, growing to 20.6 Tcf by 2030 (DOE/EIA, 2007). A major portion of onshore production of natural gas is expected to come from unconventional sources (e.g., shale, tight sands, and coal bed methane). The DOE/EIA (2007) projects that natural gas produced from unconventional sources in the lower 48 states will account for about 50 percent of the total domestic production of natural gas by 2030.

1.2 PURPOSE AND SCOPE OF THIS STATEMENT

The FERC is the federal agency responsible for approving the construction and operation of pipeline facilities in the U.S. As such, the FERC is the lead federal agency for the preparation of this Draft EIS in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations (CFR) Part 1500-1508), and the FERC's regulations implementing NEPA (18 CFR Part 380).

Consistent with NEPA and their respective responsibilities and regulations, the Department of the Interior (DOI), U.S. National Park Service (NPS) in Tupelo, Mississippi, and the DOI, U.S. Fish and Wildlife Service (FWS), and the Natural Resources Conservation Service (NRCS) in Jackson, Mississippi, are federal cooperating agencies for the development of this EIS. The Arkansas Natural Heritage Commission (ANHC) is a state cooperating agency for the development of this EIS.

This Draft EIS evaluates the potential environmental issues associated with the Project, presents our recommended mitigation measures, and will be used as an element of the Commission's review of the Texas Gas application and will be used to determine whether to authorize the Project. Final approval will be granted only if, after consideration of both environmental and non-environmental issues, the FERC finds that the proposed Project is in the public interest.

Our principal purposes in preparing this EIS are to:

- identify and assess potential direct, indirect, and cumulative impacts on the natural and human environments that would result from implementation of the proposed action;
- identify and assess reasonable alternatives to the proposed action that would avoid or minimize adverse effects on the natural and human environments;
- identify and recommend specific mitigation measures to minimize environmental impacts; and
- facilitate public involvement in identifying significant environmental impacts.

The analysis presented in this Draft EIS focuses on the facilities that are under the FERC's jurisdiction (i.e., the new pipeline system and ancillary facilities as proposed by Texas Gas).

The topics addressed in this EIS include geology; soils; water resources; wetlands; vegetation; wildlife, fisheries, threatened, endangered, and special-status species; land use, recreation, and visual resources; cultural resources; socioeconomics; air quality and noise; cumulative effects; reliability and safety; and alternatives. The Draft EIS describes the affected environment as it currently exists and the environmental consequences of the proposed Project, and analyzes alternatives and variations to the Project. The Draft EIS also presents conclusions and recommended mitigation measures.

1.3 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

A number of federal, state, and local regulatory agencies have permit or approval authority or consultation requirements for portions of the proposed Project (see table 1.3-1). The FERC states in its orders that applicants should cooperate with federal, state, and local agencies; however, any state or local permits issued with respect to jurisdictional facilities must be consistent with the conditions of any Certificate the FERC may issue. The FERC encourages cooperation between applicants and state and local authorities, but this does not mean that state and local agencies, through application of state and local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by the FERC.[4]

[4] See, e.g., Schneidewind v. ANR Pipeline Co., 485 U.S. 293 (1988); National Fuel Gas Supply v. Public Service Commission, 894 F.2d 571 (2d Cir. 1990); and Iroquois Gas Transmission System, L.P., et al., 52 FERC 61,091 (1990) and 59 FERC 61,094 (1992).

TABLE 1.3-1 Major Permits, Approvals, and Consultations	
Agency	**Permit/Approval/Consultations**
Federal	
FERC	NGA, Section 7(c) (pipeline) – Certificate of Public Convenience and Necessity
Advisory Council on Historic Preservation (ACHP)	NHPA, Section 106 – Comment on the Project and its effect on historic properties
U.S. Army Corps of Engineers (USACE) Memphis District, Little Rock District, and Vicksburg District	Rivers and Harbors Act, Section 10 – Permit Clean Water Act (CWA), Section 404 – Authorization
U.S. DOI FWS, Arkansas and Mississippi Field Offices	Section 7, Endangered Species Act (ESA) – Threatened and endangered species consultation Migratory Bird Treaty Act – Consultation Fish and Wildlife Coordination Act Easement to traverse National Wildlife Refuges
U.S DOI NPS	Easement to traverse the Natchez Trace Parkway
U.S. Environmental Protection Agency (EPA), Region IV and VI	CWA, Section 401 – Permitting authority delegated to states CWA, Section 404 – Oversee issuance of the Section 404 permit CWA, Section 402 – National Pollutant Discharge Elimination System (NPDES) permit (Notice of Intent). Construction General Permit – Stormwater Pollution Prevention Plan
U.S. Department of Agriculture NRCS	Easement to traverse Wetland Reserve Program lands
Arkansas	
Arkansas Resource Conservation Commission (ARCC)	Review and permit withdrawals of water for hydrostatic testing
Arkansas Natural Heritage Commission (ANHC)	Review and comment on the impacts on state-listed species
Arkansas Historic Preservation Program (AHPP)	Review and comment on Project activities potentially affecting cultural resources
Arkansas Game and Fish Commission (AGFC)	Review and comment on Project activities located within wildlife management areas
Arkansas Department of Environmental Quality (ADEQ)	Permit to construct and operate facilities with the potential for air emissions CWA, Section 401, Water Quality Certification, NPDES construction storm water discharge general permit, hydrostatic discharge general permit (pipeline)
Arkansas Waterways Commission	Consultation
Levee Districts	Letter of no objection (pipeline)
Arkansas Highway and Transportation Department	Road opening/access permit, road crossing permits (pipeline)

TABLE 1.3-1 Major Permits, Approvals, and Consultations	
Agency	**Permit/Approval/Consultations**
Mississippi	
Mississippi Museum of Natural Sciences (MMNS) of the Mississippi Department of Wildlife, Fisheries and Parks	Review and comment on the impacts to state listed species.
Mississippi Department of Environmental Quality (MDEQ)	Permit for stream and wetland crossing in conjunction with USACE Section 404 permit
	Review and comment on impacts to state groundwater and waterbodies
	Section 402 permit for discharge of hydrostatic test water and construction dewatering to waters of the state.
	Permit to construct and operate facilities with the potential for air emissions
	Notification of withdrawals of water for hydrostatic testing required
Mississippi Department of Transportation	Road opening/access permit, road crossing permits (pipeline)
Mississippi, Department of Archives and History, Division of Historic Preservation	Review and comment of Project activities potentially affecting cultural resources
Levee Districts	Letter of no objection (pipeline)

As the lead federal agency for the Project environmental review, the FERC is required to comply with Section 7 of the Endangered Species Act (ESA) of 1973 and Section 106 of the National Historic Preservation Act (NHPA). At the federal level, required permits and approval authority outside of the FERC's jurisdiction include compliance with the Clean Water Act (CWA), the Rivers and Harbors Act, and the Clean Air Act (CAA). Each of these statutes has been taken into account in the preparation of this document. The major permits, approvals, and consultations required for the Project are identified in table 1.3-1.

Section 7 of the ESA, as amended, states that any project authorized, funded, or conducted by any federal agency (for example, the FERC) should not "...jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical..." (16 United States Code (USC) Section 1536(a)(2)(1988)). The FERC, or Texas Gas as a non-federal party, is required to consult with the FWS to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitat occur in the vicinity of the proposed Project.

If, upon review of existing data or data provided by the applicant, the FERC determines that these species or habitats may be affected by the proposed Project, the FERC is required to prepare a biological assessment (BA) to identify the nature and extent of potential adverse impact and to recommend measures that would avoid the habitat and/or species or would reduce potential impact to acceptable levels. If, however, the FERC determines that no federally listed or proposed endangered or threatened species or their designated critical habitat would be affected by the proposed Project, no further action is necessary under the ESA. See section 4.7 of this Draft EIS for the status of this review.

Section 106 of the NHPA requires the FERC to take into account the effects of its undertakings on properties listed in or eligible for listing in the National Register of Historic Places (NRHP), including prehistoric or historic sites, districts, buildings, structures, objects, or properties of traditional religious or cultural importance to Indian Tribes, and to afford the ACHP an opportunity to comment on the undertaking. The FERC has requested that Texas Gas, as a non-federal party, assist in meeting the FERC's obligation under Section 106 by preparing the necessary information, analyses, and recommendations as required by the ACHP regulations in 36 CFR 800. See section 4.10 of this EIS for the status of this review.

Texas Gas is required to comply with Sections 401, 402, and 404 of the CWA. The EPA has delegated water quality certification (Section 401) to the jurisdiction of individual state agencies, but the EPA may assume this authority if no state program exists, if the state program is not functioning adequately, or at the request of a state. Water used for hydrostatic testing of pipelines that is point-source discharged into waterbodies will require a National Pollution Discharge Elimination System (NPDES) permit (Section 402) issued by the state with EPA oversight.

The USACE has the responsibility for determining compliance with the regulatory requirements of Section 404 of the CWA. The EPA also independently reviews Section 404 dredge and fill applications for the USACE and has Section 404(c) veto power for wetland permits issued by the USACE. The Section 404 permitting process regulates the discharge of dredge and fill material associated with the construction of pipelines across streams and in wetlands. In addition to its CWA responsibilities, the USACE has jurisdiction over Section 10 permits under the Rivers and Harbors Act of 1899. Section 10 permits would be required for all construction activities performed in navigable waterways. On July 11, 2007, Texas Gas filed with the appropriate USACE Districts its Preconstruction Notifications and requests for authorization of Nationwide Permit Number 12 for the Project for activities subject to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act jurisdiction. The FERC, in the NEPA review required to prepare this Draft EIS, has analyzed the technical issues required for the Section 404 (b)(1) guidelines analysis, including analysis of natural resources and cultural resources that would be affected by the proposed Project, as well as analyses and route variations that would eliminate or minimize the discharge of dredge and fill material into waters of the United States. The USACE may use the Draft EIS to support its decision on the request for Nationwide Permits under Section 404 of the CWA permit for the proposed Project. See section 4.4 of this EIS for the status of this review.

Ambient air quality is protected by federal regulations under the CAA. These regulations include compliance under new source performance standards (NSPS) and the requirements for the prevention of significant deterioration (PSD). The federal permitting process for the CAA has been delegated to individual state agencies. Although applications are reviewed by both states and the EPA, the states would determine the need for NSPS and PSD permits. See section 4.11 of this EIS for the status of this review.

1.4 PUBLIC REVIEW AND COMMENT

On December 15, 2006, Texas Gas filed a request with the FERC to use its pre-filing process. At that time, Texas Gas was in the preliminary design stage of the Project, and no formal application had been filed with the FERC. The request to use the Pre-filing Process was approved on December 28, 2006, and a pre-filing docket number (PF07-2-000) was established to place information filed by Texas Gas and related documents issued by the FERC into the public record. The pre-filing process provided opportunities for interested stakeholders to become involved early in Project planning, facilitated interagency cooperation, and assisted in the identification of issues prior to Texas Gas filing its application with the FERC.

As part of its outreach efforts, Texas Gas mailed notification letters to landowners and to government and agency officials, and notified the general public of the proposed Project, inviting them to attend open houses held on January 29, 30, and 31 and February 1, 7, and 8, 2007, to learn about the proposed Project, ask questions, and express concerns. Notifications of the open houses also were published in the local newspapers. The open houses were held in Conway, Searcy, Forrest City, and Helena, Arkansas, for the Fayetteville Lateral, and in Belzoni and Lexington, Mississippi, for the Greenville Lateral. The FERC staff attended the open houses to explain the environmental review process to interested stakeholders and accept comments about the proposed Project. The concerns raised by the public at the open houses are addressed in this Draft EIS.

On March 6, 2007, we issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Texas Gas Fayetteville/Greenville Expansion Project and Request for Comments on Environmental Issues and Notice of Public Scoping Meetings* (NOI). The NOI was sent to interested parties, including affected landowners; federal, state, and local officials; agency representatives; conservation organizations; Native American tribes; local libraries and newspapers; and other interested parties. The NOI provided a summary of the proposed Project, outlined our NEPA-required environmental review process, provided a list of the then currently identified environmental issues, and requested comments on the scope of the of the analysis for the Draft EIS. Publication of the NOI opened the time period for filing written comments on the Project with the Secretary of the Commission. It also established a closing date for filing comments of April 19, 2007, although we continued to review and accept comments after the close of the comment period.

We conducted three scoping meetings in Lexington, Mississippi, and Forrest City and Searcy, Arkansas, on March 19, 20, and 21, 2007, respectively, to give the general public an opportunity to comment on environmental issues to be addressed in the Draft EIS. The transcripts of all scoping meetings, as well as all written comments received are part of the public record for the proposed Project and are available for viewing on the FERC Web site (www.ferc.gov). We received a total of 22 verbal and written comments from members of the general public and federal and state resource agencies. The identified issues and concerns are summarized in table 1.4-1, which also lists the Draft EIS sections where the issues are addressed.

In addition to the public notice process described above, we consulted with federal and state agencies to identify issues that should be addressed in the EIS. We participated in an interagency meeting on April 24, 2007, with the FWS Arkansas Field Office, USACE Memphis District, NRCS, ANHC, and AGFC.

This Draft EIS has been filed with the EPA. A formal notice has been published in the Federal Register indicating that the Draft EIS is available, and has been mailed to individuals and organizations on the distribution list prepared for the proposed Project (see appendix A). In accordance with CEQ regulations implementing NEPA, the public has 45 days to comment on this Draft EIS. We will review and use the comments received to prepare a Final EIS for the proposed Project. All timely comment letters received on the Draft EIS will be addressed in the Final EIS.

1.5 NONJURISDICTIONAL FACILITIES

Under Section 7 of the NGA, as part of a decision to certificate jurisdictional facilities, the FERC is required to consider all facilities that are directly related to the Project where there is sufficient federal control and responsibility to warrant environmental analysis as part of this jurisdictional proceeding. The jurisdictional facilities for the Fayetteville/Greenville Expansion Project include the natural gas pipeline system and associated facilities, compressor station, interconnect meter stations, and ancillary facilities. These facilities are discussed in detail in this Draft EIS.

TABLE 1.4-1

Issues Identified During the Public Scoping Process

Issue	Specific Comments	EIS Section Where Comments are Addressed
General	• Use most current best management practices (BMPs) to limit impacts from construction	1.4, 4.2, 4.3, 4.4
Alternatives	• Avoid wetlands, waterbodies, water supply watersheds; including agency suggested route variations and alternatives • Collocate with existing utility corridors where possible • Use BMPs where water supply watersheds cannot be avoided • Cross more waterbodies by horizontal directional drill (HDD)waterbodies	3.0
Water Use and Quality	• Minimize impacts by use of HDDs and effective erosion and sediment control methods • Minimize potential impacts on wells and springs from construction • Use a 250-foot-wide riparian buffer between White River and HDD entry and exit holes	3.5, 4.3, 4.4, 4.5
Wetlands	• Minimize wetlands crossing impacts by: - limiting right-of-way (ROW) width - using construction methods that limit disturbance - avoiding forested wetlands, including Cache River National Wildlife Refuge (NWR) - using HDDs - consulting with NRCS when crossing Wetland Reserve Program (WRP) areas	4.4
Vegetation, Fish, and Wildlife	• Consult with Hillside NWR Manager to identify and minimize impacts • Avoid use of herbicides in ROW maintenance • Use native species for revegetation • Restrict construction near wading bird nesting areas to times outside of nesting season • Minimize habitat fragmentation by avoiding large tracts of forest and by using HDDs and following existing ROWs	4.5, 4.6.1, 4.6.2
Threatened, Endangered, and Special-Status Species	• Consult with FWS on Louisiana black bear (*Ursus americanus luteolus*), interior least tern (*Sterna antillarum athalassos*), pallid sturgeon (*Scaphrhynchus albus*), bald eagle (*Haliaeetus leucocephalus*), and fat pocketbook mussel (*Arcidens confragosus*)	4.7
Land Use, Recreation, and Visual Resources	• Avoid surface crossing of Natchez Trace Parkway • Address concerns about multiple pipeline crossings on individual properties and limitations on private property use • Address concerns about aboveground facilities near residences • Bury pipeline deep enough that agricultural operations are not impacted	4.8
Socio-economics	• Financial compensation for easements – how determined and landowner's role in process • Impacts on tenant farmers' operations • Purchase of easements prior to the FERC certificate approval	4.9

TABLE 1.4-1 Issues Identified During the Public Scoping Process		
Issue	**Specific Comments**	**EIS Section Where Comments are Addressed**
Air Quality and Noise	• Concern about odors near pipeline and aboveground facilities • Concern about noise from the compressor station	4.11
Cumulative Impacts	• Concern about multiple pipelines along a corridor and limitations on land use, property values, and loss of trees • Consider cumulative impacts on wetlands in determining mitigation needs	4.12
Mitigation	• Provide compensatory mitigation for wetlands that cannot be avoided • Use appropriate assessment methods to accurately determine mitigation needs	4.4, 5.1
Safety	• Safety of homes near pipeline • Impacts on emergency services during construction	4.13

Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the FERC. Southwestern, the anchor shipper for this Project, and other gas producer have constructed and continue to construct nonjurisdictional facilities related to the production and gathering of natural gas from the Fayetteville Shale. These facilities include gas wells, field lines, gas treatment and processing facilities, and compressor stations. Construction and operation of these facilities are under the jurisdiction of the Arkansas Oil and Gas Commission (AOGC) pursuant to the authority granted in Arkansas Code, Annotated, Title 15, Chapter 72 and the General Rules and Regulations of the AOGC implementing this authority. We are not aware of any significant federal control or responsibility over construction or operation of these gas production and gathering facilities. Therefore, we believe the Commission's control and responsibility over them are not sufficient to consider them a federal action in this environmental review.