



Texas Gas Transmission, LLC

Resource Report No. 1

General Project Description

Henderson County Expansion Project

June 2021

SUMMARY OF FILING INFORMATION

INFORMATION	Data Sources ¹	Found in Section
Minimum Filing Requirements to Avoid Rejection		
1. Provide a detailed description and location map of the project facilities – Title 18 Code of Federal Regulations (CFR) part (§) 380.12 (c)(1).	D	Section 1.2; Appendix 1A
2. Describe any non-jurisdictional facilities that would be built in association with the project – 18 CFR § 380.12 (c)(2)	D	Section 1.9
3. Provide current original U.S. Geological Survey 7.5-minute-series topographic maps with mileposts showing the project facilities – 18 CFR § 380.12 (c)(3)	D	Appendix 1A
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the project facilities – 18 CFR §380.12 (c)(3)	D	Appendix 1A
5. Provide plot/site plans of compressor stations showing the locations of the nearest noise sensitive areas within 1 mile – 18 CFR § 380.12 (c)(3,4)	D	Appendix 1B
6. Describe construction and restoration methods – 18 CFR §380.12 (c)(6)	D	Section 1.4
7. Identify the permits required for construction across surface waters – 18 CFR §380.12 (c)(9)	D	Section 1.7
8. Provide the names and address of all affected landowners and certify that all affected landowners will be notified as required in § 157.6(d) – 18 CFR §380.12 (c)(10)	D	Section 1.8; Appendix 1D
Additional Information Often Missing and Resulting in Data Requests		
Describe all authorizations required to complete the proposed action and the status of applications for such authorizations, including actual or anticipated submittal and receipt dates.	D	Section 1.7
Provide plot/site plans of all aboveground facilities that are not completely within the right-of-way.	D	Appendix 1B
Provide detailed typical construction right-of-way cross-section diagrams for each proposed right-of-way configuration showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction rights-of-way. Clearly identify any overlap of existing rights-of-way for projects involving collocation. Identify by pipeline facility and milepost where each right-of-way configuration would apply.	BB	Appendix 1B
Summarize the total acreage of land affected by construction and operation of the project.	BB	Section 1.3
Describe the cathodic protection system, include associated land requirements as appropriate.	D	Section 1.3.1
Describe construction and restoration methods offshore facilities as well as onshore facilities.	D	N/A
For proposed abandonments, describe how the right-of-way would be restored, who would own the site or right-of-way after abandonment, who would be responsible for facilities that would be abandoned in place, and whether landowners were given the opportunity to request removal.	D	N/A

SUMMARY OF FILING INFORMATION

INFORMATION	Data Sources ¹	Found in Section
If Resource Report 5 - Socioeconomics is not provided, provide the start and end dates of construction, the anticipated number of pipeline spreads that would be used, and the estimated workforce per spread.	D	N/A
If the project includes construction in the federal offshore area, include in the discussion of required authorizations and clearances the status of consultations with the Bureau of Ocean Energy Management, Regulation and Enforcement. File with the Bureau of Ocean Energy Management, Regulation and Enforcement for right-of-way grants at the same time or before filing your application with the Commission.	D	N/A
For project involving the import or export of natural gas/ liquefied natural gas and construction of liquefied natural gas facilities, include in the discussion of required authorizations and clearances the status of consultations and authorizations required from the U.S. Department of Energy, U.S. Coast Guard, and the Federal Aviation Administration, as applicable.	D	N/A
Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects.	D	Appendix 1A
Provide an electronic copy of the landowner list directly to Commission environmental staff. Check with Commission staff for required format.	D	Appendix 1D
¹ D Applicant N/A Not applicable	BB	Resource Report 8

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Spill Prevention and Response Procedures Plan
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Plan for the Unanticipated Discovery of Contaminated Environmental Media
Plan for the Unanticipated Discovery of Historic Properties or Human Remains During Construction
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Fugitive Dust Control Plan
Exotic and Invasive Species Control Plan
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LIST OF ACRONYMS AND ABBREVIATIONS

2020 IRP	2020 Integrated Resource Plan
Application	Abbreviated Application for a Certificate of Public Convenience and Necessity and Abandonment Authorization
ATWS	additional temporary workspace
CEII	Critical Energy Infrastructure Information
CenterPoint	Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
DOT	U.S. Department of Transportation
Dth/d	dekatherms per day
ECD	erosion control device
EI	environmental inspector
EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
HDD	horizontal directional drill
hp	horsepower
IDEM	Indiana Department of Environmental Management
IR Plan	<i>Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan</i>
ISO	International Standards Organization
M&R	meter and regulator
MW	megawatt
MLV	mainline valve
MP	milepost
NO _x	nitrogen oxides
NSA	noise sensitive area
Plan	<i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>
ppm	parts per million
Procedures	<i>Wetland and Waterbody Construction and Mitigation Procedures</i>
Project	Henderson County Expansion Project
ROW	right-of-way

Solar	Solar Turbines, Incorporated
SPRPP	<i>Spill Prevention and Response Procedures Plan</i>
SWPPP	<i>Stormwater Pollution Prevention Plan</i>
Texas Gas	Texas Gas Transmission, LLC
USACE	U.S. Army Corps of Engineers

1.0 GENERAL PROJECT DESCRIPTION

This resource report provides general information regarding the proposed Henderson County Expansion Project (Project). Included in this resource report are Project mapping, descriptions of the proposed pipeline and aboveground facilities, applicable permits, and the anticipated construction schedule.

Texas Gas Transmission, LLC (Texas Gas) is proposing to construct and operate the Project. The Project is designed to serve new natural gas-fired electric generation turbines to be constructed by Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South (CenterPoint) at its AB Brown Generating Station (AB Brown Plant) in Posey County, Indiana. CenterPoint is adding the new natural gas turbines as part of its preferred portfolio of electric generation resources, which is designed to facilitate a substantial reduction in greenhouse gas (GHG) emissions by, among other things, retiring existing coal-fired generating facilities located at the AB Brown Plant and adding at least 1,000 megawatts (MW) of new wind and solar resources. CenterPoint's proposed new gas-fired turbines are fast-ramping combustion turbines that will support the electric grid during periods when CenterPoint's new intermittent resources are unavailable due to natural fluctuations in wind and solar availability. CenterPoint estimates that the new gas-fired generating turbines will be dispatched only 2 to 7 percent of total available hours per year – the remainder of the year CenterPoint anticipates relying on renewable resources.

Texas Gas' Project along with CenterPoint's project will facilitate a substantial net reduction in overall GHG emissions. CenterPoint's preferred electric generation portfolio is estimated to reduce lifecycle GHG emissions, including methane, by nearly 60 percent over the next 20 years, with CenterPoint's direct carbon dioxide emissions reduced 75 percent from 2005 levels by 2035. The Project will also reduce Texas Gas' own emissions. The proposed Project will replace three existing compressor units on Texas Gas system with a new compressor unit with lower emissions. The new 9 parts per million (ppm) Solar Centaur 50 compressor unit will be equipped with Solar Turbines, Incorporated's (Solar's) SoLoNO_x package, which is designed to produce lower emissions of nitrogen oxides (NO_x). Overall emissions from Texas Gas' existing compressor station will be reduced, because Texas Gas will: i) retire an existing compressor unit; ii) transition two existing units to standby; and iii) install the Centaur 50 turbine, which Texas Gas has purchased Solar's 9 ppm NO_x unit along with an additive electric seal gas booster which will reduce NO_x and methane emissions. Solar's additive electric seal gas booster pump will keep the compressor seals pressurized when the Centaur 50 is not running, which will greatly reduce

methane emissions. Texas Gas proposes to operate the Centaur 50 to maximize operating flexibility at the Slaughters Compressor Station and should allow for the proposed Centaur 50 to operate in lieu of higher-emitting existing compression equipment under a wider range of operating scenarios.

The Federal Energy Regulatory Commission (FERC or Commission) should determine that an environmental impact statement is not necessary to evaluate whether the Project will result in adverse climate change impacts because the Project will cause a substantial net reduction in methane, NO_x, and carbon monoxide emissions; resulting from the retirement and transitioning to standby of existing reciprocating compressor units on Texas Gas' system; and a reduction of indirect, downstream GHG emissions from the replacement of coal-fired generating facilities at CenterPoint's AB Brown Plant with new-gas fired turbines and renewable resources. The Commission should conclude in an environmental assessment that the Project will not have significant climate change impacts. CenterPoint has entered into a precedent agreement for the entire 220,000 dekatherms per day (Dth/d) of the lateral's capacity, and the Project is necessary for the implementation of CenterPoint's preferred electric generation portfolio. The Commission should conclude that the proposed Project is required by the public convenience and necessity.

1.1 PROJECT DESCRIPTION

Texas Gas is filing an Abbreviated Application for a Certificate of Public Convenience and Necessity and Abandonment Authorization (Application) with the FERC to construct, own, operate, and maintain the Project. The Project consists of a new lateral and meter and regulator (M&R) station (collectively "Henderson County Lateral"), in addition to upgrading an existing M&R station and adding additional compression and modifications to Texas Gas' existing Slaughters Compressor Station (collectively "Mainline Facilities"). The proposed Project will allow Texas Gas to provide up to 220,000 Dth/d of new natural gas firm transportation service to CenterPoint primarily to serve CenterPoint's proposed 460 MW natural gas combustion turbine facility, consisting of two 230-MW units (AB Brown Project) to be located at CenterPoint's existing AB Brown Plant in Posey County, Indiana.

More specifically, the Henderson County Lateral consists of (i) 23.53 miles of new 20-inch diameter natural gas pipeline lateral in Henderson County, Kentucky and Posey County, Indiana; (ii) a new delivery M&R station interconnect (AB Brown M&R Station) with 0.08 mile of 16-inch diameter natural gas interconnecting pipe in Posey County, Indiana; and (iii) a new tie-in facility in Henderson County, Kentucky. The Mainline Facilities consist of (i) upgrading an existing receipt M&R station located in Johnson County, Indiana; and (ii) installation of a new 9 ppm NO_x

Centaur 50 turbine compressor unit¹ with approximately 4,863 horsepower (hp)², piping modifications, and other auxiliary appurtenant facilities at Texas Gas' existing Slaughters Compressor Station located in Webster County, Kentucky.

In addition, Texas Gas also requests authorization to make the following modifications at its Slaughters Compressor Station: (i) abandon in place Compressor Unit 5, a 1,320-hp Clark HPA-6 unit, and (ii) transition the two other existing 1,320-hp Clark HPA-6 units (Unit 6 and Unit 7) from primary operating units to standby units. Unit 5 to be abandoned is inactive, is now unreliable, and is no longer integral to the Texas Gas system or required to meet its firm transportation obligations in this area. Unit 6 and Unit 7 will transition from primary operating units to standby units to be operated only in limited circumstances during maintenance or unplanned outages scenarios. Neither Unit 6 nor Unit 7 add additional capacity on Texas Gas' Slaughters-Montezuma system or mainline system and, going forward, will not be required to meet its firm transportation obligations in this area.

In support of this Application, Texas Gas has prepared, as applicable, the 12 resource reports per 18 Code of Federal Regulations (CFR) §§ 157.14(a)(6-a), 380.3, and 380.12. Volume I-A contains Resource Reports 1 through 12 along with the publicly available appendices to the resource reports. Texas Gas requests, pursuant to 18 CFR § 388.112, that the information in Volume II be accorded **Privileged** treatment as it includes culturally sensitive resources information and commercially sensitive agreements. Pursuant to Order No. 702, 18 CFR § 388.112, Volume III contains **Critical Energy Infrastructure Information** (CEII) attachments and appendices to the resource reports.

1.2 PROPOSED FACILITIES

1.2.1 Purpose and Need

CenterPoint's 2020 Integrated Resource Plan (2020 IRP) evaluates its focus on exploring all new and existing supply-side and demand-side resource options to reliably serve its customers over the next 20 years. CenterPoint's 2020 IRP demonstrates that a diversified mix of generation resources, including the addition of significant solar and wind energy resources, the retirement or exit of four coal-fired units, the use of less natural gas generation (as compared to the 2016 IRP), and a continued investment in energy efficiency, would best balance cost and reliability.

¹ The new unit is currently Solar Turbines Inc.'s lowest emitting unit on the market.

² The listed hp is based on the Site Rate hp. The National Electric Manufacturer Association hp is 5,481, and the International Organization for Standardization (ISO) standard conditions hp is 6,274.

CenterPoint's Preferred Portfolio is estimated to reduce lifecycle greenhouse gas emissions, including methane, by nearly 60 percent over the next 20 years, with direct carbon dioxide emissions reduced by approximately 75 percent by 2035 when compared to 2005 levels.

Texas Gas' Project will support CenterPoint's AB Brown Project, which will utilize flexible natural gas combustion turbines to support CenterPoint's new intermittent renewable resources and to replace the retiring coal-fired units. The firm transportation service agreement contemplated in the precedent agreement allows CenterPoint to serve its AB Brown Plant with supplies received onto Texas Gas' system at various receipt points of interconnect with other interstate pipelines. This Project supports CenterPoint's 2020 IRP by providing the reliability of intermittent natural gas service to support renewable resources and the diversity of generation resources. The natural gas transportation service Texas Gas provides is critical for this transition and for the economic development and advancement of renewable energy sources.

Upgrades to the existing receipt M&R station will allow additional southbound capacity onto Texas Gas' mainline system, and the additional compression at the Slaughters Compressor Station will allow Texas Gas to increase the northbound capacity on its Slaughters Montezuma system between the Slaughters Compressor Station and the Robards Junction. The proposed Henderson County Lateral will extend from an interconnect with Texas Gas' existing Slaughters-Montezuma System at the Robards Junction to the AB Brown Plant site, and the proposed AB Brown M&R Station will be the custody transfer measurement between Texas Gas and CenterPoint located at the AB Brown Plant site.

1.2.2 Location and Description of Facilities

The Project facilities will be located in Henderson and Webster counties, Kentucky and Posey and Johnson counties, Indiana, as depicted in the Project Mapping provided as Appendix 1A. The Project facilities are described in the following sections and are summarized in Table 1.2-1.

Table 1.2-1 Summary of the Henderson County Expansion Project Facilities			
Facility	County, State	Milepost Location	Description
Pipeline Facilities			
Henderson County Lateral	Henderson, Kentucky	0.00 – 22.35	Install 23.53 miles of new 20-inch diameter pipeline extending from the new tie-in facility to the new AB Brown M&R Station. Install cathodic protection and AC mitigation systems along the proposed pipeline.
	Posey, Indiana	22.35 – 23.53	
Aboveground Facilities			
Henderson County Lateral			
Tie-in Facility	Henderson, Kentucky	0.00	Install a tie-in and launcher facility at the beginning of the new Henderson County Lateral as well as piping and valve modifications at Texas Gas' adjacent existing Robards Junction facility. The new tie-in will connect the Henderson County Lateral to Texas Gas' existing Slaughters-Montezuma System.
Mainline Valve	Henderson, Kentucky	12.61	Install one new mainline valve on the new Henderson County Lateral.
AB Brown M&R Station and 16-inch Interconnecting Pipe	Posey, Indiana	23.53	Install a delivery M&R station and receiver facility at the terminus of the Henderson County Lateral to deliver gas for CenterPoint's AB Brown Plant. In addition, install 0.08 mile of new 16-inch interconnecting pipe beginning at the AB Brown M&R Station and terminating at the Point of Demarcation site, all of which will be located on CenterPoint property.
Point of Demarcation Site	Posey, Indiana	0.08	Install a new riser, valve, and blowoff at the terminus of the 16-inch Interconnecting Pipe to accommodate CenterPoint's tie-in with its AB Brown Plant.
Mainline Facilities			
Existing Receipt M&R Station	Johnson, Indiana	49.70 ^b	Install receipt M&R facilities and associated upgrades at an existing M&R station located along Texas Gas' existing mainline system.
Slaughters Compressor Station	Webster, Kentucky	0.00 ^c	Install a new Solar Centaur 50 turbine compressor unit with approximately 4,863 hp ^a , piping modifications, and other auxiliary appurtenant facilities. Abandon the existing Compressor Unit 5 in place and place the existing Compressor Units 6 and 7 on standby.
^a The listed hp is based on the Site Rate hp. The NEMA hp is 5,481, and the ISO standard conditions hp is 6,274. ^b Milepost is associated with Texas Gas' existing Bedford-Indianapolis 20-inch Line (BEI 20-1TT pipeline). ^c Milepost is associated with Texas Gas' existing Slaughters-Montezuma System (SLM12 and SLM20 pipelines).			

Pipeline Facilities

The pipeline facilities associated with the Project will involve the construction and operation of 23.53 miles of new 20-inch pipeline lateral, referred to as the Henderson County Lateral. The Henderson County Lateral will commence at a new tie-in facility located adjacent to Texas Gas' existing Robards Junction in Henderson County and will terminate in Posey County, Indiana at the new AB Brown M&R Station located at CenterPoint's AB Brown Plant. The 16-inch

Interconnecting Pipe will commence at the AB Brown M&R Station and will extend east to the proposed Point of Demarcation site in Posey County, Indiana.

Approximately 47.5 percent (11.22 miles) of the new Henderson County Lateral and 16-inch Interconnecting Pipe will be co-located with existing utility rights-of-way (ROWs). Table 1.2-2 provides a summary of existing corridors with which the Project is co-located. Areas where Texas Gas was unable to co-locate the pipeline and interconnecting pipe with existing ROWs were primarily due to constructability issues (e.g., crossings of streams, wetlands, or congested areas).

Table 1.2-2 Locations of Co-located Utility Corridors					
Company	Right-of-Way Type	Beginning Milepost	Ending Milepost	Length (miles)	Corresponding Construction Typical
Texas Gas	Pipeline (MOV 10-1TT Lateral)	0.06	0.17	0.11	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	0.28	4.11	3.83	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	4.17	5.30	1.13	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	5.64	6.04	0.40	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	6.06	8.23	2.17	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	8.26	8.41	0.15	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	8.46	8.62	0.16	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	9.18	9.31	0.13	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	9.34	9.40	0.06	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	9.41	9.47	0.06	PL-24966
Texas Gas	Pipeline (MOV 10-1TT Lateral)	9.75	12.27	2.52	PL-24966
Unknown	Overhead Powerline	12.56	12.64	0.08	PL-24964
Unknown	Overhead Powerline	12.65	12.66	0.01	PL-24964
Unknown	Foreign Pipeline	22.71	22.75	0.04	PL-24966
Unknown	Buried Waterline	22.80	22.90	0.10	PL-24966
Unknown	Overhead Powerline	22.90	22.93	0.03	PL-24964
Unknown	Overhead Powerline	23.00	23.24	0.24	PL-24964
Total Co-location				11.22	--

Aboveground Facilities

Aboveground facilities associated with the Project include a new tie-in facility, new delivery M&R station (AB Brown M&R Station), an existing receipt M&R station, the existing Slaughters Compressor Station, and ancillary facilities associated with the new pipelines. These facilities are described in the following sections and summarized in Table 1.2-1.

New Tie-in Facility

Texas Gas proposes to construct a new tie-in and launcher facility at the beginning of the new Henderson County Lateral in Henderson County, Kentucky. The new tie-in facility will be located adjacent to Texas Gas' existing Robards Junction facility and will connect the new Henderson County Lateral with Texas Gas' existing Slaughters-Montezuma and mainline systems. In addition, the new tie-in facility will include a pig launcher to facilitate in-line inspections of the Henderson County Lateral. Texas Gas will also conduct piping, valve, and electrical modifications at the adjacent existing Robards Junction facility to accommodate the new tie-in facility.

AB Brown M&R Station

Texas Gas proposes to construct, own, operate, and maintain the AB Brown M&R Station at the terminus of the proposed Henderson County Lateral in Posey County, Indiana. The AB Brown M&R Station will include ultrasonic metering and flow control facilities, regulator skid, filter separator, remote terminal units/electronic gas measurement and gas chromatograph buildings, communication equipment, and appurtenant facilities. Lighting, gravel, and fencing will be installed as well as utility power and communications to the meter facilities. Texas Gas will also install a pig receiver at the AB Brown M&R Station to facilitate in-line inspections of the Henderson County Lateral.

Point of Demarcation Site

Texas Gas proposes to install a Point of Demarcation site located at the terminus of the new 16-inch Interconnecting Pipe in Posey County, Indiana. The Point of Demarcation site will include a new riser, valve, and blowoff and will serve as CenterPoint's tie-in for the Project facilities with its AB Brown Plant.

Existing Receipt M&R Station

Texas Gas proposes to upgrade an existing receipt M&R station located along its existing Bedford-Indianapolis 20-inch Line in Johnson County, Indiana. The proposed modifications will include installation of new meter facilities, a filter separator, ultrasonic meter skid, single run regulator skid, a gas heater, remote terminal units, electronic gas measurement equipment, a gas chromatograph, and communication equipment. In addition, Texas Gas will conduct modifications to the existing M&R station facilities to accommodate the additional capacity on the mainline system.

Slaughters Compressor Station

Texas Gas proposes to modify the existing Slaughters Compressor Station located at the junction of its SLM, SLE, SLN, MLS, SLG, SLH, SLT, STA, and mainline systems in Webster County, Kentucky. Texas Gas will abandon in place Compressor Unit 5, a 1,320-hp Clark HPA-6 unit, and transition the two other existing 1,320-hp Clark HPA-6 units (Compressor Units 6 and 7) from primary operating units to standby units. No existing buildings at the Slaughters Compressor Station will be demolished.

The Project will also involve the installation of a new Solar Centaur 50 turbine compressor unit to provide an additional 4,863 hp of compression (site rated hp). The new compressor package will be housed in a new manufacturer-provided enclosure which will be rated for exterior exposure. In addition, Texas Gas will install station piping and other auxiliary equipment, such as discharge gas coolers, lube oil cooler, fuel gas heater, fuel gas M&R skid, and pressure control skid. Texas Gas will also refurbish and replace the existing reciprocating compressor hydraulic valve control system, including replacement of existing pumps, hoses, actuators, and other components to improve reliability and automation of the existing compressor station systems.

Mainline Valve

Texas Gas proposes to construct one new mainline valve (MLV) at milepost (MP) 12.61 on the Henderson County Lateral in Henderson County, Kentucky. The MLV site will be graveled, fenced, and located entirely within the permanent ROW for the new Henderson County Lateral.

1.3 LAND REQUIREMENTS

Construction of the proposed Project will require the use of a total of 402.44 acres of land, resulting in both temporary and permanent land disturbance. Following the completion of construction activities, approximately 250.79 acres of land consisting of those areas necessary to facilitate construction, including the construction ROW, storage yard, temporary workspaces at aboveground facilities, and additional temporary workspaces (ATWS), will be restored to pre-construction conditions. Permanent impacts (total of 151.65 acres) will be associated with aboveground facilities, maintained pipeline ROW, and permanent access roads.

A summary of the land requirements for the Project is presented in Table 1.3-1. A detailed description of the land use associated with the construction and operation of the proposed Project is provided in Resource Report 8 – Land Use, Recreation, and Aesthetics.

Table 1.3-1 Summary of Land Requirements Associated with the Henderson County Expansion Project		
Facility	Land Affected During Construction (acres)^a	Land Affected During Operation (acres)^b
Pipeline Facilities		
Right-of-Way ^{c, d}	250.56	143.55
Additional Temporary Workspace	46.35	0.00
Storage Yard	29.46	0.00
Access Roads	7.88	0.00
Pipeline Facilities Subtotal	334.25	143.55
Aboveground Facilities		
New Tie-in Facility	2.27	0.40
AB Brown M&R Station	0.58	0.34
Existing Receipt M&R Station	2.78	0.57
Slaughters Compressor Station	58.49	3.34
Point of Demarcation Site	0.01	0.01
Mainline Valve	0.06	0.06
Access Roads	4.00	3.38
Aboveground Facilities Subtotal	68.19	8.10
Project Total	402.44	151.65
^a Land affected during construction is inclusive of operation impacts (permanent). ^b The term “operation” refers to impacts associated with permanent ROW areas along the new pipelines, and new permanent impacts at aboveground facilities and permanent access roads. These are considered long-term impacts as they would last the life of the Project. ^c ROW includes impacts associated with the Henderson County Lateral as well as the 16-inch Interconnecting Pipe, which will connect the new AB Brown M&R Station and Point of Demarcation. ^d Permanent ROW includes ROW associated with cathodic protection anode bed easement.		

1.3.1 Pipeline Facilities

Pipeline Right-of-Way

Construction of the new Henderson County Lateral will require a typical construction ROW width of 90 feet in uplands and 75 feet through wetlands (see Section 1.3.4 below regarding site-specific deviations to the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* [Plan] and *Wetland and Waterbody Construction and Mitigation Procedures* [Procedures]). The Henderson County Lateral construction ROW will be split into a 65-foot (50-foot in wetlands) working side and 25-foot spoil side, as depicted in the Construction Typical Package provided in Appendix 1B. Construction of the new 16-inch Interconnecting Pipe, which will connect the new AB Brown M&R Station and Point of Demarcation, will require a typical construction ROW width of 85 feet, with a 60-foot working side and a 25-foot spoil side, as depicted in Appendix 1B. Following construction, a 50-foot-wide permanent easement centered on the pipeline will be retained in all the above-described circumstances.

The total acreage of land that will be affected by construction of the pipeline (not including ATWS, storage yard, cathodic protection, and access roads) is 250.56 acres, of which 143.55 acres are associated with the new permanent easement and 107.01 acres are associated with the temporary construction ROW.

Texas Gas has determined that a 90-foot-wide and 85-foot-wide construction ROW would be needed to successfully construct the Henderson County Lateral and 16-inch Interconnecting Pipe, respectively, due to existing soil conditions, need for topsoil segregation in agricultural areas that comprise a majority of the Project workspace, and/or the proximity of the proposed pipelines to other existing utilities. The construction ROW would provide adequate spoil storage for construction of the pipeline while still providing safe working conditions according to the Occupational Safety Health Administration regulations (29 CFR 1926.650-1926.652, Subpart P). The proposed permanent ROW width of 50 feet is necessary to accommodate construction ROW spacing requirements, future maintenance work, and to protect the pipeline from ground-disturbing work that may occur in proximity to the pipeline in the future. The proposed pipeline will be installed in the center of the permanent ROW to the extent practicable.

In order to minimize the Project footprint, Texas Gas proposes to co-locate 11.22 miles (47.5 percent) of the new lateral and interconnecting pipe with existing easements, as discussed in Section 1.2.2. In areas where the pipeline is co-located, portions of the construction ROW and ATWS will overlap with the existing utility easements; however, as depicted on the alignment sheets (Appendix 1A), the amount of overlap varies along the proposed route. ATWS may be obtained on the existing parallel easements for topsoil storage where there is sufficient width to do so safely and where it is allowed by agreement with the foreign utility operators. Typical construction ROW details for co-located areas are provided within Appendix 1B.

In upland areas, Texas Gas will maintain a 10-foot-wide cleared permanent ROW annually and will maintain the full permanent ROW every three years in accordance with the FERC Plan. Texas Gas will maintain a 10-foot-wide cleared permanent ROW through wetlands in accordance with the FERC Procedures. In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of the pipeline coating will be selectively cut and removed from the permanent ROW to maintain pipeline integrity. ROW located between horizontal directional drill (HDD) entry and exit locations will not be impacted by construction or operation to minimize and avoid impacts to wetlands per the FERC Procedures unless otherwise requested and approved by FERC. Areas disturbed by construction that are not part of the permanent ROW will be restored to pre-construction conditions following the completion of construction activities.

Additional Temporary Workspace

Where necessary, Texas Gas will utilize ATWS outside of its construction ROW for equipment and material storage, and to facilitate specialized construction procedures such as HDDs and bores; railroad, road, wetland, waterbody, and foreign utility line crossings; and certain areas where topsoil segregation is required. Descriptions of the specialized construction techniques typically requiring ATWS are provided in Section 1.4.2.

ATWS needed for the Project will total 46.35 acres. ATWS will be allowed to revert to pre-existing conditions following construction activities, resulting in no permanent impacts on these areas. Locations of ATWS are detailed in Resource Report 8 and depicted on the Project alignment sheets (Appendix 1A).

Storage Yard

During construction of the pipeline, the contractor will require an off-ROW area for the storage of pipe and equipment necessary for the construction of the Project facilities. This storage yard totals 29.46 acres and will be located 2.87 miles east of the Project area near MP 15.82 in Henderson County, Kentucky, providing convenient and safe access to the Project area. An effort has been made to identify and select a yard that has been previously disturbed by human activity but does not have an ongoing land use that would preclude Project usage.

All areas utilized for the storage yard will be restored to pre-construction conditions upon Project completion unless otherwise agreed upon with the landowner and submitted to FERC for review and approval. The location of the storage yard is depicted in Appendix 1A.

Cathodic Protection and AC Mitigation Systems

Texas Gas proposes to install both cathodic protection and AC mitigation systems along the proposed Henderson County Lateral. As discussed in greater detail in Resource Report 11 – Reliability and Safety, the cathodic protection and AC mitigation systems will be installed to prevent external corrosion of the proposed Henderson County Lateral. Texas Gas proposes to install one groundbed located at MP 16.15 on the Henderson County Lateral. Texas Gas is continuing to evaluate and finalize the proposed cathodic protection design for the Project. As the cathodic protection design is completed, Texas Gas will work with landowners to mutually agree upon locations for installation of groundbeds and other appurtenances to minimize impacts on landowners' properties as well as avoid impacts on sensitive environmental resources such as wetlands and waterbodies. Upon completion of construction, all disturbed areas will be returned to pre-construction contours and revegetated in accordance with the FERC Plan and

Procedures. The land over the buried groundbed will be maintained as a permanent easement similar to the permanent pipeline ROW during operation of the Project. Therefore, land requirements associated with construction and operation of the proposed cathodic protection groundbed are captured in the pipeline ROW land requirements.

1.3.2 Aboveground Facilities

Land requirements for the aboveground facilities associated with the Project are summarized in Table 1.3-1 and described in the following sections. The temporary workspace and permanent facility sites are depicted on the Project alignment sheets (Appendix 1A).

Aboveground Facilities

New Tie-in Facility

The new tie-in facility will be constructed adjacent to the existing Robards Junction facility at MP 0.00 of the Henderson County Lateral. Construction of the tie-in facility will require approximately 2.27 acres located within and adjacent to the existing Robards Junction facility, with operation of the new facility requiring 0.40 acre. The new tie-in facility will be fenced, and land within the permanent footprint not covered by rock will be maintained in an herbaceous state.

AB Brown M&R Station

The AB Brown M&R Station will be constructed on previously cleared and maintained land constructed at the terminus of the proposed 20-inch pipeline within CenterPoint property in Posey County, Indiana. Texas Gas will obtain an easement for the land that will be impacted during operation of the AB Brown M&R station. Construction of the AB Brown M&R Station will require a total of 0.58 acre, with 0.34 acre utilized for operation. Upon completion of construction, temporary workspaces will be graded, stabilized, and allowed to revegetate. The M&R station will be fenced, and land within the permanent footprint not covered by rock will be maintained in an herbaceous state. A detailed plot plan of the AB Brown M&R Station is provided in Volume III, Appendix 1B as **CEII**.

Point of Demarcation Site

The Point of Demarcation site will be constructed and operated within the permanent pipeline easement for the new 16-inch Interconnecting Pipe and will require 0.01 acre. Following the completion of construction, the Point of Demarcation site will be fenced and graveled.

Slaughters Compressor Station

Texas Gas proposes to conduct modifications to its existing Slaughters Compressor Station located along its existing system. Construction at the Slaughters Compressor Station will

require a total of 58.49 acres, with 3.34 acres utilized for operation. A plot plan depicting the proposed modifications to the Slaughters Compressor Station is provided in Volume III, Appendix 1B as **CEII**. Upon completion of modifications, temporary workspaces will be graded, stabilized, and allowed to revegetate.

Existing Receipt M&R Station

Proposed modifications at the existing receipt M&R station will require expansion of the existing fenced and graded facility located in Johnson County, Indiana. All land that will be impacted during construction and operation of the M&R station will be located within Texas Gas' existing easement on the property. Construction activities at the existing receipt M&R Station will require 2.78 acres, with 0.57 acre utilized for operation. Upon completion of construction, temporary workspaces will be graded, stabilized, and allowed to revegetate. The M&R station will be fenced, and land within the permanent footprint not covered by rock will be maintained in an herbaceous state. A plot plan depicting the proposed modifications to the existing receipt M&R station is provided in Volume III, Appendix 1B as **CEII**.

Mainline Valve

The MLV and other ancillary facilities will be constructed within the permanent pipeline easement and will be enclosed by fencing. The pig launcher and pig receiver will be located within the new tie-in facility and the AB Brown M&R Station, respectively, and the impacts associated with the construction and operation of these facilities are included in the total impact acreages of the respective facilities where they are located. The MLV will require an approximate 50-foot by 50-foot fenced graveled area. Construction and operation of the MLV will require 0.06 acre.

1.3.3 Construction and Operation Access

Texas Gas will utilize existing public and private roads to access the Project facilities to the extent practicable. Existing roads utilized will include paved, gravel, or pasture roads, and other conveyances. Some of the existing roads will require modification or improvement to facilitate safe access for construction equipment and personnel. The Project will require construction of both temporary and permanent roads to provide access to the new facilities and for future pipeline maintenance.

To date, Texas Gas has identified a total of 15 temporary and 4 permanent access roads for the pipeline and aboveground facilities. The total land requirements for all 19 access roads are 11.88 acres, of which 3.38 acres will be utilized for permanent access during operation of the

Project. Additional details regarding the access road land requirements are summarized in Table 1.3-1 and further discussed in Resource Report 8.

1.4 CONSTRUCTION PROCEDURES

All facilities associated with the Project will be designed, constructed, tested, operated, and maintained in accordance with the U.S. Department of Transportation (DOT) regulations in Title 49 CFR Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*, and other applicable federal and state regulations. Construction of the Project will be performed in accordance with the FERC Plan and Procedures and Texas Gas' Project-specific *Stormwater Pollution Prevention Plan* (SWPPP). Additionally, Texas Gas will implement its *Spill Prevention and Response Procedures Plan* (SPRPP) and *Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan* (IR Plan) to protect sensitive resources from inadvertent releases during construction activities (all Project plans are included in Appendix 1B). The Project will be constructed via a combination of conventional and specialized construction procedures as described below. Depictions of typical pipeline construction procedures are provided in Appendix 1B.

1.4.1 General Construction Procedures

Conventional open-cut pipeline construction techniques will be used for the majority of the Project. Construction of the Project will require one spread and will consist of phased construction conducted in a sequential manner. The entire process will be coordinated in such a manner as to minimize the total time a tract of land is disturbed and therefore, exposed to erosion and/or temporarily precluded from its normal use. General construction and installation procedures are described in the following sections and the typical construction sequence is reflected in Figure 1.4-1.

Figure 1.4-1. Typical Pipeline Construction Sequence



Clearing and Grading

Prior to commencement of ground disturbing activities, a standard survey and stakeout will be conducted to identify ROW and workspace boundaries and to locate existing foreign utility lines within the construction ROW. Texas Gas will also require its contractor to make notifications to foreign utility line operators through the “One Call” locate services to assist in locating and marking of all belowground utility lines. Following the completion of the surveys, the construction ROW will be cleared of vegetation and debris. Within wetlands, stumps will be cut flush with the ground and left in place except in the pipeline trench and where removal is necessary to facilitate the creation of a safe and level workspace. Cleared vegetation and debris will be disposed of in accordance with federal, state, and local regulations either by burning, chipping and spreading (chipping and spreading would be performed in accordance with Section IV.F.e.3 of the FERC Plan), or transportation to an appropriate disposal facility. Where necessary, to contain disturbed soils during clearing and grading in upland areas, and to minimize potential erosion and

sedimentation of wetlands and waterbodies, temporary erosion control devices (ECDs) will be installed prior to initial ground disturbance and will be maintained throughout construction.

Trenching

Trenching involves excavation of a ditch for pipeline placement and is accomplished through the use of a trenching machine, backhoe, or similar equipment. Trench spoil will be deposited adjacent to the trench within the construction work areas with topsoil segregation utilized where necessary per the FERC Plan and Procedures (see Section 1.4.2). In standard conditions, the trench will be excavated to a depth of approximately 6 feet to ensure a minimum of 4 feet of cover over the pipe, which exceeds the requirements of 49 CFR Part 192. Typically, the bottom of the trench will be cut at least 12 inches wider than the width of the pipe. The width at the top of the trench will vary to allow the side slopes to be adapted to local conditions at the time of construction.

Pipe Stringing, Bending and Welding.

Following preparation of the trench, the new pipe will be strung and distributed along the ROW parallel to the trench. Depending on available workspace, some pipe may be fabricated off-site and transported to the ROW in differing lengths or configurations. Pipe will be bent by hydraulic bending machines, as necessary, to conform the pipe to the trench. Once in place along the ROW, pipe lengths will be aligned, bends fabricated, and joints welded together. Welding will be performed in accordance with the American Petroleum Institute Standard Number 1104, DOT pipeline safety regulations, 49 CFR Part 192, and company welding specifications. All welds will be coated for corrosion protection and visually and radiographically inspected to ensure there are no defects as required by 49 CFR Part 192. Additionally, the entire pipeline will be visually inspected prior to lowering-in.

Pipeline Installation and Trench Backfilling

Completed sections of pipe will be lifted off the temporary supports by side boom tractors or similar equipment, and placed into the trench. Prior to lowering-in, the trench will be visually inspected to ensure that it is free of rock and other debris that could damage the pipe or the coating. Additionally, the pipe and the trench will be inspected to ensure that the configurations are compatible. Tie-in welding and pipeline coating will occur within the trench to join the newly lowered-in section with the previously installed sections of pipe. Following this activity, the trench will be backfilled with the previously excavated material and crowned to approximately 6 inches above its original elevation to compensate for subsequent settling.

Hydrostatic Testing

Following backfilling of the trench, the pipeline will be hydrostatically tested to ensure that the system is free from leaks and is capable of safely operating at the design pressure. Hydrostatic testing will be conducted in accordance with the requirements of DOT pipeline safety regulations (49 CFR Part 192), company testing specifications, and applicable state general discharge permits (see Table 1.7-1). Sections that are installed by directional drilling are generally hydrostatically tested to prove the integrity of the pipe prior to installation. Water utilized for hydrostatic testing of the pipeline will be withdrawn from surface waterbodies and municipal sources as further described in Resource Report 2 – Water Use and Quality.

Environmental impacts from withdrawal and discharge of test water will be minimized through the application of measures outlined in the FERC Procedures and other specific construction practices including:

- Locating hydrostatic test manifolds outside of wetlands where practicable;
- Withdrawing from water sources in compliance with appropriate agency requirements;
- Complying with all appropriate permit requirements;
- Screening intake from surface water sources to avoid entrainment of fish and other aquatic species;
- Maintaining adequate flow rates to protect aquatic life and provide for all waterbody uses and downstream withdrawals by existing users;
- Anchoring the discharge pipe for safety;
- Discharging test water through an energy dissipating and/or filtration device to minimize flooding and erosion, as well as reduce velocities, spread water flow, and promote ground penetrations; and
- Discharging test water only in well vegetated upland areas.

During testing, the water in the pipe will be pressurized above the maximum operating pressure and held for a minimum of eight hours. Any loss of pressure that cannot be attributed to other factors, such as temperature changes, will be investigated. In the event that a loss of pressure is detected, the pipeline will be repaired and the segment retested. Information regarding hydrostatic testing including, withdrawal sources, volumes, discharge locations, and discharge rates, is provided in Resource Report 2. The necessary permits associated with hydrostatic testing for the Project are identified in Table 1.7-1.

Restoration and Clean-up

Following pipeline installation and backfilling, disturbed areas will be restored and graded to pre-construction contours as closely as practicable in accordance with the FERC Plan and Procedures. Construction debris and organic refuse unsuitable for distribution over the ROW will be disposed of at appropriate facilities in compliance with applicable regulations. Permanent erosion and sediment control measures will be installed as appropriate, and revegetation measures outlined in the Plan and Procedures, specific landowner requests, or in Project-specific plans will be implemented.

1.4.2 Specialized Construction Techniques

In addition to conventional pipeline construction techniques, specialized construction techniques will be utilized in sensitive resource areas including waterbody crossings, wetland crossings, agricultural areas, road and railroad crossings, utility crossings, and areas with steep slopes. Specialized construction procedures are described below.

Waterbody Crossings

Open-Cut

Construction methods utilized at waterbody crossings are highly dependent on the characteristics of the waterbody encountered. Waterbodies less than 100 feet wide will typically be crossed via the conventional open-cut method. This method employs the same general construction procedures that were described above for mainline construction. Equipment will operate from the banks of the waterbody to the maximum extent practicable to excavate a trench. As required by the FERC Procedures, flow will be maintained at all times. Excavated material from the trench will be placed on the bank above the ordinary high-water mark for use as backfill. The pipe segment will be prefabricated and weighted, as necessary, to provide negative buoyancy and placed below scour depth. With the exception of field drains and roadside ditches, Texas Gas will install the pipeline with a minimum of 5 feet of cover under delineated features unless otherwise required by applicable federal, state, or local permits. Typical backfill cover requirements will be met, contours will be restored within the waterbody, and the banks will be stabilized via seeding and/or the installation of erosion control matting or riprap. Excess excavated materials will be distributed in an upland area in accordance with applicable regulations.

Impacts on water quality will be minimized through the implementation of measures outlined in the FERC Procedures. The pipeline trench will be excavated immediately prior to pipe installation to limit the duration of construction within the waterbody to 24 hours for crossings less

than 10 feet and 48 hours for crossings between 10 feet and 100 feet. Excavated materials will be stored no less than 10 feet from the edge of the waterbody and temporary ECDs will be utilized to prevent the sediment from reentering the waterbody.

Flume

The flume crossing method is an alternative to the open-cut method in which water flow is temporarily directed through one or more flume pipes placed over the excavation area. Temporary dams (consisting of sandbags, bladders, or other impervious materials) are installed upstream and downstream of the proposed crossing, and are used to divert water into the flume(s). The use of the flume crossing method allows trenching and pipeline installation to occur primarily under dry conditions without significant disruption of water flow.

Dam and Pump

The dam and pump crossing method is similar to the flume crossing method in that it is an alternative to the open-cut method that allows trenching and pipeline installation to occur under relatively dry conditions with minimal impact to water flow. This method involves the temporary installation of dams (consisting of sandbags, bladders, or other impervious materials) upstream and downstream of the proposed crossing. Pumps are then used to dewater the excavation area and to transport the water flow around the construction work area.

Horizontal Directional Drill

The HDD crossing method is typically utilized at large or sensitive waterbody or wetland crossings. The HDD method allows for construction across a sensitive resource without the excavation of a trench, by drilling a hole significantly below conventional pipeline depth, and pulling the pipeline through the pre-drilled hole. Texas Gas will utilize HDDs to avoid direct impacts on sensitive resources such as wetlands and waterbodies, and/or to avoid areas in which constructability by conventional means is not feasible. Proposed HDD locations for the Project, to the extent they have been identified, are provided in Table 1.4-1. The plan and profile drawings for the HDD crossings are included in Appendix 1B.

The drilled crossing length shown in Table 1.4-1 is approximate and is estimated based on the assumed crossing profile and depth. Texas Gas will obtain geotechnical core data to determine the final design depth and profile for the crossings, and will provide this information to the FERC upon receipt. Should the crossing profile and depth change based on results of the geotechnical study, Texas Gas will also provide the FERC with updated plan and profile drawings for the HDD crossings.

Table 1.4-1 Proposed Locations of Horizontal Directional Drill Operations			
Name of HDD	Milepost		Length (feet)
	Entry	Exit	
Henderson County Lateral			
HDD 1 – Pond Bayou	16.93	17.24	1,600
HDD 2 – Big Pond	21.45	21.72	1,515
HDD 3 – Ohio River	21.97	22.40	2,495
HDD 4 – AB Brown	23.49	23.32	906

To facilitate the proposed HDD installations, Texas Gas is planning to hand clear two paths of sufficient width, not to exceed 5 feet wide, to allow placement and surveying of an electric guide wire coil (closed loop system) along the ground surface between the HDD entry point and exit point, where possible. This coil is used to facilitate tracking of the location of down hole drilling equipment and to determine steering inputs during advancement of the pilot bore. Wireline guidance systems typically require two guide wires for each crossing. The guide wires are placed parallel to the centerline of an installation with variable spacing or offset on each side of the centerline depending on the depth of the particular HDD installation.

Following the completion of the pilot hole, reaming tools will be utilized to enlarge the hole to accommodate the pipeline diameter. The reaming tools will be attached to the drill string at the exit point and will then be rotated and drawn back to incrementally enlarge the pilot hole. During this process, drilling mud consisting of bentonite clay, water, and approved additives will be continuously pumped into the pilot hole to remove cuttings and maintain the integrity of the hole (sources and volumes of water as well as additives for drilling mud are further discussed in Resource Report 2). When the hole has been sufficiently enlarged, a prefabricated segment of pipe will be attached behind the reaming tool on the exit side of the crossing and pulled back through the drill hole towards the drill rig. In the event that a particular drill is unsuccessful Texas Gas will implement their IR Plan included in Appendix 1B. Drilling activities will primarily occur between 7:00 AM and 7:00 PM, unless conditions dictate otherwise, as further described in Section 1.4.6 below.

Wetland Crossings

In accordance with construction methods outlined in the FERC Procedures, the construction ROW width will be limited to 75 feet in wetlands, and buffers will be clearly marked during construction activities, unless otherwise requested and approved by FERC. Operation of construction equipment through wetlands will be limited to only that necessary for each stage of pipe installation (e.g., clearing, trenching, etc.). Topsoil segregation techniques will be utilized in unsaturated wetlands to preserve the seed bank and allow for successful restoration of the

disturbed area following completion of Project activities. Disturbed wetlands will be monitored post-construction to ensure successful revegetation. To further minimize impacts on wetlands, no refueling or storage of fuel will occur within 100 feet of wetlands unless otherwise approved by the Environmental Inspector (EI).

Wetland crossings for the Project may be accomplished via a combination of the HDD method (as previously described) and the conventional lay method in accordance with all applicable permits and the FERC Procedures. Construction techniques for the conventional lay method in wetlands are similar to the open-cut method in upland areas; however, topsoil segregation techniques will be utilized to facilitate revegetation following the completion of construction activities. In some cases, site-specific conditions may not support construction equipment, but the area will still be crossed using the conventional lay method. In these instances, construction mats will be used to minimize disturbances to wetland hydrology and maintain soil structure. Per the FERC Procedures, Texas Gas will not utilize topsoil segregation techniques in inundated wetlands.

Road, Railroad, and Utility Crossings

Paved roads, railroads, and utility line crossings (including pipelines and electrical lines) along the Project may be crossed via the use of open-cut, subsurface bores, or HDDs. Safe and accessible conditions will be maintained during construction at road crossings per the FERC Plan. Some paved and most unpaved roads with limited traffic may be open-cut pending appropriate consultation with the affected county or landowner and in accordance with existing regulations. Open-cut construction of road crossings will typically be conducted within one day in order to minimize the interruption of traffic. Typically, a minimum of 5 feet of cover over the pipe will be maintained at all road crossings (paved and unpaved) with a minimum of 4 feet of cover below side borrow/drainage ditches. Texas Gas will provide additional depth of cover where required to ensure that the minimum depth of cover over the pipe is in accordance with all federal, state, and local regulations for pipeline crossings. Texas Gas will coordinate the railroad crossings with the respective company that own the railroads. Additionally, pipeline warning signs and/or markers will be used to identify the presence of a pipeline. Cathodic protection test stations will be installed in proximity to all public roads, railroads, and foreign pipeline crossings, and at other locations as needed, to monitor the performance of the cathodic protection system.

Prior to construction, Texas Gas will request meetings with representatives of each foreign utility line operator to inform them of the proposed Project, obtain their requirements for crossing their utility line, and to solicit their cooperation in facilitating safe crossing. In areas where the

proposed pipeline crosses an existing utility line, a minimum of 24 inches will be maintained between the existing utility line and the proposed pipeline. Mechanical excavation will be restricted in proximity to the existing pipelines being crossed. Texas Gas will have inspectors present to monitor all crossing installations. Foreign utility line operators will also be afforded the opportunity to have a representative on-site to help ensure that the crossings are made as safe as possible. Although not anticipated, should an accident occur and the foreign pipeline be damaged during construction, Texas Gas will stop work immediately and notify all appropriate personnel and local first responders, as needed (refer to Resource Report 11).

Agricultural Areas

As described in further detail in Resource Report 8, the Henderson County Lateral will cross a number of areas characterized as active cropland or maintained pasture. In these areas, Texas Gas will implement the FERC Plan during construction and restoration. To prevent the mixing of topsoil with subsoil, topsoil will be segregated from all construction ROW and temporary workspaces subject to grading and excavation. Trench plus spoil side or full ROW topsoil segregation will be implemented. Segregated topsoil will be stockpiled for redistribution during restoration. Following installation of the new pipeline all areas disturbed will be graded to restore pre-construction topography and drainage patterns. Before topsoil redistribution, the construction ROW and temporary workspaces will be tested for compaction and compared to adjacent undisturbed soils. Compaction will be alleviated by deep primary tillage prior to redistribution of topsoil. Following any required decompaction, segregated topsoil will be distributed. Excess rock in the topsoil profile will be removed in accordance with the FERC Plan, such that remaining rock will be similar in size, density, and distribution to adjacent undisturbed land. Agricultural areas will not be mulched, but an annual cover crop may be seeded in areas subject to runoff if compatible with the existing land use/farming operation.

Where trenching will be required in agricultural areas, Texas Gas has coordinated with landowners to attempt to identify locations of existing drainage tile or locations of planned drainage tile. Locations of known existing tile will be staked. Drain tiles that are cut will be marked for inspection and repaired prior to backfill. All damaged drain tiles will be restored to pre-construction functionality. In areas of planned drain tiles, Texas Gas will coordinate with the landowner to ensure that the planned pipe depth is sufficient to not obstruct future drain tile installation.

Steep Slopes

Construction in areas with side slopes and steep topography will require the use of cross ROW leveling to provide safe working conditions. During grading, the uphill side of the construction ROW will be cut down. Material removed from the uphill side will then be used to fill the downhill side to create a safe and level surface for travel and equipment operation. Trenching would then occur from the newly leveled ROW. In areas where cross ROW leveling is utilized, up to an extra 65 feet of ATWS will often be necessary. Following pipeline installation, the ROW will be restored as nearly as practical to its original contours and stabilized in accordance with the FERC Plan.

Blasting

U.S. Department of Agriculture Soil Maps indicate possible shallow bedrock in Kentucky. Based on prior construction experience in the area, no blasting is anticipated to install the new pipelines. Any bedrock potentially encountered during construction will be removed either by ripping or by hammering with a pointed backhoe, as further described in Resource Report 6. Texas Gas will evaluate the potential for bedrock excavation further once the geotechnical surveys are completed.

Winter Construction

Winter construction techniques are required in some parts of the country that experience extended periods of freezing conditions or heavy snowfall events. Winter construction techniques typically include snow management, working with frozen soils, and managing hydrostatic discharge water under freezing conditions. These techniques also include the application of temporary erosion and sediment control measures to protect against accelerated erosion during spring melt and heavy spring rains. These temporary controls are maintained during Project construction and reinstalled as necessary until permanent ECDs are constructed and/or permanent stabilization has occurred. In the event that winter construction conditions are encountered, Texas Gas will implement its *Winter Construction Plan*, which is provided in Appendix 1B.

Alternative Crossing Methods

In select locations, and with EI approval, Texas Gas may need to modify crossing methods for certain areas, such as wetlands and waterbodies, difficult terrains, and areas where the contractor determines that the modified methods would reduce environmental impacts due to site-specific conditions. Such changes would include the use of a bore (e.g., conventional, slick,

guided) in lieu of conventional open-cut installation, reversing, or lengthening of HDD entry and exit sites. These modifications would occur entirely within the same construction footprint as the currently proposed Project area and with no new or increased impacts on sensitive features (i.e., wetlands, waterbodies, forested areas, cultural resources) or landowners. Further, any changes in HDD entry and exit sites would not result in increased noise quality impacts on noise sensitive areas (NSAs) within 0.50 mile. As further described in Resource Report 9 – Air and Noise Quality, Texas Gas completed the noise modeling analysis with a conservative assumption that entry or exit site equipment could be present at all sites with NSAs within 0.50 mile. In addition, these changes in HDD entry and exit sites would be limited to only those locations where such a change would result in a comparable feasibility and potential for inadvertent return as the currently proposed design. Texas Gas would notify FERC of any crossing method modifications in its construction status reports.

1.4.3 Proposed Site-specific Deviations to the FERC Plan and Procedures

Texas Gas is committed to constructing the Project in accordance with the FERC Plan and Procedures to the extent feasible. However, there are places where the topography, ROW, and/or natural conditions make it impractical to implement some of the measures specified in these documents. In these specific cases, Texas Gas is requesting site-specific deviations to the FERC Plan and Procedures. Locations where alternative measures are being proposed and associated site-specific justifications are presented in Table 1.4-2 below.

<p align="center">Table 1.4-2 Site-Specific Deviations to the FERC Plan and Procedures</p>						
Workspace Type / ID	Milepost	Waterbody or Wetland	Section of Plan and Procedures	Deviations to FERC Plan and Procedures	Justification	Equal Compliance Measures
Henderson County Lateral						
ATWS 150	17.15	WP7012_PSS & WP7012_PEM_B	Procedures Section VI.B.1	ATWS impact to wetlands	Workspace required for hydrostatic test water withdrawal.	Temporary timber mats to be installed where necessary to create a stable surface for equipment; and erosion controls to be implemented as needed to control sedimentation until disturbed soils are adequately stabilized.
ATWS 196	22.04	SP2008	Procedures Section V.B.2	ATWS impact to waterbody	Workspace required for hydrostatic test water withdrawal.	Spoil to be stored a minimum of 10 feet from water's edge, and erosion and sediment controls to be installed as needed to prevent sedimentation in the waterbody.
ATWS 199	22.35	SP2008	Procedures Section V.B.2	ATWS impact to waterbody	Workspace required for hydrostatic test water withdrawal.	Spoil to be stored a minimum of 10 feet from water's edge, and erosion and sediment controls to be installed as needed to prevent sedimentation in the waterbody.
Construction Corridor	23.2	WP7001_PEM	Procedures Section VI.A.3	Construction ROW width greater than 75 feet through wetland	Necessary to accommodate safe construction on a side slope and directly adjacent to an overhead power line	Timber mats to be installed where necessary to create a stable surface, and temporary erosion and sediment controls to be installed as necessary to protect adjacent undisturbed wetland areas.

1.4.4 Aboveground Facilities

Construction of aboveground facilities including the Slaughters Compressor Station modifications, M&R stations, as well as the launcher and receiver, MLV, and other ancillary facilities described in Section 1.1 will occur concurrently with construction of the pipeline facilities. Sites associated with the facilities will be cleared, graded, and soils will be leveled and compacted for placement of facility equipment. Any excess soils will be used elsewhere on site or disposed of in an approved offsite location. High strength reinforced concrete will be utilized for major equipment and buildings.

The compressor units and associated equipment will be placed on foundations. Pipe and other equipment will be assembled and welded on site. Aboveground and belowground piping will be installed and hydrostatically tested prior to being placed in service. Additionally, safety and control devices will be installed and tested prior to operation. Gravel fill, asphalt, or concrete will be used to construct roads and parking areas. Upon completion of construction activities, disturbed areas that have not been paved or covered with gravel will be finish-graded and seeded in accordance with the Project-specific *Revegetation Plan* (see Appendix 1B).

All proposed aboveground facilities will be automated or capable of being remotely monitored and controlled via data and telecommunication connections for the supervisory control and data acquisition system.

1.4.5 Environmental Compliance, Training, and Inspection

To ensure that construction of the proposed facilities will comply with mitigation measures identified in these resource reports, FERC analysis of the Project, and the requirements of other federal and state permitting agencies, Texas Gas will include, whenever possible, implementation details in its construction drawings and specifications. Texas Gas' selected contractors will receive copies of the specifications and a Construction Drawing Package containing, but not limited to, the Henderson County Lateral, 16-inch Interconnecting Pipe, Slaughters Compressor Station, AB Brown M&R Station, existing receipt M&R Station, tie-in facility, Point of Demarcation site, and other ancillary facility drawings. In order to solicit accurate bids for construction, Texas Gas will provide specifications and advance versions of the Construction Drawing Package to prospective pipeline contractors. Texas Gas will require selected contractors to install facilities according to Texas Gas' specifications, the Construction Drawing Package, the terms of the negotiated contract, and all applicable permits and clearances.

To specifically support the application of proper field construction methods, Texas Gas has prepared a SWPPP (included in Appendix 1B) incorporating best management practices, industry standards, and provisions of the FERC Plan and Procedures. To protect surface and groundwater resources in construction and support areas from inadvertent releases of fuel and other mechanical fluids, Texas Gas has prepared a Project-specific SPRPP. The following construction related plans have also been prepared to assist prospective contractors in being aware of the environmental requirements that apply to the Project: *Plan for the Unanticipated Discovery of Historic Properties or Human Remains During Construction*, *Plan for the Unanticipated Discovery of Contaminated Environmental Media*, IR Plan, *Fugitive Dust Control Plan*, *Winter Construction Plan*, *Revegetation Plan*, and *Exotic and Invasive Species Control Plan* (provided in Appendix 1B).

The inspectors for the Project will be qualified contractors licensed and bonded in the state or jurisdictions where construction activities will occur. Texas Gas will conduct training for its field construction personnel and contractor's personnel before the Project kick-off and as necessary during construction. This training will focus on environmental compliance with all applicable environmental mitigation measures.

For purposes of quality assurance and compliance with mitigation measures, other applicable regulatory requirements, and Texas Gas specifications, Texas Gas will be represented by a Chief Inspector or Construction Manager. The Chief Inspector will be assisted by one or more Craft Inspectors and at least one EI. The EI will be present throughout construction of the Project and follow-up restoration, and will have the authority to enforce permit conditions and comments from the FERC. The EI will report directly to Texas Gas' Environmental Project Manager and have stop work authority. The EI's duties are consistent with those contained in paragraph II.B ("Responsibilities of the EI") of the FERC Plan and shall be:

- Responsible for monitoring and documenting compliance with all mitigation measures required by the Commission's Order and any other grants, permits, certificates, or other authorizing documents;
- Responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract or any other authorizing document;
- Responsible for identifying, documenting, and overseeing correction of acts that violate the FERC Plan and Procedures or the environmental conditions of the Commission's

Order, or any other authorizing document (e.g., U.S. Army Corps of Engineers [USACE] Section 404 permit) and, if necessary, to stop work;

- A full-time position, separate from all other activity inspectors; and
- Responsible for maintaining status reports and training records.

An adequate number of copies of the Construction Drawing Package will be distributed to Texas Gas' Inspectors and to the contractor's supervisory personnel. If the contractor's performance is unsatisfactory, the terms of the contract allow Texas Gas to stop work in progress and cause a contractor to begin remedial work.

The Engineering and Construction Department is responsible for designing and constructing certificated facilities in compliance with all applicable requirements and agreements. Any issues of non-compliance with mitigation measures or other regulatory requirements that cannot be solved in the field will be addressed by the Project Manager. Operations will be responsible for long-term Project maintenance and regulatory compliance. Following the completion of construction, Texas Gas will provide instructions and documentation to Texas Gas' operating personnel to address post-construction requirements.

Routine reporting or specific communication with Commission staff regarding design, installation, and maintenance of the facilities described in this resource report is the responsibility of Texas Gas' Environmental and Regulatory Groups. FERC staff inquiries regarding these proposed facilities should be addressed to Texas Gas' Environmental Project Manager accordingly.

1.4.6 Construction Schedule and Workforce Requirements

To meet market demand, Texas Gas' planned in-service date for Project facilities is February 2024. Pending all necessary authorizations and permits, Texas Gas anticipates mobilization and construction of the Project facilities to begin in May 2023. This schedule is based on Texas Gas' proposed in-service date as well as the anticipated receipt of all necessary permits and approvals (see Section 1.7).

Texas Gas currently does not anticipate conducting construction activities between the hours of 7:00 PM and 7:00 AM; however, in order to address the potential for weather, site conditions, specialized construction techniques, emergencies, or other atypical circumstances, Texas Gas may need to conduct construction activities on Sundays, federal holidays, and/or between the hours of 7:00 PM and 7:00 AM on an as needed basis. Weather is unpredictable, and inclement weather may prevent work during Monday through Saturday and/or during daytime

hours. As a result, Texas Gas may need to conduct construction activities outside normal hours (i.e., 7:00 AM and 7:00 PM) in order to minimize the number of days required for the construction activities and meet the scheduled in-service date for the Project. Activities that may occur during nighttime hours along the Henderson County Lateral, other than HDD work, could include tie-ins at critical locations such as HDD locations, bores, and the aboveground facilities and hydrostatically testing piping. In addition, activities may occur during nighttime hours at the Slaughters Compressor Station. The nighttime activities at the Slaughters Compressor Station would be minor and would take place within the station construction yard. Construction activities would consist of: (i) welding small bore utility piping; (ii) welding large bore piping (to be placed and aligned during daytime); (iii) install small bore piping throughout the site; (iv) electrical and instrumentation work throughout the site; (v) torquing of flanges; and (vi) hydrostatically testing high pressure piping. If required, the nighttime construction activities for the Project will be temporary in nature and are not expected to occur for the duration of construction.

Texas Gas will minimize impacts through the implementation of mitigation measures consisting of: (i) construction crews utilizing handheld equipment/tools and pipe lifting equipment (i.e., forklift) at the Slaughters Compressor Station and M&R facilities; (ii) limiting nighttime lighting by directing the fixtures only to specific locations where work is to be performed; and (iii) restricting equipment deliveries to daytime operations to avoid traffic going in and out of the construction ROW during the nighttime hours.

Texas Gas will contact all potentially affected landowners in advance of commencing any nighttime activities. Should there be any landowner concerns with construction activities during nighttime, on Sundays, and/or on federal holidays, Texas Gas will continue to work with the landowners to address their concerns. Mitigation measures would include notifying all affected landowners of the nighttime work, and if requested, landowners may have the opportunity to be temporarily relocated. Texas Gas will document any landowner concerns and the measures taken to address them in the construction / environmental progress report submitted to FERC. Additional information regarding estimated sound levels during daytime and nighttime construction activities as well as the proposed mitigation measures is provided in Resource Report 9.

During the 4-month duration of peak construction, the maximum number of workers will total approximately 500 workers, which will reduce to approximately 310 to 370 workers outside the peak period for construction. Due to the location of the Project and the availability of skilled

laborers, it is estimated that as much as 90 percent of the construction workforce will be non-local residents.

1.5 OPERATION AND MAINTENANCE

Texas Gas will operate and maintain all facilities associated with the Project in accordance with applicable federal and state requirements. Facilities will be operated and maintained in accordance with the DOT *Minimum Federal Safety Standards* (49 CFR 192) pursuant to the provisions of the *Natural Gas Pipeline Safety Act* of 1968, as amended.

1.5.1 Pipelines

Maintenance of pipeline facilities will include periodic visual inspections as well as routine pedestrian surveys, as necessary, in accordance with the applicable regulatory requirements and Texas Gas' Operations requirements. In accordance with DOT requirements, periodic leak inspections and cathodic protection maintenance will be conducted. Additionally, all pipeline markers and signs will be routinely inspected and will be replaced as necessary to ensure that pipeline locations are clearly identified.

Post-construction monitoring will be conducted to identify erosion or washout areas, damaged or non-functional permanent ECDs, and to evaluate restoration of impacted wetlands. Any issues identified during post-construction monitoring would be addressed in accordance with applicable federal and state regulations, and the FERC Plan and Procedures.

Maintenance of the permanent pipeline ROW will include periodic mowing, as necessary, in accordance with the FERC Plan and Procedures to allow for visual inspections. Actively cultivated areas will be allowed to revert to pre-construction use for the full width of the ROW. In all other upland areas, a 50-foot-wide permanent pipeline ROW will be maintained in a primarily herbaceous state in accordance with the FERC Plan. In wetlands, a 10-foot-wide corridor centered over the pipeline will be maintained. Additionally, trees within 15 feet of the pipeline with roots that could compromise the integrity of the pipeline coating may be selectively cut and removed from the permanent ROW in accordance with the FERC Procedures to ensure the continued integrity of the pipeline.

1.5.2 Aboveground Facilities

The proposed facilities located at the Slaughters Compressor Station will be operated and maintained by the current compressor station employees. All other Project aboveground facilities will be monitored remotely from Texas Gas' gas control center. Personnel will perform routine checks of the aboveground facilities, including calibration of equipment and instrumentation,

inspection of critical components, and scheduled routine maintenance of equipment and grounds. Operational testing will be performed on safety equipment to ensure proper function. Corrective actions will be taken as necessary if issues are identified.

1.6 FUTURE PLANS AND ABANDONMENT

Texas Gas has no final plans for expansion or abandonment of the new Project facilities described in this resource report. Market forces will determine the timing and need for future expansions or abandonment which would be filed as such under a separate application.

The proposed Project is projected to have at least a 50-year minimum physical life; however, the life of the Project may be constrained by other factors, such as gas supply. The supply of gas and market need are the major factors in determining the economic life of any project. If properly maintained, and assuming adequate gas supplies and materials, the Project is expected to operate for 50 years or more. At the end of the useful life of the Project, Texas Gas will obtain the necessary permission to abandon such facilities.

1.7 PERMITS AND APPROVALS

Texas Gas has identified all necessary permits and approvals that will be required for construction of the Project. The anticipated submittal and receipt of each permit application and approval is provided in Table 1.7-1. Copies of agency correspondence conducted to date are included in Appendix 1C.

Table 1.7-1 Federal and State Permits and Approvals			
Agency or Organization	Permit/Approval	Submittal/ Anticipated Submittal	Anticipated Receipt
Federal			
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	June 25, 2021	September 2022
U.S. Army Corps of Engineers – Louisville City District	<i>Clean Water Act</i> , Section 404 Nationwide Permit 12	June 25, 2021	1 st Quarter 2022
U.S. Fish and Wildlife Service – Kentucky Ecological Services Field Office	<i>Endangered Species Act</i> , Section 7 Consultation; <i>Migratory Bird Treaty Act</i> Consultation	June 25, 2021	November 2021
U.S. Fish and Wildlife Service – Bloomington Ecological Services Field Office		June 25, 2021	November 2021

Table 1.7-1 Federal and State Permits and Approvals			
Agency or Organization	Permit/Approval	Submittal/ Anticipated Submittal	Anticipated Receipt
State of Kentucky			
Kentucky Energy and Environment Cabinet – Department of Environmental Protection	Section 401 Water Quality Certification/Permit to Construct Across or Along a Stream (Individual)	June 25, 2021	November 2021
	NPDES Stormwater Construction General Permit	3 rd Quarter 2022	3 rd Quarter 2022
	Temporary Authorization for Water Withdrawal Permit	4 th Quarter 2022	4 th Quarter 2022
	NPDES General Permit for Discharge of Hydrostatic Test Water	4 th Quarter 2022	4 th Quarter 2022
	Title V Permit (Minor Revision)	June 24, 2021	March 23, 2022
Kentucky Department of Fisheries and Wildlife Resources	State Threatened and Endangered Species Consultation	June 25, 2021	August 2021
Kentucky Heritage Council	<i>National Historic Preservation Act</i> , Section 106 Consultation	August 2021	September 2021
State of Indiana			
Indiana Department of Environmental Management (IDEM)	401 Water Quality Certification General Permit	June 25, 2021	August 25, 2021
	IDEM NPDES General Permit by rule for Discharge of Hydrostatic Test Water, 326 IAC 15-11	4 th Quarter 2022	4 th Quarter 2022
Indiana Department of Natural Resources	State Threatened and Endangered Species Consultation	June 25, 2021	August 2021
Indiana Division of Historic Preservation	<i>National Historic Preservation Act</i> , Section 106 Consultation	June 25, 2021	July 2021

1.8 LANDOWNERS, GOVERNMENTS, AND AGENCIES

Texas Gas has proposed facilities that seek to balance landowner and community concerns, environmental resource issues, and Project requirements. As such, Texas Gas will work to address concerns raised by both landowners and stakeholders during the design and construction phase of the Project. Names and addresses of landowners affected by the Project are provided as Privileged Information in Appendix 1D (Volume II). A list of public officials and other stakeholders identified as having potential interest in the Project is provided in Appendix 1E.

Texas Gas began notifying municipal, county, state, and federal elected officials in Henderson and Webster counties, Kentucky and Johnson and Posey counties, Indiana (e.g., County Board of Supervisors, County Clerk, U.S. Representatives, and U.S. Senators) regarding the Project in late January 2021. In addition, Texas Gas began the easement acquisition process with landowners affected by the Project in May 2021. Prior to the commencement of Project activities, Texas Gas will notify all affected landowners and stakeholders pursuant to 18 CFR 157.6(d). The landowner notification letters will provide information regarding procedures to follow in the event that the landowner has any concerns or problems during construction. The *Environmental Complaint Resolution Plan* provided in Appendix 1B outlines these procedures and provides an example of the letter that will be distributed by Texas Gas to affected landowners prior to construction.

1.9 NON-JURISDICTIONAL FACILITIES

Non-jurisdictional facilities are those facilities related to the Project that are constructed, owned, and operated by others that are not subject to FERC jurisdiction. At this time, non-jurisdictional facilities necessary to operate the Project are anticipated to include minor facilities necessary to provide power to the new MLV located at MP 12.61 on the Henderson County Lateral and the AB Brown M&R Station in Posey County, Indiana. In addition, any new cathodic protection rectifiers to be located along the Henderson County Lateral will require minor facilities to provide power. However, Texas Gas is continuing to evaluate and finalize the cathodic protection design for the Project and will provide additional information to FERC on the cathodic protection design, including necessary power facilities, in a supplemental filing.

The power line for the MLV will connect from an existing overhead power line located along the east side of Highway 60 and will extend approximately 160 feet northeast to a new power drop at the MLV. The power line for the AB Brown M&R Station will extend north then east for approximately 800 feet from an existing overhead power line to a new power drop located at the M&R station.

Texas Gas established the location for the new AB Brown M&R Station to meet the purpose and need of the Project and the location of the MLV to comply with federal safety standards. As such, these facilities were not sited according to the location of potential power supplies. Therefore, the non-jurisdictional facilities have had no effect on the location or configuration of the Project facilities. FERC has no delegated authority over the permitting, licensing, funding, construction, or operation of local electric lines. Therefore, the “entire project” would not be under jurisdiction of FERC. The power lines are part of private construction projects

under state and local jurisdiction, and it is anticipated that the power provider would obtain all necessary federal permits and approvals prior to construction of the non-jurisdictional facilities. The federal government has no financial involvement, and no federal lands are involved, thus no cumulative federal control and responsibility is associated with these non-jurisdictional facilities.

For the reasons outlined above, there is not sufficient justification to warrant environmental review of the non-jurisdictional facilities by FERC.

1.10 CUMULATIVE IMPACTS

The potential cumulative impacts associated with the Project may result from the impacts of construction and operation of the Project facilities combined with the impacts of other proposed major developments occurring within the vicinity of the Project. To review potential cumulative impacts, Texas Gas considered recently completed (one year prior to construction of the Project), present, and reasonably foreseeable future major projects including infrastructure projects, pipelines, commercial and residential developments, and large industrial projects within the Project area. Texas Gas also considered potential cumulative impacts associated with its other concurrent projects including recently constructed projects, or proposed projects for which a definitive project scope has been developed and necessary facilities have been identified.

The Council on Environmental Quality's Cumulative Effects Guidance states that certain "future actions can be excluded from the analysis of cumulative effects if the action is outside the geographic boundaries or time frame established for the cumulative effects analysis; the action will not affect resources that are the subject of the cumulative effects analysis; or including the action would be arbitrary" (Council on Environmental Quality, 1997).

Based off of these criteria, Texas Gas has determined that for an action to be included in this cumulative impact assessment, it must:

- Impact a resource potentially affected by the Project;
- Cause this impact within all, or part of, the geographic scope, as established by FERC; and
- Cause this impact within all, or part of, the timeframe in which the Project will have an impact.

For the cumulative impacts analysis, focus was placed on resources identified within the resource reports including: groundwater; surface water; vegetation and wildlife (primarily threatened and endangered species); cultural resources; geology and soils; land use, recreation,

and aesthetics; and air and noise quality. The geographic scopes differ by resource and are further defined below in Table 1.10-1.

<p align="center">Table 1.10-1 Geographic Scope for Cumulative Impacts</p>		
Environmental Resources	Geographic Scope	Rationale
Soils and Geology	Construction workspaces	Soil and geologic resources occur within site-specific locations and are usually not affected by activities occurring outside the designated areas. Geologic impacts resulting from project activities are generally limited to impacts related to current and future mineral and non-mineral mining activities rather than geologic hazards or formations.
Groundwater, Surface Water, and Wetlands; Fisheries, Vegetation, and Wildlife	Hydrologic Unit Code 12 Watershed	Watersheds are natural, well-defined boundaries for surface water flow, and commonly contribute to the recharge of groundwater resources. Vegetation and wildlife possess an interconnected relationship to surface water resources; therefore, these resources are also considered during the watershed evaluation process.
Cultural Resources	Overlapping impacts within the Area of Potential Effects	As defined by the Advisory Council in Historic Preservation, in consultation with State Historic Preservation Office guidance, the area of potential effects encompasses both direct and indirect impacts on cultural resources.
Land Use	1-mile radius	Land use, recreation, and aesthetics are generally impacted within and adjacent to project areas.
Visual Resources	0.25 mile from pipeline and road crossings and 1 mile from aboveground facilities	Surrounding terrain, vegetation, and existing development are common factors that impact visual resources. The pipeline ROW is less visible due to its size; therefore, a smaller geographic scope is utilized for it compared to the aboveground facilities.
Noise – Operations	1 mile from permanent, noise-emitting aboveground resources	FERC guidance requires that noise impacts from aboveground facilities be evaluated at all noise sensitive areas within 1 mile.
Noise – Construction	0.25 mile from pipeline and aboveground facilities	Construction noise is limited and is commonly associated with the utilization of large equipment.

Environmental Resources	Geographic Scope	Rationale
Air Quality – Operations	50 kilometers (approximately 31.1 miles)	The U.S. Environmental Protection Agency (EPA) considers 50 kilometers to be the nominal distance at which most steady-state Gaussian plume models such as AERMOD, the EPA's preferred ambient air quality impact assessment model, are applicable.
Air Quality – Construction	0.25 mile from pipeline and aboveground facilities	Construction equipment is the primary source of emissions during construction; however, these emissions will be minimal and will quickly dissipate to ambient levels as distance increases from the site.
Socioeconomics	County	Municipalities or counties in which the Project is located or where workers could possibly reside comprise the impact area observed during the socioeconomic evaluation.

Texas Gas identified major projects within the vicinity of the Project by contacting the city and county planning and development departments, reviewing the FERC Docket, and reviewing online publicly available resources, such as USACE Public Notice Records and the Indiana and Kentucky Department of Transportation websites. Records of correspondence are provided in Appendix 1C (Bishop, 2021; Hanshard, 2021; Indiana Department of Transportation, 2021; Kentucky Transportation Cabinet, 2021; Kentucky Transportation Cabinet & Indiana Department of Transportation, 2021; USACE, 2021).

Appendix 1F contains information utilized in the cumulative impact analysis. Appendix 1F-1 summarizes the projects identified within proximity of the proposed Project having the potential to contribute to cumulative impacts on resources other than air quality. A detailed discussion of those projects that could contribute to cumulative impacts on air quality is provided in Resource Report 9. Project information provided in Appendix 1F-1 includes project name and proponent, scope, construction schedule, whether or not the project was considered in the cumulative impacts analysis (if not, a brief explanation as to why it is not included is provided), and the resources that will be cumulatively impacted by the Project (i.e., the geographic scopes defined in Table 1.10-1). The locations of these projects are depicted in figures provided in Appendix 1F-2. Permit information for each of the projects considered in the cumulative impacts analysis is provided, if publicly available, in Appendix 1F-3.

Details concerning the potential cumulative impacts resulting from construction and operation of the Project, when combined with the list of projects provided in Appendix 1F-1, are further discussed in each of the applicable resource reports.

1.11 REFERENCES

- Bishop, Brian. May 11, 2021. Executive Director, Henderson County Planning Commission. Personal Communication with Jess McClean (Perennial Environmental Services, LLC).
- Hansard, Michele. April 29, 2021. Director, Johnson County Department of Planning and Zoning. Personal Communication with Jess McClean (Perennial Environmental Services, LLC).
- Kentucky Transportation Cabinet. 2021. Bridging Kentucky.
<https://stantec.maps.arcgis.com/apps/webappviewer/index.html?id=7588bcbe2b3a490db874c046dea4922c>. Accessed May 2021.
- Kentucky Transportation Cabinet & Indiana Department of Transportation. 2021. Ohio River Crossing. <https://i69ohiorivercrossing.com/project-overview/>. Accessed May 2021.
- Indiana Department of Transportation. 2021. Next Level Roads.
<https://entapps.indot.in.gov/dotmaps/nlri/>. Accessed May 2021.
- U.S. Army Corps of Engineers. 2021. Louisville District Public Notices.
<https://www.lrl.usace.army.mil/Missions/Regulatory/Public-Notices/>. Accessed May 2021.