ATTACHMENT D

Abbreviated Environmental Report and Summary of Alternatives (Nov. 10, 2021)
("Environmental Report")

Spire STL Pipeline Project

Abbreviated Environmental Report and Summary of Alternatives

Spire STL Pipeline LLC

Spire STL Pipeline Project
11/10/2021

Spire STL Pipeline Project

prepared for

Spire STL Pipeline LLC
Spire STL Pipeline Project
St. Louis, Missouri

11/10/2021

prepared by

Burns & McDonnell Engineering Company, Inc.
Chicago, Illinois

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
AQCR	Air Quality Control Region
Certificate Order	2018 FERC Order Issuing Certificates of Public Convenience and Necessity to Spire STL Pipeline
Commission	Federal Energy Regulatory Commission
Dth/d	Dekatherms per day
GHG	Greenhouse Gas Emissions
ESA	Endangered Species Act
ESC	Erosion sediment control
FERC	Federal Energy Regulatory Commission
IDNR	Illinois Department of Natural Resources
MAOP	Maximum Allowable Operating Pressure
MRT	Enable Mississippi River Transmission, LLC
NCE	North County Extension
NGPL	Natural Gas Pipeline Company of America, LLC
NSA	Noise sensitive areas
Project	Spire STL Pipeline Project
REX	Rockies Express Pipeline LLC
SHPOs	State historic preservation office
Spire Missouri	Spire Missouri Inc
Spire STL	Spire STL Pipeline LLC
STL Pipeline	Spire STL Pipeline Project
2017 EA	Spire STL Pipeline Project Environmental Assessment as prepared by FERC

Abbreviation	Term/Phrase/Name
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION AND BACKGROUND

On August 3, 2018, the Federal Energy Regulatory Commission ("Commission" or "FERC") issued an order granting Certificates of Public Convenience and Necessity ("Certificate Order") to Spire STL Pipeline Inc. ("Spire STL") to construct and operate the Spire STL Pipeline Project ("STL Pipeline" or "Project").[1] The STL Pipeline is an approximately 65-mile-long, 24-inch-diameter natural gas pipeline system that extends from an interconnection with Rockies Express Pipeline LLC ("REX") in Scott County, Illinois, to interconnections with both Spire Missouri Inc. ("Spire Missouri") and Enable Mississippi River Transmission, LLC ("MRT") in St. Louis County, Missouri.[2] By directly interconnecting with the bi-directional REX pipeline system, the STL Pipeline offers up to 400,000 dekatherms per day ("Dth/d") of firm transportation service and provides access to natural gas from both the Rocky Mountain and Appalachian Basins.

The pipeline was constructed in 2019 and the Project's mainline facilities were placed in-service in November 2019. Since the pipeline was placed in-service, several developments have occurred that impact how the St. Louis region meets its gas supply needs. First, as contemplated in the Certificate Order, MRT abandoned its East Line delivery infrastructure at Chain of Rocks, and Spire Missouri's direct connection with MRT's East Line at Chain of Rocks was severed and replaced with a connection to the STL Pipeline.[3] Second, due to the direct connection with, and the availability of higher-pressure gas from, the STL Pipeline, Spire Missouri was able to remove and physically disconnect its liquid propane-peaking facilities from its system (which supplied approximately160,000 Dth/d of delivery capacity).[4] Third, Spire Missouri allowed approximately 180,000 Dth per day (out of approximately 660,000 Dth/d) of its firm transportation capacity on MRT's Main Line to Spire Missouri's city-gate to expire because of the gas supplied by STL Pipeline. Fourth, Spire Missouri was able to retire three, seventy-year-old natural gas compressors at its Lange storage field that became unnecessary because the high-pressure deliveries from Spire STL allowed Spire Missouri to directly inject into storage.[5] Fifth, MoGas was able to construct

[1] *Spire STL Pipeline LLC*, 164 FERC ¶ 61,085 (2017) ("Certificate Order").
[2] Specifically, the STL Pipeline includes 59.2 miles of 24-inch-diameter pipeline in Scott, Greene, and Jersey Counties, Illinois and St. Charles and St. Louis Counties, Missouri; and about 6.0 miles of 24-inch- diameter pipeline ("the North County Extension") in St. Louis County, Missouri. The Project also involved construction of three new meter stations: one in Scott County, Illinois ("Rex Receipt Station") and two in St. Louis County, Missouri ("Laclede Delivery Station" and "Chain of Rocks").
[3] Certificate Order at P 8.
[4] Certificate Order at P 68 (retire 40-year-old, inefficient propane facilities on which it had relied for peaking service, and reduce reliance on propane over time).
[5] Motion to Answer and Answer of Laclede Gas Company to Certain Protests, Docket No. CP17-40-000, App. B at 16 (July 14, 2017) (explaining that the high-pressure deliveries into Spire Missouri's system near its on-system

an interconnect with Spire STL in order to leverage the high-pressure gas delivered from the STL Pipeline into the MoGas system, enabling MoGas to improve deliverability to Spire Missouri on the west side of Spire Missouri's system.[6]

On June 22, 2021, the United States Court of Appeals for the District of Columbia Circuit issued an opinion vacating the Certificate Order and remanding the proceeding back to the Commission.[7] On September 14, 2021, the Commission issued a temporary, 90-day certificate of public convenience and necessity for Spire STL to continue to operate the facilities authorized by the Certificate Order under the terms, conditions, and authorizations previously issued, including Spire STL's approved FERC Tariff.[8]

In light of the D.C. Circuit's decision to vacate the certificate and remand the proceedings back to the Commission, the purpose of this analysis is to review the proposed action of leaving the Project in operation and provide an evaluation of the potential alternatives and impacts should Spire STL be ordered to cease its service and either leave the pipeline in place or remove the pipeline. This analysis also includes a high-level summary of other pipeline facilities and infrastructure that may need to be built by other entities in order to deliver the natural gas to the St. Louis region that is currently provided by the STL Pipeline.

storage facilities would allow Spire Missouri to directly inject natural gas into its storage at Lange and therefore minimize compressor usage).

[6] As previously clarified by Spire Missouri, it did not previously plan on reducing its contractual commitments on MoGas because that capacity was critical for maintaining pressure and serving customer demand on the west side of Spire Missouri's system. Certificate Order at n.158.

[7] *Env'tl Def. Fund v. FERC*, 2 F.4th 953 (D.C. Cir. 2021).

[8] *Spire STL Pipeline LLC*, 176 FERC ¶ 61,160 (2021) ("Temporary Certificate Order").

2.0 PART I-PROPOSED ACTION

The STL Pipeline was constructed in 2019 and placed in service in November 2019. As part of the proposed action, Spire STL is requesting the Commission reissue certificate authorization to allow Spire STL to keep the Project in-service and continue operating. The existing record in Docket Nos. CP17-40-000, et. al., and this filing fully demonstrate that the continued operation of the STL Pipeline is needed to serve eleven counties in eastern Missouri, including the St. Louis metropolitan area.

The Proposed Action sections below provide an environmental evaluation of the impacts of continued operations of the pipeline and facilities. The Project is currently existing and operating in the workspaces as approved by the Commission (and any of those approved through the construction variance process by Commission Staff). Continued operation of the Project would not cause further impacts to landowners, communities, or the environment as the Project has already been constructed. Impacts from the original construction of the Project were fully analyzed in the 2017 FERC Environmental Assessment ("2017 EA"), which concluded the Project would not constitute a major federal action significantly affecting the quality of the human environment.[9] Environmental resources and land disturbances occurred in 2019 and areas disturbed by this construction are undergoing restoration efforts. The resource areas addressed in this document include geology and soils; water resources and wetlands; vegetation, fisheries, and wildlife; threatened and endangered species; land use, special use areas, and visual resources; socioeconomics (including environmental justice); cultural resources; air quality and noise (including CO^2 gas emissions); and safety.

Spire STL continues to comply with all conditions included in the Certificate Order. Spire STL is committed to restoration of the remaining portions of the right-of-way in accordance with the Commission's regulations and the conditions of the Certificate Order. Spire STL continues to engage with the Commission and affected landowners in completing its commitment to restoring the right-of-way.

2.1 Proposed Action of Reissuing Certificates

This section presents to the Commission the lack of environmental and community impacts that would result from reissuing certificates and allowing the STL Pipeline to continue with its current operations.

[9] Environmental Assessment Report, Docket No. CP17-40-000 (Sept. 29, 2017).

2.1.1 Geology and Soils

No additional impacts would occur to geology and soils if the Project remains operational. With Spire STL's implementation of its construction minimization measures, the Project previously had minimal impact to geologic resources and soils. Spire STL is continuing its restoration efforts along the operational line.

2.1.2 Water Resources and Wetlands

No additional impacts would occur to water resources and wetlands if the Project remained operational. Crossing of these resources occurred during original construction of the Project and with the implementation of Spire STL's avoidance and minimization measures, and federal, state, and local permits, the Project did not result in significant impacts to water resources and wetlands.

2.1.3 Vegetation, Fisheries and Wildlife

No additional impacts would occur to vegetation, fisheries, and wildlife if the Project remained operational. Impacts to these resources occurred during the original construction of the Project and with the implementation of Spire STL's avoidance and minimization measures, the Project did not result in significant impacts. Disturbances to vegetation that occurred have been or are being mitigated as revegetation efforts along the Project right-of-way are still ongoing and will continue until restoration is deemed successful by the Commission.

2.1.4 Threatened and Endangered Species

No additional impacts would occur to threatened and endangered species if the Project remained operational. Spire STL avoided and/or mitigated its impacts to threatened and endangered species through consulting and permitting during the Project's FERC filing process. Crossings of these areas occurred during the original construction of the Project and with the implementation of Spire STL's avoidance and minimization measures, and the conditions of federal and state permits, the Project did not result in significant impacts to threatened and endangered species.

2.1.5 Land Use, Special Use Areas and Visual Resources

No additional impacts would occur to land use, special use areas, and visual resources, if the Project remained operational. Crossing of these areas occurred during original construction of the Project and with the implementation of Spire STL's avoidance and minimization measures, and the conditions of federal, state, and local permits, the Project did not result in significant impacts to land use areas. Disturbances to land use types that occurred have been or are being mitigated as revegetation efforts

along the Project right-of-way are still ongoing and will continue until restoration is deemed successful by the Commission.

2.1.6 Socioeconomics

No additional socioeconomic impacts would occur if the Project remained operational. As discussed in the 2017 EA, impacts to employment, housing, transportation, public services, tax revenue, property values, and environmental justice from the original construction of the Project were determined to be temporary, minor, and negligible. Meanwhile, any ongoing, positive impacts to the local economy would continue if the Project remained operational.

2.1.7 Cultural Resources

No additional impacts would occur to cultural resources if the Project remained operational. Surveys of the right-of-way for cultural and historic resources previously occurred prior to the original construction of the Project and necessary minimization and exclusory measures were implemented during construction. With the implementation of Spire STL's avoidance and minimization measures, and conditions of federal and state agency concurrences, the Project did not result in significant impacts to cultural resources.

2.1.8 Air Quality and Noise

No additional construction impacts would occur to the air quality and noise if the Project remained operational, except the minimal operational impacts discussed in the 2017 EA for the installation of certain equipment at the aboveground facilities, including ongoing mitigation efforts to satisfy applicable noise limits for the Project. FERC concluded that operation of the Spire STL Pipeline Project would not result in significant impact on regional air quality or significant noise impacts on residents or nearby communities.

The 2017 EA estimated that the Project would deliver up to 400,000 Dth/d of natural gas volumes, which can produce 7.7 million metric tons of CO_2 per year from end-use combustion[10] and concluded that the Project would not result in additional end-use greenhouse gas ("GHG") emissions.[11] Keeping the Project operational will not result in any additional GHG emissions.

[10] 2017 EA at 144.
[11] 2017 EA at 145.

2.1.9 Safety

No additional construction safety concerns would occur if the Project remained operational, besides those operational concerns that were discussed in the 2017 EA. Continuing operation of the Project would not result in additional risk to the nearby public; however, the number of significant incidents over more than 299,000 miles of natural gas transmission lines indicates that the risk is low for an incident at any given location.

3.0 PART II-ALTERNATIVES

The following sections provide an overview of the alternatives to be considered should Spire STL be required to cease operations of its system and either leave the pipeline in place or remove it. Either action, whether by leaving the pipeline in place or by removing it, would result in additional impacts to the environment and landowners, who previously were affected by the Project construction. The Commission should consider these factors when deciding whether to order Spire STL to cease operations of the STL Pipeline.

Whether Spire STL would leave the pipeline in place or remove the pipeline, above ground facilities located on Spire STL owned property, would be decommissioned and re-purposed. Spire STL currently has legal possession, but has not yet obtained legal title (e.g., the final phase in a condemnation proceeding) to easements for the entire pipeline route.[12] For those parcels where easements were not obtained through negotiations, Spire STL may be required to remove the pipeline. The ability of Spire STL to leave the pipeline in place where legal title has not yet transferred is a matter to be settled in state or federal courts. Where Spire STL is required to remove the pipeline, Spire STL will likely need to obtain additional landowner consent for temporary access, or easement rights via condemnation in order to safely access and remove the pipeline.[13] In addition to engaging landowners, Spire STL would also need to reinitiate consultation with applicable agencies and obtain the necessary authorizations required to address the concerns and/or impacts to the environment from either leaving the pipeline in place or removing it.

3.1 Ceasing Operations and Leaving Facilities in Place Alternative

This alternative applies if Spire STL is ordered to cease operations of the Project and leave the pipeline in place within its existing permanent right-of-way. If this alternative were to be implemented, Spire STL may still be legally required to remove the pipeline along portions of the Project right-of-way where Spire STL does not currently have legal title to easements. Counsel for several landowners have raised potential trespass claims where Spire STL does not possess property rights to enter certain tracts along the STL Pipeline route and requested courts "eject" Spire STL from landowners' property.[14] The specific extent to

[12] To date, dozens of landowners remain in ongoing condemnation proceedings.
[13] Alternatively, pursuant to 18 C.F.R. § 380.12 (c)(5)(ii), Spire would be required to "[i]dentify any landowners, whose preferences the company does not intend to honor, and the reasons therefore." The extent to which such circumstances would occur is unknown.
[14] Motion to Intervene and Comments of Landowners Regarding Spire's Application for Temporary Emergency Certificate, Docket No. CP17-40-007, at 13 (filed Aug. 5, 2021). *See also* Motion by Defendant Landowners to Dissolve Injunction and Dismiss Condemnation Action for Lack of Subject Matter Jurisdiction Based on Issuance of

which Spire STL may leave the pipeline in place after ceasing operations is unknown, but it is likely that a substantial portion of the pipeline would need to be removed.

A discussion of this alternative below depicts an evaluation of relevant impacts to the natural and human environment. Leaving the pipeline in place would occur within the Project footprint certificated and affected by the original construction of the Project. Decommissioning procedures would be accomplished by depressurizing the pipeline and facilities, disconnecting all facilities, purging the pipeline, and filling the pipeline with inert gas or grout. Locations of mainline valves would be dismantled and the areas restored. Environmental impacts from the original construction of the Project as analyzed in the 2017 EA in their entirety would not need to be repeated. Any location where ground disturbance would be necessary to cut and cap the pipeline would be limited to defined areas, amounting to relatively minimal ground disturbance that would need to be subsequently restored. Although impacts would need to occur, they would be limited to minimal areas.

3.1.1 Geology and Soils

Minimal impacts may occur to geologic resources and soils if the Project ceased operations and was to remain in place. Excavation areas and access routes to those areas would be required in order to cut and cap the pipeline at certain locations and insert inert gas or grout. These disturbances would be restored and revegetated. Future impacts from leaving the pipeline in place without cathodic protection would also result in the corrosion of the pipeline and lead to structure failure. This process may take decades and lead to an eventual void within the trench and subsequent subsidence of the right-of-way.

3.1.2 Water Resources and Wetlands

No additional impacts would occur to water resources and wetlands if the Project remained in place. Crossing of these resources already occurred during original construction of the Project; no further crossings or impacts to streams and wetlands would need to occur if the Project remained in place.

3.1.3 Vegetation, Fisheries and Wildlife

Minimal impacts would occur to vegetation and wildlife if the Project remained in place. Excavation areas and access routes to those areas would be required in order to cut and cap the pipeline at certain

Mandate in *Environmental Defense Project v. FERC*, at 2, *Spire STL Pipeline LLC v. Betty Ann Jefferson, et al.,* Case No. 18-CV-0320 (C.D. Ill. Oct. 8, 2021); Renewed Motion for Relief Under Rule 60(B)(5) and Memorandum and to Stay Proceeding Based on Updated Information, at 6, *Spire STL Pipeline LLC v. 3.31 Acres of Land, more or less, situated in St. Charles County, State of Missouri et al.,* Case No. 4: 18-CV-01327 (E.D. Mo. Sept. 23, 2021).

locations and insert inert gas or grout. These disturbances would be restored and revegetated. No impacts to fisheries would be anticipated to occur.

3.1.4 Threatened and Endangered Species

No additional impacts would occur to threatened and endangered species if the Project remained in place. Excavation areas and access routes to those areas would be required in order to cut and cap the pipeline at certain locations and insert inert gas or grout. These disturbances would be restored and revegetated and would be sited to avoid areas of potential habitat.

3.1.5 Land Use, Special Use Areas and Visual Resources

Minimal impacts would occur to land uses, special use areas and visual resources if the Project remained in place. Excavation areas and access routes to those areas would be required in order to cut and cap the pipeline at certain locations and insert inert gas or grout. These disturbances would be restored and revegetated. However, future interruptions to the landowners' use of the right-of-way may occur from leaving the pipeline in place should the chose to excavate or build over the right-of-way.

3.1.6 Socioeconomics

No additional socioeconomic impacts would occur if the Project remained in place.

3.1.7 Cultural Resources

No additional impacts would occur to cultural resources if the Project remained in place. Excavation areas and access routes to those areas would be required in order to cut and cap the pipeline at certain locations and insert inert gas or grout but would likely occur in previously disturbed areas. These disturbances would be restored and revegetated and would sited to avoid previously identified cultural resource areas.

3.1.8 Air Quality and Noise

Minimal construction impacts would occur to the air quality and noise if the Project remained in place, except the minimal impacts that would occur from excavation areas where the pipeline would need to be cut and capped. Temporary construction equipment would be utilized to perform these activities resulting in negligible air and noise impacts.

3.1.9 Safety

Ceasing operations and leaving the pipeline in place would mitigate potential impacts on public safety in that the pipeline facilities left in place would not be pressurized and would not contain substances harmful to the environment.

3.1.10 Conclusion

Ceasing operations and leaving facilities in place would have other environmental impacts above and beyond those experienced during the original Project construction. If the Commission were to order Spire STL to cease operations, other entities would need to build additional infrastructure to ensure the natural gas needs are met for the St. Louis region. Environmental and landowner impacts from such future infrastructure must be considered as well, and would include additional land disturbance, stream/wetland crossings, potential cultural resource and threatened and endangered species impacts, impacts to agricultural areas, impacts to air quality from fugitive dust and emissions, and potential impacts to various environmental justice (i.e., minority and/or low income) communities. Additional coordination with other landowners, negotiations of future easements, and permits from and consultation with multiple agencies would also need to be obtained by those entities. For these reasons, Spire STL ceasing operations and leaving the pipeline in place is not a preferred alternative to leaving the pipeline operational.

3.2 Ceasing Operations and Removing Facilities Alternative

The following sections discuss the alternative for Spire STL to cease operations and remove its pipeline and facilities. A number of impacts on the natural and human environment would occur as a result of Spire STL having to decommission the pipeline and associated facilities and actually remove it from the right-of-way.

In general, impacts from this alternative action are anticipated to be similar to the impacts from the original construction of the Project as analyzed in the 2017 EA, with the exception of less forested clearing, and permanent land use conversion, which have already occurred and would not need to be repeated. However, reoccurrence of the land disturbances throughout the Project areas would cumulatively affect the natural environment for the second time, undo restoration progress, and extend the impact to the landowners' use of the right-of-way. Overall construction activities associated with the removal of the pipeline would require decommissioning, surveying, clearing/mowing, grading, trenching, pipe removal, backfilling, clean up and restoration, and pipeline disposal. Spire STL would also be required to restore and reclaim the right-of-way where ground disturbance has previously occurred for construction of the Project.

In order to provide a high-level summary of disturbance impacts, Spire STL has assumed for the purposes of this analysis that, subject to various agency approvals, previously certificated right-of-way, access roads, and contractor yards could be utilized. These impacts do not include any of the site-specific variances that were approved during construction for the use of additional workspace areas as those variances were negligible to the overall Project analyzed in the 2017 EA.

3.2.1 Environmental Compliance

Spire STL would conduct construction and restoration activities associated with the removal of the pipeline in accordance with the applicable construction and mitigation measures as required by the Certificate Order and outlined in its application[15] and supplemental filings.

Spire STL would utilize as-built construction drawings to ensure that the land disturbance and restoration activities associated with the removal of the Project facilities would be completed within the previously certificated workspaces including the pipeline construction right-of-way and facilities, approved contractor yards, and permanent and temporary access roads. Additionally, Spire STL would comply with the construction measures and restoration procedures as outlined in its application, supplemental filings, and any other applicable requirements.

It is anticipated that additional environmental authorizations (e.g., permits and/or clearances) would be required to complete the removal activities. The actual permitting requirements and timing would be determined through consultation with the issuing agencies. Receipt of authorizations would need to be obtained before any removal activities could occur and Spire STL would be required to comply with the terms and conditions set forth in any newly obtained permit.

3.2.2 Construction Procedures for Removal

3.2.2.1 Decommissioning Procedures

Decommissioning of the pipeline would be completed by depressurizing the pipeline, disconnecting, and removing all aboveground facilities, purging the line, filling the pipeline with inert gas or grout in certain locations (e.g., streams, wetlands, roads, railroads) where the pipeline would be left in place, and removing all other pipeline facilities.

3.2.2.2 Survey/Staking

The limits of the workspace and other temporary workspaces would be staked, as necessary. Wetland boundaries and other environmentally sensitive areas would also be marked similar to the original construction staking. The locations of approved access roads would be flagged and marked with signs.

[15] Application of Spire STL Pipeline for Certificates of Public Convenience and Necessity, Docket No. CP17-40-000 (Jan. 26, 2017); Amendment to Application of Spire STL Pipeline LLC for Certificates of Public Convenience and Necessity, Docket No. CP17-40-001 (Apr. 21, 2017).

3.2.2.3 Grading

The workspace would be graded to provide a level work surface for construction equipment and to segregate topsoil across the right-of-way. More extensive grading may be required in steep side slope or vertical areas to safely accommodate equipment necessary to remove timber. Topsoil would be stockpiled along the side of the right-of-way.

3.2.2.4 Trenching

The extent of the pipeline ditch would be excavated for pipeline removal. This would be accomplished through the use of a tract mounted backhoe or similar equipment. Generally, the trench would be excavated to least 12 inches wider than the diameter of the pipe. Excavated soils would then be stockpiled along the right-of-way on the side of the trench away from the construction traffic and pipe removal areas.

3.2.2.5 Pipeline Removal

Following trenching activities, the pipe would be pulled from the trench, cut to appropriate lengths for transporting off the right-of-way, and distributed along the construction right-of-way parallel to the trench. Cut pipe sections would then be transported off the right-of-way by truck and disposed at appropriate disposal locations.

3.2.2.6 Backfilling

Backfilling would be required throughout the trench and it would be necessary to acquire additional fill for the trench once the pipeline has been removed. All disturbed areas would require the installation of new temporary erosion and sediment control ("ESC") measures that would be required to be inspected and maintained to minimize erosion in accordance with construction plans and federal, state, and local permits.

3.2.2.7 Stream and Wetland Crossings

It would not be expected that FERC, regulatory agencies, or landowners would require in-stream and in-wetland work given the significant environmental impacts such work would cause. In-stream and work within wetlands and waterbodies would likely be limited to include the installation and removal of temporary mats, culverts, and bridging to allow for the passage of construction equipment. For waterbodies requiring bridge installation or removal, some grubbing or grading may be required through the riparian buffer within 25 feet of the waterbody; however, additional ESC measures would need to be installed to protect these waterbodies.

3.2.2.8 Clean Up and Restoration

The surface of the construction right-of-way disturbed by the construction would be graded to match original contours and be compatible with surrounding drainage patterns, except at those locations where permanent changes in drainage would be required to prevent erosion, scour, and possible exposure of the pipeline. Temporary and permanent ESC measures, including silt fencing, water bars, and vegetation would be installed at that time. Private and public property, such as fences, gates, driveways, and roads that have been disturbed by construction would be restored to pre-construction condition and function. In most upland locations, excluding actively cultivated cropland, an herbaceous vegetative cover will be reestablished by spreading a grass seed and hydro/straw-mulch mixture over the disturbed surface.

The restoration workspace would be restored as close as possible to pre-construction contours and elevations. Segregated topsoil would be spread over the surface of the workspace and permanent erosion controls would be installed.

3.2.3 Environmental Impacts

3.2.3.1 Geology and Soils

Geology

The removal of the pipeline would involve disturbance through the same geologic setting and areas of potential geologic hazards as described in the 2017 EA. The general geologic setting of the Project poses a limited potential for erosion and landslide hazards as a result of steep slopes. Site-specific areas that posed minimal risk to construction of the Project were addressed in the 2017 EA.

When constructing the pipeline, Spire STL generally routed the pipeline to avoid steep slopes and implemented special procedures for construction in areas of steep slope. However, one area of potential concern for removal activities would be the large steep slope located on the north side of the Mississippi River crossing. Construction on side-slopes and steep terrain for a second time within a short timeframe and in an area that was just recently restored would pose a safety concern for construction equipment, further reduce soil structure and organic matter that would negatively affect plant establishment and reclamation success. Lack of rapid revegetation on these slopes could lead to slips and erosion issues. Special techniques would need to be implemented in these areas but would be minimized by implementation of Spire STL's site-specific steep slope and landslide hazard assessment plan.

Although there was potential for karst features to be discovered within the Project area, the occurrence of subsidence in the Project area due to karst features was minimized by the implementation of mitigation measures identified in Spire STL's Karst Mitigation Plan.

Soils

Spire STL's removal activities would ultimately re-disturb numerous soil types. Soil types and their characteristics were addressed in the 2017 EA. Construction of the original Project resulted in 13.5 acres of prime farmland and farmland of statewide importance that was permanently converted to non-agricultural use. Temporary workspaces impacted 193.5 acres of prime farmland and farmland of statewide importance. These areas are undergoing restoration progress, and pipeline removal activities associated with this alternative would re-disturb this sensitive resource. No permanent conversion of farmland would be necessary.

In areas that are actively cultivated, Spire STL would segregate and stockpile topsoil and subsoils during construction removal activities. These areas would experience repeated impacts as described in B1-1.2 of the 2017 EA but affected areas would again be graded and restored as close to original contours as practicable and in accordance with project plans. Restoration measures would also include spreading segregated topsoil over the surface of the workspace and installing permanent erosion controls. Disturbed, non-cultivated work areas would be stabilized and seeded as soon as possible after final grading (weather and soil conditions permitting), subject to the recommended seeding dates for the seed mixes used to revegetate different areas along the right-of-way and, where applicable, access roads. Seeding would stabilize the soil, improve the appearance of the area disturbed by restoration, and in some cases, restore native flora.

3.2.3.2 Water Resources and Wetlands

Groundwater Resources

The Project removal activities have the potential to temporarily impact groundwater resources. These impacts would be minimized or avoided through the implementation of measures described in the 2017 EA and project plans. Impacts to groundwater resources from soil disturbances would be temporary and localized. Upon pipeline removal, Spire STL would restore the ground surface to original contours as closely as practicable and restore vegetation on the right-of-way to establish surface drainage as closely as possible to those prior to the construction. Private wells located within 150 feet of the Project workspaces would require pre-and post-construction testing with landowner approval to ensure the integrity of the wells are not affected by the repeated construction activity.

Surface Water

Waterbodies affected by the original construction of the Project were identified and described in the 2017 EA. The original Project required the crossing of 112 rivers/streams (40 perennial, 29 intermittent, and 43 ephemeral), 3 ponds, and 2 lakes. The 2017 EA described impacts on these waterbodies resulting from construction of the Project and identified the measures that Spire STL would implement to avoid and minimize its impact. If the STL Pipeline were to be required to cease operations and remove its pipeline, it is likely that the pipeline would be capped and grouted and left in place within waterbodies and wetlands in accordance with typical industry standards and practices in order to avoid additional impacts to water resources.[16] Disturbance activities near these features would likely occur outside the adjacent riparian areas; therefore, construction removal activities may not require trenching or disturbance of any of these features. Temporary impacts may include the installation/removal of equipment bridges, timber matting, or culvert installation/replacement to allow for construction equipment to traverse these areas.

Pipeline construction could result in temporary impacts on surface waters due to increased turbidity and sedimentation from construction near these features. To mitigate these impacts, Spire STL would be required to install erosion controls and follow the guidelines as required in project plans and permits.

After capping the pipeline (or removal of the pipeline), Spire STL would replace the excavated soil in the trench and restore any affected wetlands or stream banks as close as practicable to their pre- construction contours. During final restoration, Spire STL would seed stream banks and wetlands using native plant species from approved species lists in accordance with applicable agency requirements and the Procedures.

Wetlands

The original construction of the Project impacted a total of 79 wetlands including palustrine emergent, palustrine scrub-shrub, and palustrine forested wetlands. Wetland types and crossing methods were described in the 2017 EA. If required, wetlands that were impacted as part of the original Project would need to be trenched again. However, it is not anticipated that trenching would occur in wetlands as the pipeline would likely be capped, grouted, and left in place. Similar to waterbodies, work in wetlands would be limited to temporary impacts for the installation/removal of timber matting to allow for the passage of construction equipment through these areas. Impacts that may result from these activities in wetlands would be temporary but would result in reoccurrence of disturbances in wetlands that have been

[16] However, if Spire STL were required to remove the pipeline from waterbodies, impacts similar to those during construction would occur.

revegetated and restored since the original construction activities. Additionally, placement of timber matting and crossing of construction equipment would result in trampling of vegetation and potential compaction of these resources.

3.2.3.3 Vegetation, Fisheries and Wildlife

Vegetation

The removal activities would occur in the same general vegetation community types that were described in the 2017 EA. Overall, removal activities would disturb approximately 972 acres of vegetation, which includes three vegetation areas of special concern as presented in the 2017 EA. These Project workspaces were previously cleared of vegetation during the original construction; however, the majority of the Project workspaces have been restored and revegetated and/or have been returned to previous use. Removal of the pipeline would require vegetation removal, including the removal of crops and disruption to agricultural lands. No additional tree clearing would be required aside from the regrowth of the trees that has occurred in the forested areas.

All previously disturbed areas are still undergoing restorative activities and would be further impacted by removal activities. Soil disturbances would delay these current efforts, interfere with landowner use of the right-of-way a second time, and allow for the potential spread of noxious weeds. Areas disturbed by the removal activities would need to be regraded, reseeded, and monitored for revegetation success in accordance with project construction plans.

Wildlife

As discussed in the 2017 EA, the Spire STL right-of-way provides suitable habitat for a variety of common wildlife species. Potential short-term impacts on wildlife from the removal activities include the displacement of individuals from construction areas and adjacent habitats and the direct mortality of smaller, less mobile mammals, reptiles, and amphibians that are unable to leave the construction area. Long-term impacts may continue to occur with inhibition of the right-of-way due to lack of vegetative cover and additional periodic disturbance that could also increase wildlife mortality, injury, and stress.

3.2.3.4 Threatened and Endangered Species

Federal Species

For the Spire STL Project, Spire STL had initiated informal Endangered Species Act ("ESA") Section 7 consultation with the United States Fish and Wildlife Service ("USFWS") through technical assistance

request letters in 2016 and 2017 and was subsequently involved in agency coordination, including meetings for the Project, site visits, and agency correspondence. Formal consultation was also initiated for potential impacts to certain federal-listed species which resulted in a Biological Opinion issued by the USFWS in February 2018. As the existing construction right-of-way has been cleared of trees, it is not anticipated that formal ESA Section 7 consultation would be required for listed bat species and other potential species may either not be present or could otherwise be avoided if identified. The construction activities associated with the pipe removal would require initiation of consultation with the USFWS and other state wildlife agencies, and the Project area would need to be reevaluated for the potential presence of listed species.

State Listed Species

State listed species as described in the 2017 EA would also require Spire STL to reinitiate consultation with the Illinois and Missouri state agencies. Spire STL would implement similar mitigation measures as described in the 2017 EA. Consultation with the Illinois Department of Natural Resources ("IDNR") state agency will be required because of the known areas of critical habitat for state-listed species, and reoccurrence of potential impact is anticipated. Critical habitat areas have been specifically restored and revegetated to provide ongoing habitat for this species in consultation with the landowner and state agency. Reinitation of consultation with the state agency would be required and a second permit would be required. Removal of vegetation and future disturbance to these areas could result in harassment to the species, permanent displacement of populations, or result in take of the individuals.

3.2.3.5 Land Use, Special Use Areas and Visual Resources

As discussed in the 2017 EA, construction of the STL Pipeline resulted in the disturbance of 1,004.10 acres of agricultural land, upland forest, open land, developed, wetlands, and open water. In general, removal activities would disturb the same acreage of land or less, assuming that some portions of the pipeline would be left in place (e.g., under streams, wetlands, certain road/railroad crossings). Landowner preference or regulatory agencies may also dictate locations where the pipeline may be requested to be left in place.

Restoration of disturbed areas through final cleanup (including final grading, seeding and replanting, and installation of ESC devices) would be executed as required by permits, landowner requirements, and as specified in project construction plans. Lands used for construction would be restored and generally allowed to revert to prior uses, although some use restrictions would remain in place within permanent easements. The scope of the removal activities and their effect on land use are generally consistent with

those described in the 2017 EA and would not be expected to result in any changed impacts on recreation, special interest areas, or visual resources from those described. Impacts to dominant land use types are discussed below.

Land Use

Prior to beginning construction activities, Spire STL would be required to obtain temporary construction easements consistent with those obtained for the original construction, from landowners along the route. Temporary construction easements necessary for temporary workspace, temporary access roads, contractor yards, and staging areas, would need to be acquired. Upon completion of the construction, the owners of all affected properties would be allowed to resume their prior use of the property. However, there may be diminution of use in some of the affected properties as the restoration of forested areas would take many years to complete, and agricultural properties may experience temporarily reduced crop yields due to changes in soil structure and drainage. In addition, the existence of recorded easement agreement could limit activities within the permanent easement.

Agricultural

As initially proposed, the original construction affected approximately 1,000 acres of agricultural land. In agricultural areas consisting of cultivated crops and pasture, the impacts that were encountered included the short-term disruption of farming operations for the growing season during the period of construction. Drain tiles and other irrigation systems were temporarily damaged and repaired, and farmers experienced some loss of crop production in areas directly disturbed by construction-related activities. Following pipeline construction, agricultural practices for cultivated crops and pastureland within the pipeline right-of-way were allowed to resume. Some of these areas are still currently undergoing ongoing restoration efforts.

Additional disturbance to these agricultural areas for construction removal activities would be consistent to those described in the 2017 EA. These cropland areas would again endure short-term impacts including hindering the landowners' use of the construction right-of-way, soil disturbance, soil compaction, uneven grading, and settling resulting in ponding, soil mixing (soil horizons and/or rock), unsuitable drainage, and the potential spread or introduction of non-native plant species. Additionally, preclusion to the construction right-of-way by landowners would prove to be detrimental to Spire STL's ongoing restoration efforts.

Open Land

Forest land previously identified along the Spire STL right-of-way has been converted to open land use types and is in the process of current restoration efforts. Long term impacts to these areas would occur if removal activities were required and subsequent soil disturbances in these areas occurred. The time required to restore woody vegetation to its pre-construction condition would be extended. Likewise, restoration efforts on open land use types would also be affected and restart the clock with ongoing restoration efforts in these areas.

3.2.3.6 Socioeconomics

Construction activities associated with removal of the pipeline, would result in socioeconomic impacts including increases in population from non-local workers relocating to these areas, employment opportunities, and tax revenues. Local workers employed by the Project would likely live in the vicinity to the Project; outside workers would be expected to stay in the counties crossed by the Project to be near their worksites. Local communities would benefit from increased spending by construction crews at restaurants, hotels, and retailers. Additionally, taxes are paid to affected counties during construction. Construction-related impacts from the removal activities on employment and tax revenues would generally be temporary and minor.

3.2.3.7 Cultural Resources

The area of potential effect for the removal activities consists of those areas that Spire STL previously disturbed during its original construction activities as described in the 2017 EA. These areas were previously reviewed and approved by FERC and state historic preservation offices ("SHPOs"). Survey of each Project area was completed, and concurrence was received from the Illinois SHPO, Missouri SHPO, and participating Native American tribes. As these locations were surveyed, reviewed, and approved prior to the initial construction with no adverse effects to any historic properties, is it not anticipated that future disturbances that would be associated with removal of the pipeline would have any effect on historic properties. Removal activities would be required to implement the same avoidance and minimization measures as was completed during the original construction, the Project would need to obtain appropriate concurrences from SHOPs and Native American entities.

3.2.3.8 Air Quality and Noise

Air

The decommissioning and removal activities would result in air emissions through short-term construction activities, but the minimal operational emissions from equipment at aboveground facilities would no longer exist. Construction and operation air emissions were addressed in the 2017 EA, and FERC concluded that construction and operation of the Project would not have a significant impact on regional air quality including the portion of the Project within the Metropolitan St. Louis Interstate Air Quality Control Region ("AQCR") which is designated as non-attainment for both ozone and PM2.5.

Spire STL did not have any new or modified compressor stations as part of the Project. However, the Project does include stationary sources in the form of the proposed heaters. Minor fugitive natural gas emissions do occur from valve components during pipeline operations. The Project and associated facilities resulted in minor amounts of fugitive emissions from operations and maintenance.

Potential impacts on air quality associated with the removal activities would be minimized by adherence to all applicable federal and state regulations. Construction activities would result in temporary increases in emissions of some pollutants due to the use of non-stationary equipment powered by diesel fuel or gasoline engines; the temporary generation of fugitive dust due to disturbance of the ground surface, vegetation clearing, and other dust generating actions; and indirect emissions attributable to activities associated with construction activities of the Project (e.g., workers commuting to and from work sites, etc.).

Construction sources are not considered stationary sources, and their impacts will generally be temporary and localized. Moreover, the emissions from construction activities would not be expected to cause or significantly contribute to an exceedance of the National Ambient Air Quality Standards.

The estimated air emissions from the removal activities would be transient in nature, with negligible impact on the baseline regional air quality. Construction equipment would be properly maintained and operated only on an as-needed basis to minimize the construction engine emissions. There would also be some emissions attributable to vehicles delivering materials to and removing pipe from the construction sites.

Fugitive dust would result from land clearing, grading, excavation, and vehicle traffic on paved and unpaved roads. The majority of particulate air emissions produced during construction activities would be PM10 and PM2.5 in the form of fugitive dust. The amount of dust generated would be a function of

construction activity, soil type, soil moisture content, wind speed, precipitation, vehicle traffic, vehicle types, and roadway characteristics. Emissions associated with the construction-related activities would be temporary in nature.

The 2017 EA estimated that the Project would deliver up to 400,000 Dth/d of natural gas volumes, which can produce 7.7 million metric tons of CO_2 per year from end-use combustion.[17] The 2017 EA concluded that the Project would not result in additional end-use GHG emissions.[18] If the Project were required to cease operations and be removed, there would be additional direct GHG emissions from the removal activities. There would likely be no change in downstream emissions because Spire Missouri's demand would remain the same. Spire Missouri would need to find alternative sources of gas to fill the gap left by the STL Pipeline. However, if the STL Pipeline ceased operations, Spire Missouri may very likely need to bring its propane peaking facilities back online (at least in the short term), which would increase GHG emissions. Spire Missouri may also need to operate compressors at the Lange storage facility more frequently, further increasing GHG emissions. Therefore, requiring the STL Pipeline to cease operations would likely cause a meaningful increase in GHG emissions.

Noise

The noise environment would be affected through short-term construction activities, but by removing the pipeline and facilities, operational noise would no longer exist. The existing noise environment and regulatory requirements for removal of the STL Pipeline would be similar to that described in the 2017 EA.

Removal of the STL Pipeline would result in temporary increases in ambient sound levels. Construction sound would be primarily limited to daytime hours, and sound level increases could be highly variable due to intermittent equipment operation. The type of equipment operating at any location changes with each construction phase. The sound level impacts on noise sensitive areas ("NSAs") near the Project sites would depend upon the duration of use for each piece of equipment, the number of construction vehicles and equipment used simultaneously, and the distance between the sound source and receptor. The Project would utilize conventional construction techniques and equipment, including graders, clearers, heavy trucks, and similar heavy construction equipment.

[17] 2017 EA at 144.
[18] 2017 EA at 145.

3.2.3.9 Safety

As described previously as part of this alternative, Spire STL would remove the pipeline along the route but understands that is it likely that portions of the pipeline may be cut and capped at certain locations based on landowner or agency request. Leaving non-operational pipeline in place and/or removing pipeline would mitigate potential impacts on public safety. Any remaining pipe would not be pressurized and would not contain substances harmful to the environment.

3.2.3.1 Conclusion

Ceasing operations and removing Project facilities, would have similar environmental impacts as those experienced during the original Project construction. If the Commission were to order Spire STL to cease operations, other entities would need to build additional infrastructure to ensure the natural gas needs are met for the St. Louis region. Environmental and landowner impacts from such future infrastructure must be considered as well, and would include additional land disturbance, stream/wetland crossings, potential cultural resource and threatened and endangered species impacts, impacts to agricultural areas, impacts to air quality from fugitive dust and emissions, and potential impacts to various environmental justice (i.e., minority and/or low income) communities. These combined with the impacts that will be occurring on the Project areas will have a substantial, cumulative effect on these areas and resources.

For these reasons, requiring Spire STL to cease operations and remove the pipeline from the right-of-way is not a preferred alternative to reissuing certificates to Spire STL and allowing the pipeline to remain operational.

3.3 System Alternatives

Spire STL originally evaluated other system alternatives that had the potential to provide the same level of firm service of natural gas to the St. Louis region. These alternatives were included as part of Spire STL's original application and were further discounted as non-viable alternatives. If Spire STL were required to cease its current operations, these alternatives would need to be reevaluated.

Spire STL has identified several alternatives that would be required to be implemented on Spire Missouri's system in the event that the STL Pipeline is required to cease operations. Explanation and details of these system alternatives were previously provided to FERC. Additional alternatives may also exist as part of the Spire Missouri system, but those alternatives are yet to be defined and are anticipated to be provided to the Commission in a subsequent filing.

3.3.1 Other System Alternatives

3.3.1.1 NGPL Alternative

Natural Gas Pipeline Company of America, LLC's ("NGPL") Gulf Coast pipeline runs from South Texas to Chicago, Illinois with a spur running east-to-west toward St. Louis and terminating near Glen Carbon, Illinois. The NGPL system does not currently deliver gas directly into the St. Louis, Missouri region.

To replace STL Pipeline, NGPL would need to expand its existing system in multiple respects to replicate the firm service of the STL Pipeline. First, NGPL would need to construct greenfield facilities extending its existing east-west line in Illinois to make deliveries to the St. Louis region. The construction of these facilities would likely impacts hundreds of acres of land, cross several waterbodies and wetlands, require land clearing and require additional disturbance to private properties to which they will need to gain easements on. Second, Spire STL understands that NGPL would need to add considerable compression to expand the capacity of the existing east-west line to meet the Project volume needs. The addition of compression would have impacts on air quality that are not presented by the Project as proposed. Third, Spire STL's Foundation Shipper, Spire Missouri, would need to contract for firm transportation service on the NGPL Gulf Coast Main Line to receive gas from NGPL's interconnection with the REX pipeline for delivery to the St. Louis region. An incremental 350,000 Dth/d of available, unsubscribed, north-to-south firm capacity on NGPL does not presently exist; therefore, an expansion of that mainline pipeline system would need to be undertaken, with additional environmental and cost impacts and effects. In consideration of the required upgrades, additional air impacts, economic factors, the NGPL system is not considered a viable system alternative to the STL Pipeline.

3.3.1.2 MoGas Alternative

The MoGas system runs from Curryville, Missouri south toward the St. Louis region, with branches running southwest toward Rolla, Missouri and east toward Alton, Illinois.

MoGas's current system total firm capacity is approximately 100,000 Dth/day, which is substantially smaller than the STL Pipeline. Even if the MoGas pipeline system was not already substantially subscribed to other customers, it could not meet the needs of Spire STL's shippers.

In order to accommodate the needs of Spire STL's market, MoGas would need to construct a new pipeline loop (more than 80 miles in length) along the MoGas pipeline corridor and add compression. Such a new pipeline system would encompass the entire MoGas mainline segment as well as the entire branch of MoGas running to West Alton, Missouri. Although colocation of such a new pipeline with the existing MoGas system may result in some benefits, the significantly greater length would also have

greater environmental effects than the original construction, and the potential removal of the 65-mile STL Pipeline. Additionally, the affects from the construction of the new system would cause substantially higher rates likely to be associated with this system alternative, which also would make it not a viable alternative for Spire STL's shippers. Such an upgrade to the MoGas system does not prove to be a viable alternative to the STL Pipeline.

3.3.2 Spire Missouri Alternatives

Spire STL previously provided its responses to the Commission regarding the types of infrastructure that Spire Missouri might need to avoid potential service disruptions to the delivery of natural gas to the St. Louis area.[19] The STL Pipeline was developed in response to Spire Missouri's request for a new source of supply that would provide its customers with, among other benefits, supply diversity and greater reliability. STL Pipeline provides operational benefits to Spire Missouri, including making possible the retirement of obsolete propane peaking facilities and emissions-intensive compressor stations that had been required for Spire Missouri to inject gas into storage. Further, the higher-pressure deliveries from the STL Pipeline to MoGas have allowed Spire Missouri to avoid costly and disruptive system expansion projects that would otherwise have been required to serve the shifting demand within its territory, specifically, the growing demand on the west side of St. Louis. Therefore, in the event that FERC requires Spire STL to cease its operations, Spire Missouri would need to evaluate new upgrades, modifications, and other sources for its natural gas supply to continue uninterrupted service. These potentials are being evaluated in contingency and will be filed with the Commission at a later date.

[19] *See generally* Data Response, Docket No. CP17-40-007 (Sept. 7, 2021).

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