LPSC DOCKET NO. U-

TESTIMONY

of

MR. TIM BARTON

on behalf of

SOUTHERN SPIRIT TRANSMISSION LLC

APPLICATION OF SOUTHERN SPIRIT TRANSMISSION LLC

FOR TRANSMISSION CERTIFICATION

FEBRUARY 2023

I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Tim Barton. My business address is 9400 Ward Parkway, Kansas City, Missouri, 64114.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) as a Senior Project Manager in our Environmental Services Global Practice. I am responsible for managing the routing, public involvement, and permitting activities for transmission line projects across the country. I am the Burns & McDonnell Environmental Project Manager for the Southern Spirit Transmission Line Project, formerly known as the Southern Cross Transmission Line Project.

Q3. PLEASE DESCRIBE THE BUSINESS OF BURNS & MCDONNELL.

A. Burns & McDonnell, headquartered in Kanas City, Missouri, is a full-service engineering, architecture, construction, and consulting solutions firm. Our multi-disciplinary staff of nearly 10,000 employee-owners includes engineers, architects, construction professionals, planners, estimators, economists, technicians, and scientists, representing a wide range of design disciplines. We plan, design, permit, construct, and manage facilities all over the world. The Burns & McDonnell Environmental Services Global Practice has provided environmental services, including routing studies, environmental assessments, surveys and studies for threatened and endangered species, wetlands, cultural resources, and public

involvement programs for transmission lines ranging from 69-kilovolt (kV) to 765-kV since the early 1970's throughout the U.S. and internationally.

Q4. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS AND BUSINESS EXPERIENCE.

A. I graduated from the University of Kansas in 1994 with a Bachelors Degree in Environmental Studies. I joined Burns & McDonnell in 1994 and have provided environmental planning and consulting services for transmission line, natural gas pipeline, electric generation, and other energy-related projects. I managed my first transmission line project in 2005 and since that time, I have managed and directed more than 15 different transmission line projects, totaling more than 700 miles of transmission lines in 11 different states. These projects included overhead and underground transmission lines and ranged in voltage from 115-kV to 500-kV and in length from 1 mile to approximately 325 miles. I have coordinated and participated in numerous public open house meetings and have managed both permitting and right-of-way (ROW) tasks for multiple projects. Permits obtained have included: Section 404/401 water quality permits; Section 10 river crossing permits; threatened and endangered species surveys, clearances, and mitigation management; cultural resources and Section 106 clearances; National Pollutant Discharge Elimination System and Storm Water Pollution Prevention Plan (SWPPP) permits; road and railroad crossing permits; and various state and local permits and clearances. My resume is attached hereto as Exhibit TB-1.

Q5. HAVE YOU PREVIOUSLY PERFORMED WORK RELATED TO TRANSMISSION LINE ADMINISTRATIVE PROCEEDINGS?

A. Yes, I have. I am responsible for managing the routing, public involvement, and permitting activities for transmission line projects across the country. These projects typically also involve preparing environmental assessments and routing studies, as well as preparing written testimony, and testifying live before commissions to support applications to various state siting authorities, such as the Louisiana Public Service Commission ("LPSC").

Q6. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE LOUISIANA PUBLIC SERVICE COMMISSION?

A. No, this is my first opportunity to testify before the LPSC. I have previously prepared written testimony and testified before the Connecticut Siting Council, Massachusetts Energy Facilities Siting Board, Ohio Power Siting Board, and the Public Service Commission of Wisconsin.

II. PURPOSE OF TESTIMONY

Q7. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to introduce and support the document entitled Revised Routing Report for the Southern Spirit Transmission Project ("Revised Routing Report") and related material for Southern Spirit Transmission LLC's ("SST") proposed 500-600 kV high-voltage direct current ("HVDC") project ("Project"). This report was prepared by Burns & McDonnell on behalf of SST.

The purpose of the Revised Routing Report is to show and analyze the changes that were made from a route that was previously selected in 2017 (the "2017 Route"). As further described below, a route was previously selected in both Louisiana and Mississippi and a siting application was filed with the Mississippi Public Service Commission ("MPSC") using the 2017 Route. An Environmental Assessment and Alternative Route Analysis Report for Southern Cross Transmission Project ("2017 Routing Report") supported the 2017 Route that was selected at that time. Since 2017, the route for the Project has evolved. The 2017 Routing Report for Louisiana is attached hereto as Exhibit TB-2. The Revised Routing Report is attached to my testimony as Exhibit TB-3. A map showing the current route for the Project through Louisiana is attached hereto as Exhibit TB-4.

Q8. CAN YOU SUMMARIZE THE 2017 ROUTING REPORT?

A. In 2017, Burns & McDonnell prepared the 2017 Routing Report which documented the process used to identify the 2017 Route that was submitted to the MPSC for consideration. The 2017 Routing Report describes the methodology that was utilized in 2017 for identification and evaluation of route alternatives for the proposed transmission line across both Louisiana and Mississippi, including delineation of the study area, constraints mapping, and identification of preliminary alternatives routes. Following the development of preliminary alternative routes, a public involvement program was initiated in Louisiana and Mississippi to engage potentially impacted landowners, elected officials, and other stakeholders. The program included a series of local leader meetings, followed by public open house

meetings. Written notice for the public open house meetings was sent to all property owners within 500 feet of the preliminary alternative routes. In addition, Burns & McDonnell developed an interactive open house module that presented the same information presented at the in-person open house meeting that was available on the Project website. The open houses and Project website allowed landowners to review maps and provide feedback.

Following the open house meetings, two new route segments were added, and adjustments were made to some of the existing route segments that were included in the preliminary alternative routes. A total of 5,138 primary routes were identified in Louisiana, and 2,400 primary routes were identified in Mississippi. The routes in both states, when combined, created more than 2.3 million primary routes. Burns & McDonnell used a set of 37 evaluation criteria and 27 weighted routing factors applied to a subset of primary routes to assist with the selection of the top-ranking routes. The top 20 routes were selected as the proposed routes and further evaluated to assist with the selection of the preferred route. Following the selection of the preferred route, SST representatives continued to meet with landowners and discuss their concerns with route alignments. As a result, additional modifications were made to the preferred route. The preferred route, that included additional landowner requested modifications, is the 2017 Route that was included in the 2017 Routing Report filed with the MPSC in 2017.

Q9. WHAT PORTIONS OF THE APPLICATION IN THIS DOCKET DO YOU SPONSOR?

A. I am sponsoring the 2017 Routing Report, the Revised Routing Report, and the map of the current proposed route in Louisiana, which are Exhibits TB-2, TB-3 and TB-4 to my testimony, respectively.

Q10. WAS YOUR TESTIMONY AND THE INFORMATION YOU HAVE BEEN IDENTIFIED AS SPONSORING PREPARED BY YOU OR BY KNOWLEDGEABLE PERSONS UNDER YOUR SUPERVISION AND UPON WHOSE EXPERTISE, JUDGMENT AND OPINIONS YOU RELY IN PERFORMING YOUR DUTIES?

A. The Revised Routing Report and the map of the current proposed route in Louisiana were prepared by me and/or by individuals under my supervision and upon whose expertise, judgment and opinions I rely in performing my duties. The 2017 Routing Report was initially prepared by Kristi Wise, who was a Senior Project Manager in the Burns & McDonnell Environmental Services Global Practice in 2017, and completed by me for submission to the LPSC as part of this Application. I am personally familiar with the 2017 Routing Report, the Revised Routing Report and the map of the current proposed route in Louisiana, attached as Exhibits TB-2, TB-3, and TB-4 to my testimony, respectively.

Q11. IS THE INFORMATION CONTAINED IN YOUR TESTIMONY AND THAT YOU ARE SPONSORING TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

III. REVISED ROUTING REPORT

Q12. WHY DID BURNS & MCDONNELL PREPARE THE REVISED ROUTING REPORT?

A. In 2022, Burns & McDonnell was retained by SST to review the 2017 Route to determine if the 2017 Route was still viable based on potential changes in land uses and development along the route, including the relocation of the proposed eastern converter station from Lowndes County, Mississippi to Choctaw County, Mississippi, as more specifically described in the response to Question 19 below.

Q13. PLEASE DESCRIBE THE PURPOSE OF THE REVISED ROUTING REPORT.

A. The purpose of the Revised Routing Report is to review changes in development and land uses along the 2017 Route, including an evaluation of the engineering, environmental, and social impact of these factors in order to identify a route that best addresses these factors.

Q14. WHAT DOES THE REVISED ROUTING REPORT ADDRESS?

A. The Revised Routing Report provides a detailed description of the procedures and methodology followed, and the factors considered, in selecting the revised preferred route alignment ("Revised Route") for the Project.

Q15. WHO PARTICIPATED IN THE PREPARATION OF THE REVISED ROUTING REPORT?

A. A team of professionals under my direction, representing various environmental disciplines, was assembled from Burns & McDonnell staff and was involved in data acquisition, routing analysis, and environmental impacts assessment of the Project.

Q16. PLEASE DESCRIBE THE STEPS TAKEN IN PREPARING THE REVISED ROUTING REPORT

A. The tasks performed by Burns & McDonnell included:

- Data collection;
- Agency contact;
- Constraints mapping and evaluation;
- Review and adjustment of alternative routes; and
- Selection of the Revised Route.

A more detailed description of these tasks can be found in the Revised Routing Report.

Q17. WHAT DID BURNS & MCDONNELL TAKE INTO ACCOUNT TO DETERMINE PRELIMINARY ALTERNATIVE ROUTES FOR THIS PROJECT?

A. Data used by Burns & McDonnell in the delineation and evaluation of alternative routes was drawn from a variety of sources, including published literature, data,

and maps (documents, reports, maps, aerial photography, etc.), available Geographic Information System and other digital data, and information from local, state, and federal agencies. Recent aerial photography, U.S. Geological Survey topographic maps, various roadway maps, land parcel data, and field reconnaissance surveys were also used to assist with the selection of the Revised Route. Feedback and interactions with affected landowners is discussed more fully in the testimony of Ms. Shannon Gwin. Field reconnaissance of the study area was performed by Burns & McDonnell during the following dates: October 5-7, 2021; November 30-December 3, 2021; January 31-February 2, 2022; and February 23-24, 2022. Field reconnaissance was conducted along public roads and public rights-of-way ("ROW"). No Burns & McDonnell staff entered private property. The data collection effort was an ongoing process and continued up to the point of selection of the revised preferred route. A constraints mapping process, which delineated the geographic locations of environmentally sensitive and other restrictive areas within the study area, was used to select and refine possible route alternatives. A description of the study area is provided in Section 3 of the Revised Routing Report.

Q18. WAS THE APPLICANT INVOLVED IN REVIEW OF THE PRELIMINARY ALTERNATIVE ROUTES?

A. Yes. SST representatives reviewed and approved the route analysis, route alternatives, and all adjustments made to the Revised Route.

Q19. PLEASE DESCRIBE THE DIFFERENCE BETWEEN THE 2017 ROUTE AND THE REVISED ROUTE.

A. The 2017 Route is the route that was identified in the 2017 Routing Report and included the route that was selected in both Louisiana and Mississippi in 2017. The primary changes to the 2017 Route and the Revised Route center on two things: (1) the relocation of the eastern converter station in Mississippi; and (2) the relocation of the Mississippi River crossing required by the presence of wetlands in Louisiana along the 2017 Route, as further described below.

The 2017 Route entered Mississippi in the northern portion of Issaquena County and progressed approximately 195 miles to a proposed eastern converter station at the Mississippi/Alabama border near Caledonia, Lowndes County, Mississippi. During the review and development of the Project after the 2017 filing with the MPSC, a new location for the proposed eastern converter station was determined, which is approximately 70 miles west of the previous location, near French Camp, Choctaw County, Mississippi. In addition to changes to the 2017 Route as a result of the relocation of the eastern converter station, the 2017 Route was also reviewed for changes in land use and development to determine if additional adjustments needed to be made to the 2017 Route. Routing revisions were ultimately required in Louisiana because the 2017 Route crosses land that was enrolled in the U.S. Department of Agriculture's Wetland Reserve Easement ("WRE") program in 2019. The WRE program is a federal conservation easement that restricts any land disturbance thereby prohibiting installation of a new transmission line across land enrolled therein. As a result of this land enrollment,

the Revised Route now crosses the Mississippi River approximately 15 miles south of the 2017 Route. Accordingly, routing revisions were made in East Carroll Parish, Louisiana to reflect this river crossing change.

In summation, the Revised Route is the route that was developed to support the current scope of the Project in light of the land use and development since 2017 and is submitted for LPSC consideration. Concurrently with this application, SST has also amended its filing in Mississippi to submit the Revised Route for MPSC consideration.

Q20. PLEASE DESCRIBE THE STEPS TAKEN BY BURNS & MCDONNELL IN FORMULATING THE PRELIMINARY ALTERNATIVE ROUTES.

A. As set forth in Table 8-1 of the 2017 Routing Report, 37 routing evaluation criteria were considered in 2017. For the Revised Routing Report, Burns & McDonnell considered the same or similar evaluation criteria as utilized in connection with the 2017 Routing Report but because a scoring process was not included in the updated process, some of the criteria that were combined for scoring purposes in connection with the 2017 Routing Report were separated into specific evaluation criteria for purposes of determining the Revised Route. For instance, in the 2017 Routing Report, an Infrastructure Crossing Score was derived based on four different types of crossings and then weighted within the score based on the anticipated degree of difficulty of accomplishing the crossing. For the Revised Routing Report, a direct comparison of the different types of crossings was utilized when comparing the 2017 Route with the Revised Route. Since a scored approach was not implemented

due to the comparison of only two routes, the evaluation criteria were adjusted to meet the current conditions of the study area. The 50 evaluation criteria used for comparison of the two possible routes is included in Table 3-1 of the Revised Routing Report.

Q21. PLEASE DESCRIBE THE PUBLIC INPUT THAT BURNS AND MCDONNELL CONSIDERED IN THE ROUTING ANALYSIS.

A. To support the 2017 Routing Report, a public involvement program was initiated in Louisiana and Mississippi to engage potentially impacted landowners, elected officials, and other stakeholders. The program included a series of local leader meetings, followed by public open house meetings. Written notice for the public open house meetings was sent to all property owners within 500 feet of the preliminary alternative routes. In addition, Burns & McDonnell developed an interactive open house module that presented the same information presented at the in-person open house meetings and made this information available on the Project website. The open houses and Project website allowed landowners to review maps and provide feedback. In July 2022, Pattern Energy began reaching out to landowners along the revised preferred route that had been developed at that time. The initial discussions with landowners have primarily consisted of requests for permission to conduct wetland, cultural resource, and biological surveys on their property. A significant number of landowners have granted survey permission, and some have requested minor route revisions across their properties. The Revised Route incorporates the current landowner feedback.

Q22. DID BURNS & MCDONNELL CONSIDER INPUT FROM GOVERNMENTAL AGENCIES?

A. Yes.

Q23. PLEASE DESCRIBE HOW AND WHEN IN THE PROCESS BURNS & MCDONNELL UTILIZED THE COMMENTS AND/OR INFORMATION FROM GOVERNMENTAL AGENCIES.

A. Beginning in 2021, federal, state, and local agencies were contacted to discuss the Project and re-engage some of the agencies that were contacted in 2016. The focus of the agency contacts was primarily to determine what the environmental permitting requirements would be for the Project, but also to determine if there were environmentally sensitive areas or land uses that should be considered during the routing process. The agencies in Louisiana consulted by Burns & McDonnell include:

- U.S. Fish & Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
- U.S. Coast Guard (USCG)
- Federal Aviation Administration (FAA)
- Louisiana Department of Wildlife and Fisheries (LDWF)
- Louisiana Natural Heritage Program

- Red River Levee Board
- Tensas Basin Levee Board
- Fifth Louisiana Levee Board

Q24. PLEASE SUMMARIZE THE BASIS FOR BURNS & MCDONNELL'S SELECTION OF THE REVISED ROUTE.

A. As discussed in the Revised Routing Report, Burns & McDonnell selected the Revised Route following an evaluation of environmental, social, and engineering criteria applicable to the current scope of the Project.

Q25. WHAT DID BURNS & MCDONNELL ANALYZE REGARDING POTENTIAL IMPACTS OF THE PROJECT ON THE NATURAL RESOURCES FOUND ALONG THE REVISED ROUTE?

A. Burns & McDonnell analyzed the impact of the Revised Route on natural resources found along the route. The analysis included:

- Physiography and Land Cover
- Soils
- Hydrology
- Vegetation
- Threatened and Endangered Plant Species
- Threatened and Endangered Animal Species
- Wetlands
- Wildlife

Q26. WHAT DID BURNS & MCDONNELL ANALYZE REGARDING POTENTIAL IMPACTS OF THE PROEJCT ON THE SOCIAL RESOURCES FOUND ALONG THE REVISED ROUTE?

A. Burns & McDonnell analyzed the impact of the Revised Route on social resources by considering a number of factors, including land use and development patterns, agriculture, urban and residential areas, managed lands and conservation easements, transportation and aviation, utility facilities, and communication towers.

Q27. WHAT ARE BURNS & MCDONNELL'S FINDINGS REGARDING POTENTIAL IMPACTS OF THE PROJECT ON THE CULTURAL RESOURCES FOUND ALONG THE REVISED ROUTE?

A. Construction activities associated with any proposed Project have the potential to adversely impact cultural resources, directly or indirectly. Burns & McDonnell's cultural resource specialists identified High Probability Areas (HPAs) that are likely to contain cultural resources along the Revised Route using USGS topographic maps, aerial photography, and technical expertise. A cultural resources survey is also in progress on properties on which landowners have granted survey permissions. A complete cultural resources survey will be completed prior to construction and SST will work with the State Historic Preservation Officers in Louisiana to determine what, if any, cultural sites will be affected by the route and what mitigation efforts may be required to limit impacts.

Q28. PLEASE DESCRIBE THE PERMITS OR APPROVALS THAT WILL BE OBTAINED AS NECESSARY TO CONSTRUCT THE PROJECT.

A. Necessary permits will be obtained for the Revised Route. Below is a non-exhaustive list of permits that may be required for the construction of the Project:

- Louisiana Department of Transportation and Development ("DOTD") permit(s) will be required for crossing state-maintained roadways or using DOTD ROW to access the proposed Project.
- Depending on the location of transmission line structures, floodplain development permits and road crossing permits may be required by the parishes in which the approved route is located.
- Cultural resource surveys will be required for wetland areas that are determined to be under the jurisdiction of the USACE and for federally owned property.
- SST will file a Notice of Proposed Construction with the FAA for any structures that meet the filing requirements under 14 CFR Part 77.9. SST will comply with any requirements outlined in the determinations issued by the FAA.
- Consultation is underway with the USACE to determine appropriate requirements under Section 404, Section 408, and Section 10 Permit criteria.
- Consultation is underway with the USCG to determine appropriate requirements under Section 9 Permit criteria.

- Consultation is underway with the USFWS to determine appropriate requirements under the Endangered Species Act, if any.
- Consultation is underway with the Louisiana Department of Wildlife & Fisheries to determine appropriate requirements for state-listed protected species.

IV. ADDITIONAL ROUTING CONSIDERATIONS

Q29. HAS BURNS & MCDONNELL REVIEWED AND CONSIDERED CERTAIN MITIGATION MEASURES FOR THIS PROJECT TO DECREASE POTENTIAL IMPACTS FROM THE PROJECT?

A. Yes, it has. The primary form of mitigation during the routing phase of the Project was avoidance, followed by minimization of potential impacts to resources of concern. When resources could not be avoided through the routing process, coordination with the appropriate federal, state, and local agencies during the permitting phase of the Project will result in additional mitigation measures required by the agencies to minimize impacts. The measures could include, but would not be limited to, strategic pole placement and structure designs during the design phase; implementing erosion control Best Management Practices such as silt fences and barriers during construction; mitigation bank payments and/or habitat enhancements; and adjusting vegetation clearing and construction schedules to avoid disturbance during critical periods. Mitigation measures recommended and required by the agencies as part of the permitting process will be implemented by SST to limit the impact of the Project to the extent practicable.

Q30. WHAT ARE BURNS & MCDONNELL'S CONCLUSIONS REGARDING THESE MITIGATION MEASURES?

A. Mitigation measures should serve to reduce and mitigate the potential adverse effects of construction and operation of the proposed Project.

V. SUMMARY AND CONCLUSION

Q31. PLEASE SUMMARIZE YOUR TESTIMONY.

A. In 2017, SST (formerly Southern Cross Transmission) proposed to construct a 500-600 kV HVDC transmission line from a new western converter station located in DeSoto Parish, Louisiana to a new eastern converter station located in Lowndes County, Mississippi. Burns & McDonnell and SST identified and evaluated 20 proposed routes for the Project and, from among these, selected the preferred route in the 2017 Routing Report. SST then conducted additional landowner outreach, and as a result incorporated additional route refinement. The 2017 Route was the final result of these combined efforts. Since 2017, the Project has been through additional review and development, which included the relocation of the eastern converter station from an initial location in Lowndes County, Mississippi to the current location in Choctaw County, Mississippi, approximately 70 miles west of the initial location, coupled with the necessary change in the location of the Mississippi River crossing due to land use and development along the 2017 Route, including enrolling certain land in the WRE program in 2019. As a result of these changes, the Revised Routing Report was prepared to document the feasibility of engineering, environmental, and economic development of the Project. The Revised Route is the result of that study. As discussed in the Revised Routing

Report, the Project team identified some areas of constraints related to federal conservation areas, residential development, and oil/gas well development along the 2017 Route. During the development of the Revised Route, consideration for avoidance of crossing municipal areas and generally reducing the number of small and heavy angles along the route was also incorporated. As discussed in Section 5.2 of the Revised Routing Report, the Revised Route presented a better balance of environmental, social, and engineering impacts, and, thus, based on the evaluation criteria and issues of concern considered by the Project team in both Louisiana and Mississippi, the Revised Route was independently selected using a consensus process for detailed design and construction.

Q32. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

AFFIDAVIT OF WITNESS

STATE OF Missouri

COUNTY OF Cass

NOW BEFORE ME, the undersigned authority, personally came and appeared:

TIM BARTON

who, after being duly sworn by me, did depose and state that the above and foregoing is his sworn testimony in this proceeding, that he knows the contents thereof, and that the same are true and correct to the best of his knowledge, information and belief.

Mr. Tim Barton

Subscribed and sworn before me
this 8th day of February, 2023.

NOTARY PUBLIC
Printed Name: Lisa Sturgeon
My commission expires: 6/9/2024

LISA STURGEON
NOTARY PUBLIC-NOTARY SEAL
STATE OF MISSOURI
CASS COUNTY
MY COMMISSION EXPIRES 6/9/2024
COMMISSION # 20535239

TIM BARTON

Project Manager

Tim is a project manager at Burns & McDonnell. He has participated in various projects, including land use assessment, aquatic invertebrate identification, and environmental assessment. His responsibilities have included department management, project management, fieldwork, data collection, and report preparation. He also uses ESRI Geographic Information System (GIS) ArcGIS software to review environmental constraints for various projects. He has a strong acumen for manipulating and incorporating GIS data into his projects. In addition, he is a division project administrator for Burns & McDonnell's Oracle-based EcoSys project management system. As an administrator, he is responsible for reviewing and approving new projects entered into the system as well as revisions to existing projects. He also provides project management and EcoSys training and support.

EDUCATION

Bachelors, Environmental Studies, 1994

28 YEARS WITH BURNS & MCDONNELL

28 YEARS OF EXPERIENCE

Southern Spirit Transmission Line Project | Pattern Energy

Louisiana and Mississippi | June 2021 - Present

Siting and Permitting Lead. For a proposed 500-600 kilovolt (kV) high voltage direct current (HVDC) transmission line between the Electric Reliability Council of Texas (ERCOT) and the Southeast electric transmission system (Southern Spirit Project). The Southern Spirit Project will also include two new converter stations located at the end of the HVDC transmission line. The proposed transmission line would be approximately 325 miles in length. Mr. Barton is providing oversight for siting and environmental permitting for the project which includes agency coordination; biological, cultural resources, and stream/wetland surveys; and Louisiana and Mississippi Certificate of Public Convenience and Necessity (CPCN) applications.

Generation Repowering Project | Xcel Energy

Wisconsin | February 2022 - Present

CPCN Coordinator. For a proposed 255-megawatt (MW) generation facility at an existing client-owned generation station. Services include preparation of an Engineering Plan and CPCN application that are currently in development with planned submittal to the Public Service Commission of Wisconsin (PSCW) in the fourth quarter of 2022.

Generation Replacement Project | Wisconsin Public Service and Wisconsin Electric Power Company

Wisconsin | December 2020 - Present

CPCN Coordinator. For a proposed 128-MW generation facility at an existing client-owned generation station. Services include preparation of an Engineering Plan and CPCN application that were submitted to the PSCW in April of 2021. The final decision and Certificate were issued in May of 2022 and the project is currently in construction.

Butler County Phase II (Line C380) Project | Duke Energy

Ohio | April 2022 - Present

Routing manager for a proposed 20-inch diameter natural gas pipeline located in Butler County, Ohio. The proposed Project will include installation of approximately five miles of new pipeline to replace the aging, existing Duke pipeline, CG07B.

EXHIBIT TB-1

TIM BARTON
(continued)

located in Butler County, Ohio. The Project will also include installation of one mainline valve, a launcher and receiver installation at Dick's Creek Station, a tie-in to existing Dick's Creek M&R Station, a 16" lateral from Dick's Creek Station to REX Station, a new receiver station at Butler Station, a new lateral from new receiver station at Butler Station to Yankee Station, and a new IP line tie-in to Line A. The services include preparation of a Route Siting Study to determine potential pipeline routes to support the Project. A study area approximately four miles wide by six miles wide was developed to encompass potential routing opportunities such as roadways, a railroad corridor, electric transmission lines, pipelines and open spaces that could be used or paralleled. The study included the identification of social, environmental, and engineering constraints considered during the development and analysis of potential route alternatives. The routing study will be used to determine a preferred and alternate route that was incorporated into an application to the Ohio Power Siting Board (OPSB) for approval of the project. Environmental and cultural resource surveys will be completed by our staff for the two route alternatives and included in the OPSB standard application.

Bethel-Batavia (Line 367) Project | Duke Energy
Ohio | 2020-2022

Routing manager for a proposed 12-inch natural gas pipeline located in Clermont County, Ohio. The services include preparation of a Route Siting Study to determine potential pipeline routes to interconnect two existing Duke Energy Ohio, Inc. pipelines. A study area approximately nine miles wide by twelve miles wide was developed to encompass potential routing opportunities such as roadways, abandoned railroad corridor, electric transmission lines, pipelines and open spaces that could be used or paralleled. The study included the identification of social, environmental, and engineering constraints considered during the development and analysis of potential route alternatives. The routing study was used to determine a preferred and alternate route that was incorporated into an application to the OPSB for approval of the project. Environmental and cultural resource surveys will be completed by our staff for the two route alternatives and included in the OPSB standard application. Tim participated in two virtual open house public meetings and provided feedback to the public on questions related to siting for the pipeline routes. We are also performing real estate acquisition for construction and operation of the pipeline and preliminary engineering for the two route alternatives. The OPSB application is currently being reviewed by the Public Utilities Commission of Ohio.

Line 365 Project | Duke Energy
Ohio | 2019

Routing manager for a proposed 20- to 24-inch natural gas pipeline located in vicinity of the town of West Chester, Ohio. The services included preparation of a Preliminary Route Evaluation Study to determine potential pipeline routes to interconnect existing Line C314 (24-inch pipeline) and Line A000B (20-inch pipeline). A study area approximately two miles wide by five miles wide was developed to encompass potential routing opportunities such as roadways, electric transmission lines, pipelines and open spaces that could be used or paralleled. The study included the identification of social, environmental and engineering constraints considered during the development and analysis of potential route alternatives. Twenty-five potential routes were analyzed, scored and weighted based on the evaluation criteria developed specifically for the study area. An elimination of poorer scoring and less preferable routes was completed based on requirements for the project and a comparison of the final four routes was completed. The study was used as the basis to move forward with right-of-way acquisition and surveys.

TIM BARTON
(continued)

Nemadji Trail Energy Center | South Shore Energy
Superior, Wisconsin | Jul 2017 - Present

Project manager. For a proposed 625 MW 1x1 combined-cycle, gas-fired power plant located near the City of Superior, Wisconsin. The services include preparation of two CPCN applications for the generation and electric transmission line that have been submitted to the PSCW for approval of the project. Two Certificate of Authority (CA) applications were also submitted to the PSCW for a new 16-inch natural gas supply pipeline and the relocation of an existing 10-inch natural gas pipeline. The CPCN and CA applications address both a preferred and alternate site and includes the routing and assessment of an approximately 7-mile natural gas pipeline and a new 4-mile 345-kV electric transmission line. The CPCN and CA applications and associated federal, state and local permitting require several field surveys including, noise study, cultural resource surveys, and habitat and wetland surveys. The project was approved by the PSCW in January/February 2020 and permitting is being completed in preparation for construction later this year.

Western Wisconsin Gas Expansion Project | Wisconsin Power & Light
Wisconsin | 2018-2020

CA coordinator and routing manager for a proposed 10-inch natural gas pipeline located in western Wisconsin. The services included preparation of a Certificate of Authority (CA) application for an approximately 12-mile pipeline, field surveys and a routing study to determine preferred and alternate routes that were submitted to the PSCW for approval of the project. The CA application and associated federal, state and local permitting required several field surveys including, habitat and wetland surveys. The CA application was submitted to the PSCW in September 2019, approved in April 2020 and reached substantial completion in November 2020.

Cleveland to Matthews Road 230-kV Transmission Line Project | Duke Energy
North Carolina | 2016-2018

Project manager for a proposed 230-kV electric transmission line designed to interconnect one of three existing 230-kV lines with a new Cleveland Road 230-kV Substation. The project included development and analysis of a preliminary transmission line route network based on a variety of engineering, environmental and social criteria. The routes were presented to the public at an open-house workshop and comments were incorporated into the final route network and evaluation. The transmission line routes alternatives were evaluated and presented in a Routing Study and Environmental Report prepared for submittal to the North Carolina Utilities Commission (NCUC) for a Certificate of Public Convenience and Necessity (CPCN). The project was approved by the NCUC in January 2018 and Duke has completed construction of the approximately 11-mile transmission line.

Powhatan Industrial 230-kV Transmission Tap Line Project | Duke Energy
North Carolina | 2016-2017

Project manager for an electric transmission line designed to interconnect a new Powhatan Industrial Substation with the existing Lee to Milburnie transmission line. The new substation supplies power to a new Novo Nordisk medicine production facility located in Clayton, North Carolina. The project included development and analysis of a preliminary transmission line route network based on a variety of engineering, environmental and social criteria. Tim presented the routes to the public at an open-house workshop and incorporated comments into the final route network and evaluation. He also discussed and evaluated alternative routes in a Routing Study and Environmental Report submitted to the North Carolina Utilities Commission for a Certificate of Environmental Compatibility and Public Need (CECPCN). The project was approved by the NCUC in April 2017.

TIM BARTON
(continued)

Raeford 230-kV Transmission Line Project | Duke Energy
North Carolina | 2015-2016

Project manager for a proposed electric transmission line designed to loop-in/loop-out the existing Fort Bragg Woodruff Street to Richmond Substation transmission line into the Raeford Substation. The project included development and analysis of a preliminary transmission line route network based on a variety of engineering, environmental and social criteria. Tim presented the routes to the public at an open-house workshop and incorporated comments into the final route network and evaluation. He also discussed and evaluated alternative routes in a Routing Study and Environmental Report submitted to the North Carolina Utilities Commission for a CECPCN.

Water Pipeline Supply/Discharge Project | Old Dominion Electric Cooperative
Maryland | 2012-2017

Routing manager for a water pipeline supply/discharge project associated with a proposed 2x1 combined-cycle, gas-fired power plant in Cecil County, Maryland. The water pipeline routing included a desktop review of potential route options, a field review to verify constraints, and an analysis of potential routes. That analysis included a variety of evaluation criteria, which were then weighted and scored with input from the client. Tim prepared report documenting the methodology, evaluation process and the preferred and alternative routes for the water pipeline. The generation project reached substantial completion in April 2018 and is currently going through the commissioning process.

Fox 3 Energy Center Project | Wisconsin Public Service Corporation
Outagamie County, Wisconsin | Dec 2013 - Jan 2016

Project manager for a proposed 400-MW, 1x1 combined-cycle, gas-fired power plant located at the existing Fox Energy Center. Tim assisted in the preparation of the CPCN application and submitted to the PSC for approval. CPCN application addressed both preferred and alternate sites and initially included the routing and assessment of an approximately 5-mile-long natural-gas pipeline. The CPCN application and associated federal, state and local permitting required several field surveys, including bathymetric mapping, discharge-plume modeling, noise study and habitat and wetland. The CPCN application was withdrawn, at the request of the PSC, due to uncertainty about the need for the additional generation because of the WPSC and We Energies merger.

Southern Reinforcement 230-kV Transmission Line Project | PSE&G
New Jersey | 2012-2015

Project manager for a set of overhead and underground transmissions lines, both new and rebuilt, in southern New Jersey. The project included siting and routing of 16 miles of new underground transmission lines in Camden County. Tim was responsible for development, field review and analysis of potential routes for the project. In coordination with underground transmission line engineers, he developed evaluation criteria, analyzed potential routes, and prepared a report documenting the preferred and alternative routes.

Kossuth County 345-kV Transmission Line Project | ITC Midwest (ITC)
Iowa | 2012-2015

Principal investigator for the routing for a new 31-mile transmission line along the Iowa/Minnesota border and a new Kossuth County Substation, with an interconnection at a new substation near Ledyard, Iowa. Tim was responsible for development, field review, and analysis of potential routes for the project. He participated in in-person agency interviews and

the Iowa Utilities Board public information meeting. ITC presented the recommended transmission line route at the public information meeting and acquired easements for the new transmission line and is currently in operation.

Seminole to Muskogee 345-kV Transmission Line Project | OG&E

Oklahoma | 2010-2013

Principal investigator for the routing for a new 125-mile transmission line between the Seminole Power Plant in Seminole County and the Muskogee Power Plant in Muskogee County, Oklahoma. Tim was responsible for development, field review, and analysis of potential routes for the project. He took part in in-person agency interviews with a variety of groups including: state, county and local representatives; Native American tribal representatives; and federal agencies. He participated in public open houses to solicit input from the public on potential routes for the project. The result was a preferred transmission line route, located almost entirely on new right-of-way (ROW). Burns & McDonnell was responsible for ROW acquisition and construction management of the project.

Interstate Reliability Project (IRP) 345-kV Transmission Line | Northeast Utilities System

Connecticut | 2009-2015

Project manager for the siting efforts associated with the IRP – a set of improvements to the electric transmission systems of The Connecticut Light and Power Company and the National Grid in Rhode Island and Massachusetts. The project included approximately 75 miles of new transmission line and upgrades to three substations and three switching stations. Tim was responsible for review and route review of the Connecticut portion of the IRP, which included approximately 37 miles of new transmission line, predominantly within existing transmission line ROW.

Greater Springfield Reliability Project (GRSP) Transmission Line Upgrades | Northeast Utilities System

Connecticut and Massachusetts | 2007-2013

Project manager for the siting efforts associated with the GRSP – a set of improvements to the electric transmission systems of Connecticut Light and Power in Connecticut and Western Massachusetts Electric Company in Massachusetts. The transmission line improvements included a new 345-kV transmission line, 115-kV transmission line upgrades and ancillary facilities associated with the project.

Agawam to West Springfield 115-kV Circuit Separation Project | Northeast Utilities System

Massachusetts | 2007-2010

Project manager for the siting for this project, which involved separating two circuits on a common set of lattice structures; they were separated onto monopoles as improvements to the electric transmission systems of Western Massachusetts Electric Company. The transmission line improvements also included substation upgrades and an underground portion of one of the circuits.

Springfield Cables Project | Northeast Utilities System

Massachusetts | 2007

Project manager for the siting efforts for two new 115-kV underground transmission lines, a new switching station, and upgrades at three substations. The project primarily involved installation of two new solid dielectric underground cables between three substations in the City of Springfield as part of improvements to the electric transmission system for Western

Massachusetts Electric Company (WMECO) in Massachusetts. Burns & McDonnell assisted WMECO in the identification and evaluation of routes, development and participation in the public-involvement process, the compilation of municipal recommendations, and the preparation of the Energy Facilities Sitting Board application documents.

Clean Water Act 316(b) Compliance Project | Wisconsin Public Service

Wisconsin, Pennsylvania, and New York | 2005-2008

Project manager for environmental services associated with Clean Water Act 316(b) compliance. The project involved coordination with state agencies in Wisconsin and New York for five power plants that are subject to Phase II of the 316(b) requirements, along with fisheries studies, entrainment studies, and impingement studies at one or more of the plant sites. The studies required varied by plant site but will become part of a Comprehensive Demonstration Study.

Ely Energy Center | Nevada Power Company and Sierra Pacifica Power Company

Nevada | 2005-2007

Project manager for environmental services for the development of the proposed 2,500 MW Ely Energy Center Project. He assisted with preparation of environmental documentation to support filings with the U.S. Bureau of Land Management (BLM) and general site development including routing for 345/500-kV electric transmission lines, water supply pipelines, and railroad access. He functioned as a contract employee at Nevada Power Company's main office and was responsible for maintaining and updating the GIS developed for the project and coordination with subcontractors.

Siting Study | Alliant Energy–Interstate Power & Light (IPL)

Iowa and Minnesota | 2005-2006

Project manager for environmental services to assess six brownfield sites in Iowa and Minnesota for baseload generation. Evaluated the sites for environmental and infrastructure constraints and visited a short list to verify information reviewed during the desktop evaluation. Tim prepared a report documenting evaluation methodology and siting constraints that IPL used to determine which sites to pursue for future generation needs.

Power Plant Site Selection Study | Wisconsin Public Power Inc. and Madison Gas & Electric

Wisconsin, Illinois, and Michigan | 2005-2006

Project manager for environmental services associated with a feasibility study for a potential baseload power plant in Wisconsin. The project consisted of two main components, a siting study and a technology assessment. The siting study involved screening various infrastructures such as proximity to electric transmission lines, railroads, gas pipelines, and water.

Glenbrook Cables Project | Northeast Utilities System

Connecticut | 2005

Project manager for the siting efforts associated with the Glenbrook Cables Project, which included a new 115-kV underground transmission line and upgrades at two substations. The project primarily involved installation of solid dielectric underground cables between two substations in Fairfield County, Connecticut. Burns & McDonnell assisted Connecticut Light & Power in the identification and evaluation of routes, development, and participation in the public involvement process, the compilation of municipal recommendations, and the preparation of the Connecticut Siting Council (CSC) application documents. Tim provided support and participated in the CSC hearings.

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Burns & McDonnell identified multiple underground route alternatives for consideration based on sound environmental, social, and engineering factors typical for similar voltage lines in the region. Alternatives included routes along existing transmission, gas, and rail corridors, and public streets and highways. Our team also identified appropriate locations for river crossings and determined necessary methods for the crossings to minimize impacts. Burns & McDonnell used GIS technology to identify and map constraints and analyze routes.

Joint Baseload Siting Study | Wisconsin Public Service Corporation and Wisconsin Power & Light

Wisconsin | 2004-2005

Project manager for environmental services associated with a joint baseload feasibility study for a potential power plant in Wisconsin. The project consisted of two main components, a siting study, and a technology assessment. The siting study involved screening various infrastructures, such as proximity to electric transmission lines, railroads, gas pipelines, and water. Tim developed a GIS to analyze the infrastructure and other environmental constraints to assist in the screening of the potential sites.

Weston Unit 4,500-MW Coal-Fired Power Plant Project | Wisconsin Public Service Corporation

Central Wisconsin | 2002-2003

Assistant project manager and CPCN coordinator for environmental permitting and for a new 595-MW coal-fired power plant at the Weston Generating Station. The primary service was the preparation of a CPCN application that was submitted to the PSCW for approval of the project. The CPCN application addressed both a preferred and alternate site and included assessment of a 3-mile natural-gas pipeline corridor. The CPCN application required several field surveys, including: bathymetric mapping, discharge-plume modeling, noise study, habitat, and wetland. Other services associated with the CPCN application included data collection from local municipalities, preparation of figures using a GIS, socioeconomic assessment, natural-resources analysis, and preparation of the application.

Sheboygan Falls Energy Facility, Sheboygan Power LLC

Sheboygan Falls, Wisconsin, 2002-2004

For Sheboygan Power LLC, was the project manager for environmental services for a 530 MW simple-cycle gas-fired power plant in Sheboygan County, Wisconsin. Burns & McDonnell prepared the CPCN application and the associated permits consisting of an air permit, high capacity well permit, WPDES construction storm water and operational storm water permit, industrial discharge permit, FAA/WDOT notifications and various state and local permits. To support the CPCN application, Burns & McDonnell staff conducted wetland and habitat surveys, a noise study, a cultural resources survey and multiple contacts with federal, state, county and local entities for information. Mr. Barton also provided expert testimony during the PSCW's technical hearings. The project was approved by the PSCW, constructed by Burns & McDonnell's Construction Group and subsequently sold to Alliant Energy and is currently in operation.

Port Washington 1,080-MW Combined-Cycle Combustion-Turbine Project | Wisconsin Energy Corporation

Port Washington, Wisconsin | 2002-2003

Project manager for a power-plant project that consisted of shutting down five 80-MW coal-fired power plants and replacing them with two 500-MW combined-cycle, gas-fired units with a heat recovery steam generator. Burns & McDonnell provided

environmental services for the power plant, which included a new 16-mile natural-gas pipeline to serve the proposed generation facility. The primary environmental service was assistance in producing the CPCN application. The permitting, licenses, approvals, and field studies for the power plant and the natural-gas pipeline were included in the CPCN application.

Pulliam Generating Station 83-MW Combustion-Turbine Project | Wisconsin Public Service Corporation

Green Bay, Wisconsin | 2001-2002

Project manager for the addition of an 83-MW simple-cycle, gas-fired combustion turbine at Wisconsin Public Service's Pulliam Generating Station. Burns & McDonnell provided environmental field services for the power plant and associated 3-mile gas pipeline. Our environmental services also included an air-permit application and Environmental Report submitted to the Wisconsin Department of Natural Resources for the new air-emissions source. We prepared a Certificate of Authority application that was submitted to the Public Service Commission for authority to build the project.

Power Plant Site Selection Study | Old Dominion Electric Cooperative

Virginia, Maryland, and Delaware | 2001

Environmental specialist who assisted with a site selection study by determining state and local permitting requirements and identifying information used in the constraint mapping for up to 1,000-MWs of proposed simple- and combined-cycle combustion-turbine generating units in Virginia, Maryland and Delaware. Contacted various agencies to determine permitting requirements and collecting information on physical resources. Tim assisted with the environmental permitting process for construction once the three preferred sites were selected.

Permitting for Fiber-Optic Telecommunications System Project | T-Cubed

Florida and Georgia | 2000-2001

Environmental permitting manager who led environmental permitting for a fiber-optic telecommunications system project between Atlanta, Georgia, and Jacksonville, Florida. The project involved coordination with all federal, state, and local permitting agencies in both states. The project crossed two U.S. Army Corps of Engineers (USACE) Districts, both of which required a Nationwide Permit. Following informal consultation with the U.S. Fish and Wildlife Service and Georgia Department of Natural Resources, Burns & McDonnell biologists conducted a survey for gopher tortoises. Using an infrared camera prior to construction, several burrows were found within the right-of-way for the telecommunications project. The team also successfully permitted under the new Georgia National Pollutant Discharge Elimination System regulations put into effect August 1, 2000, requiring an Erosion, Sedimentation and Pollution Control Plan and a Comprehensive Water Monitoring Plan, detailing water sampling locations and methodology. Tim managed permitting for crossing streams in Florida, under the Department of Environmental Protection Submerged Lands and Environmental Resources Program, and obtained a use agreement under the sovereign submerged lands requirements.

Permitting for Fiber-Optic Telecommunications System Project | Williams Communications Inc.

Georgia, Tennessee, Kentucky, Indiana, Ohio, and Illinois | 1999-2001

Environmental permitting manager who led the environmental permitting for a communications system project between Atlanta and Chicago. The project involved coordination with all federal, state and local permitting agencies in Georgia, Tennessee, Kentucky, Indiana, Ohio, and Illinois. The project crossed five USACE districts, all of which required Nationwide Permits. Tim acquired multiple state stream- and wetland-crossing permits and authorizations.

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Permitting for Fiber-Optic Telecommunications Regeneration Sites | Williams Communications Inc.

Louisiana, Mississippi, Alabama, North Carolina, and Virginia | 1999-2001

Environmental permitting manager who led environmental permitting for regeneration sites on a project in Louisiana, Mississippi, Alabama, North Carolina, and Virginia for Williams Communications Inc. Tim permitted sites in Michigan and Ohio.

Land Use Assessment, Entergy Inc.

Arkansas, 1998-1999

As part of a land use assessment for Entergy Inc., Mr. Barton was the principal investigator for its Carpenter-Remmel Hydroelectrical Facility. The project consists of two lakes formed by the Carpenter and Remmel dams, which create Lake Hamilton and Lake Catherine. At the two lakes and hydroelectric facilities, lands within 200 feet of the shorelines were studied. Mr. Barton coordinated all aspects of mapping for land use, performed using ArcInfo, GIS and digital aerial photography of the area. The mapping consisted of layers for land use, land ownership, environmentally sensitive features, and existing infrastructure. The study's purpose was to document existing patterns and to analyze the potential impact of relicensing the hydroelectric facilities. Mr. Barton was the principal author of the report, which will ultimately become part of an Applicant Prepared Environmental Assessment for relicensing of this facility.

Environmental Inventory, Kansas City Southern Railroad

Texas, 1998

For Kansas City Southern Railroad, Mr. Barton was the principal investigator on a proposed reinstitution of 85 miles of abandoned rail line in Texas. His responsibilities included a site survey of the proposed line, documentation of potential environmental impacts, and coordination with state and federal agencies. The project currently is on hold awaiting decision on the abandonment status of the line.

Recreation Use Study, Entergy Inc.

Arkansas, 1997-1998

As part of a recreation use study for Entergy, Mr. Barton conducted on-site interviews at various locations at both Lake Hamilton and Lake Catherine. A standardized questionnaire form was developed to solicit responses to a variety of aspects of recreation uses. Various persons were interviewed at boat ramps, public facilities and commercial areas to obtain a thorough cross-section of people utilizing the Lakes. As part of his responsibilities on this project, Mr. Barton entered the data collected during the on-site interview process into a database that was then used to analyze the data. He also participated in entering returned questionnaire data solicited from lake front property owners at Lake Hamilton and Lake Catherine.

Wetland Delineation and Environmental Inventory, Trans Continental Gas Pipeline Company

South Carolina, North Carolina, Virginia, Maryland and Pennsylvania, 1997-1998

For Trans Continental Gas Pipe Line Company (Transco), Mr. Barton managed all aspects of Global Positioning System (GPS) field work in Pennsylvania, Maryland, Virginia, North Carolina, and South Carolina. The project included use of multiple Sokkia GPS units to accurately log all wetlands, streams, waterbodies and threatened or endangered species habitat, within 580 miles of pipeline right-of-way. As the GPS supervisor, he was responsible for all pre-field-work planning for operation of GPS including locating monuments for base stations and developing the methodology for collecting data. While in the field, he was responsible for all aspects of data collection including supervising field crews. The project culminated in mapping more than 1,000 wetlands and 1,600 streams and waterbodies. This data will be used by the client to maintain a Geographic Information System (GIS) database of environmental features on their pipeline right-of-way.

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Electric Distribution System Inventory, Holland Board of Public Works

Holland, Mich., 1997-1998

For the Holland Board of Public Works, Mr. Barton assisted in a field inventory using GPS for more than 50,000 locations for its transmission and distribution network. This involved determining a coordinate location and multiple features for poles, transformers, switches, risers, fuses, conductors, streetlights and meters. As the GPS supervisor, he was responsible for all pre-field-work planning for operation of GPS and developing the methodology for collecting data. While in the field, he was responsible for all aspects of data collection including supervising field crews and data collection. This field assignment encompassed the city of Holland, Michigan, and covered over 20-square-miles.

EIS Support, Norfolk Southern Railroad

Eastern U.S., 1996-1997

For Norfolk Southern, Mr. Barton was responsible for developing a database on communities related to the Norfolk Southern/CSX merger with Conrail. He used insight from previous projects and applied his knowledge to plan a database designed for handling an immense amount of data in an easy search, query and print format. The database contained information on over 700 communities, which had rail line segments that met or exceeded STB thresholds for analysis passing through their community. Information collected from numerous sources included; socioeconomic, demographics, sensitive noise receptors, Norfolk Southern and Conrail customers, grade crossings, proximity to biological and water resources, air quality attainment status, point source air emissions and rail segments in the community. This data was used in an analysis of environmental justice issues and for community outreach programs related to the Draft Environmental Impact Statement (EIS) issued by the STB on the Conrail merger.

Power Plant Site Selection Study, Union Electric Company

Missouri, 1996

For Union Electric Company, Mr. Barton assisted with a site selection study by determining state and local permitting requirements and identifying information used in the constraint mapping for up to 1,200 megawatts of simple- and combined-cycle combustion turbine generating units in Missouri and Illinois. This involved contacting various agencies to determine permitting requirements and collecting information on physical resources. Mr. Barton also assisted with the constraint mapping using a GIS to identify favorable areas for the proposed units.

Power Plant Site Selection Study, Sierra Pacific Power Company

Missouri, 1996

Additionally, for Sierra Pacific Power Company, Mr. Barton assisted with a site selection study by determining state and local permitting requirements and identifying information used in the constraint mapping for up to 600 megawatts of proposed simple- and combined-cycle combustion turbine generating units in Nevada. This involved contacting various agencies to determine permitting requirements and collecting information on physical resources. He also assisted with the constraint mapping using a GIS to identify favorable areas for the proposed units.

Reservoir Project – Habitat and Extent Survey, City of Fort Smith Arkansas

Arkansas, 1996

For the City of Fort Smith, Arkansas, Mr. Barton participated in habitat and extent surveys for two species of concern (Category II) plants. These plants are the southern lady's slipper orchid (Cypripedium kentuckiense) and the Ozark chinquipin (Castanea pumila). Both of these species were observed within the project boundaries during his fieldwork. Reports on his findings were submitted to various state and federal agencies for review.

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Reservoir Project – Fisheries Survey, City of Fort Smith Arkansas

Arkansas, 1996

Mr. Barton participated in a fisheries survey for the city of Fort Smith, Arkansas. This survey included backpack electrofishing in stream habitats and gill netting on lake habitats. He also snorkeled in various parts of the stream habitat for occurrence of the long-nosed darter, which is a species of concern.

Environmental Resource Inventory, U.S. Army Corps of Engineers

Minnesota, Wisconsin, Iowa, Illinois, Missouri, South Dakota, and Kansas, 1995-1996

Mr. Barton assisted in the preparation of an Environmental Resource Inventory for the Upper Mississippi River/Lower Missouri River and major tributaries. He coordinated state soil associations with STATSGO major soil associations using Arc/Info GIS software. This information was then incorporated as an appendix into the report. He also authored the chapter on impacts of flooding.

Environmental Inventory, Norfolk Southern Railroad

Illinois and Ohio, 1996

For Norfolk Southern railroad, Mr. Barton conducted site visits on seven new rail line construction projects in Illinois and Ohio. The purpose of the site visit was to document existing conditions and determine any potential impacts to water resources, biological resources, threatened and endangered species, cultural resources, noise and safety. He was responsible for writing a report on these issues for each of these connecting track constructions along with addressing agency comments. The project was on a very tight time schedule because Norfolk Southern was attempting a hostile takeover of Conrail and needed to submit their application to the Surface Transportation Board (STB) before their competitor CSX. Mr. Barton's reports aided in the filing of an application before CSX and ultimately allowed Norfolk Southern and CSX to agree to a merger with Conrail instead of an outright takeover. He was an integral part of the team that responded to the pressures of a client requesting a compressed time schedule for our services because millions of dollars were potentially at stake for them if we could not meet certain deadlines.

Cultural Resource Survey for a Water Pipeline, City of Olathe, Kan.

Olathe, Kansas, 1996

For the City of Olathe, Mr. Barton participated in a Phase I archaeological investigation of a proposed water pipeline. He assisted our staff archaeologist by conducting fieldwork to document the location and extent of five known sites. He also aided in the report writing of this survey, which was submitted to the State Historic Preservation Office.

Cultural Resource Survey for an Electric Transmission Line, American Electric Power

Oklahoma, 1996

Mr. Barton assisted our staff archaeologist in a Phase I survey of a 345-kV transmission line in Oklahoma. The objective of this survey was to establish a viable corridor through an area with a high density of archaeological sites.

Cultural Resources Survey for a Highway Project, Arkansas Highway and Transportation Department

Arkansas, 1996

In association with a cultural resources survey for an EIS on south Highway 71, Mr. Barton conducted a preliminary centerline survey for the proposed highway project. The survey involved use of traditional survey methods utilizing USGS topographic maps and a compass to flag the centerline.

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Seasonal Fisheries Survey, City of Wichita

Kansas, 1995-1996

Mr. Barton assisted with a seasonal fisheries survey of the Little Arkansas River in Sedgewick County, Kansas. The objective of the study is to establish baseline fisheries data for the river prior to implementation of surface water diversions associated with a groundwater recharge project. To accomplish this objective, seven sampling sites have been established over 30 miles of the river. Sampling is conducted with a bag seine in riffle and run habitats and with a backpack electrofisher in pool habitats and around structure. In addition, physical stream habitat parameters at each site are measured and qualitative macroinvertebrate samples are collected. Data obtained from this study will provide baseline information for the Little Arkansas River and will provide a basis of comparison for long-term monitoring after project implementation.

Reservoir Project – Wetland Delineation, Wyoming Water Development Commission

Wyoming, 1995-1996

For the Wyoming Development Commission, Mr. Barton participated in an extensive wetland delineation using a Sokkia Global Positioning System (GPS). The GPS was used to accurately assess the extent and acreage of wetlands in the study area. He is one of the primary personnel familiar with using GPS and helped manage the data collection from pre-field-work mission planning to post-field-work processing. The GPS information was then submitted to the Corps of Engineers for final evaluation.

Reservoir Project – Fisheries Survey, Wyoming Water Development Commission

Wyoming, 1994-1995

For the Wyoming Water Development Commission, Mr. Barton assisted in an Environmental Impact Statement (EIS) for a reservoir project. His duties included a water quality study of aquatic invertebrates, habitat quality assessment of various streams and use of an electrofisher for salmonid sampling. He also assisted in identification of plant species and wildlife species in the study area.

Wetland Delineation and Endangered Species Survey, City of Omaha, Metropolitan Utilities

Nebraska, 1995

For the City of Omaha, Metropolitan Utilities District (MUD), Mr. Barton participated in a wetland delineation and an endangered species survey for the western prairie fringed orchid (Platantherea praeclara). The project site is a 2,000-acre area located along the Platte River and involves the potential use of groundwater pumping for municipal water use. Wetland locations were located and mapped using false-color infrared aerial photography, National Wetland Inventory maps provided by the U.S. Fish and Wildlife Service and then surveyed on foot. Potential western prairie fringed orchid locations were identified using the same methodology and surveyed during the flowering period. No orchids were observed during the field survey.

Environmental Report, Wisconsin Public Service Company

Rhinelander, Wis., 1995

For Wisconsin Public Service Company, Mr. Barton assisted with an Environmental Impact Report (EIR) by gathering information for a proposed 106 megawatt circulating fluidized unit at the Rhinelander Energy Center. This involved contacting various agencies to determine environmental constraints that were included in the report.

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Feasibility Study, Utilicorp
Colorado, 1995

For West Plains Energy Division of Utilicorp, Mr. Barton assisted with a feasibility study and permitting to repower an existing gas-fired 19-megawatt steam-turbine and a relocated 18-megawatt steam turbine generator in Colorado. This involved contacting various agencies to determine permitting requirements and collecting information on physical resources.

Power Plant Site Selection Study, Chugach Electric Association
Alaska, 1995

For Chugach Electric Association, Mr. Barton assisted with a site selection study by determining state and local permitting requirements and identifying information used in the constraint mapping for up to 230 megawatts of proposed combined-cycle combustion turbine generating units in Alaska. This involved contacting various agencies to determine permitting requirements and collecting information on physical resources.

Baseline Contaminant Study, U.S. Army Corps of Engineers
Missouri, 1995

Mr. Barton assisted in a 30-day Baseline Contaminant Study of air quality at a military installation in Missouri. This involved sampling of air using flow-controlled canisters over 24-hour time periods. These samples were then analyzed and used to prepare a document on air quality in these areas.

Baseline Water Quality Assessment, U.S. Army Corps of Engineers
Missouri, 1994-1995

He assisted in the preparation of a baseline water quality assessment for the Kansas City District U.S. Army Corps of Engineers. His duties included identification of aquatic macro-invertebrates from field samples, data analysis and preparation of charts and tables used in the final document.

Air Contaminant Study, Kansas City Power & Light
La Cygne, Kansas, 1995

Mr. Barton also participated in air contaminant studies for Kansas City Power & Light's (KCPL) La Cygne Generating Station, a coal-fired power plant in Eastern Kansas. This involved sampling of various concentrations of gases over extended periods of time in order to meet federal one-year compliance regulations. He helped analyze this data which was then integrated into a report.

Land Use Census, Department of Energy
Amarillo, Texas, 1994-1995

For the Department of Energy, Mr. Barton conducted a land use census for a nuclear munitions plant near Amarillo, Texas. The census required personal interviews with over 200 residents, agency contacts, data collection and report preparation for a 10- and 50-mile radius from the plant. He also used an Arc/ Info, Geographic Information System (GIS) to digitize various point locations such as houses, gardens, water wells, schools, industries, public facilities and feed lots. The final report incorporated tables, figures, and text derived from the field work and data collection.

Land Ownership Study, U.S. Army Corps of Engineers
Missouri, 1994

For the Kansas City District Army Corps of Engineers, he participated in an ownership study of properties along the Missouri River. This study was conducted for the Fish and Wildlife Mitigation Project. It involved obtaining ownership information

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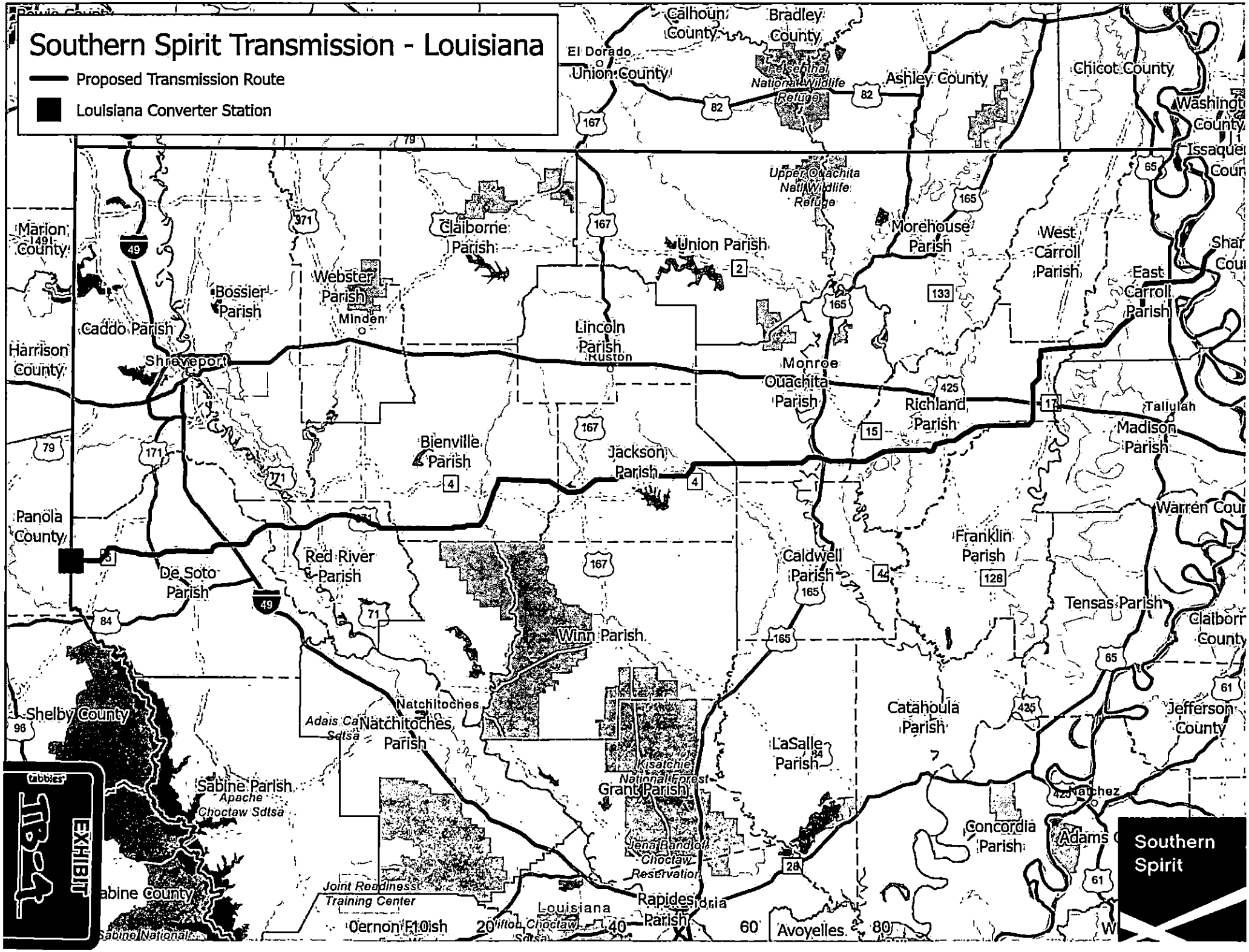
for various sites from county court houses, obtaining property tax maps and visitation of sites to identify access points. As principal author, the culmination of his effort was a report, which detailed ownership information along with tables and figures for seven locations along the Missouri River.


Southern Spirit Transmission - Louisiana
Proposed Transmission Route
Louisiana Converter Station
Calhoun County
Bradley County
El Dorado
Union County
Ashley County
Chicot County
Upper Ouachita Nati Wildlife Refuge
Claiborne Parish
Union Parish
Morehouse Parish
West Carroll Parish
East Carroll Parish
Marion County
Webster Parish
Minden
Bossier Parish
Caddo Parish
Harrison County
Shreveport
Lincoln Parish
Ruston
Monroe
Ouachita Parish
Richland Parish
Tallulah
Madison Parish
Bienville Parish
Jackson Parish
Panola County
Red River Parish
De Soto Parish
Caldwell Parish
Franklin Parish
Tensas Parish
Winn Parish
Natchitoches
Natchitoches Parish
Adais Caddo Sdtsa
Shelby County
Sabine Parish
Apache
Choctaw Sdtsa
Kisatchie National Forest
Grant Parish
LaSalle Parish
Catahoula Parish
Jefferson County
Natchez
Concordia Parish
Adams
Jena Band of Choctaw Reservation
Joint Readiness Training Center
Louisiana
Rapides Parish
Avoyelles
Sabine National
Southern Spirit
EXHIBIT