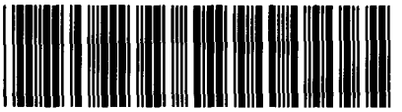

Control Number: 48629

Item Number: 5

Addendum StartPage: 0

P.U.C. DOCKET NO. 48629

RECEIVED

2018 SEP 12 AM 11:46

PUBLIC UTILITY COMMISSION
FILING CLERK

PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED 345 KV TRANSMISSION LINE WITHIN BRAZORIA, MATAGORDA AND WHARTON COUNTIES, TEXAS	§ § § § § § § § § §

DIRECT TESTIMONY OF

RYAN K. BAYER

TABLE OF CONTENTS

EXHIBITS

DIRECT TESTIMONY OF

RYAN K. BAYER

I. QUALIFICATIONS AND EXPERIENCE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ryan K. Bayer. My business address is 9901 IH-10 West, Suite 470, San Antonio, Texas 78230.

Q. HOW ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by POWER Engineers, Inc. ("POWER") as Project Manager/Department Manager within the Environmental Division.

Q. WHAT ARE YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS?

A. I attended The University of Texas and earned a Bachelor of Science degree in Zoology in 2001. For the past 17 years I have worked as a full-time environmental professional, providing technical environmental assessments and permitting for pipeline projects, oil and gas exploration development projects, transportation projects, public works projects, transmission line projects, commercial/residential development projects, and manufacturing projects. The majority of my technical project work has focused on Clean Water Act ("CWA") Section 404 environmental reviews and permitting.

My professional career began in 2001 as an employee for PBS&J in Dallas, Texas where I was responsible for waters of the United States ("U.S.") and natural resources field surveys, reporting, and permitting. In 2004, after a brief staff

augmentation assignment, I was hired by Applied Materials, Inc. ("Applied") in Austin, Texas in the Environmental, Health and Safety Department as an environmental engineer. At Applied, my area of responsibility was the facility's water quality programs and the development of Applied's environmental management system associated with the 50-acre manufacturing site. In 2006, I returned to PBS&J to create and lead the environmental department in the San Antonio, Texas office. From 2006 to 2015, I was employed by PBS&J, which then became Atkins North America through an acquisition. During this time, I became the central region manager for environmental services, overseeing more than 45 staff in the ecology and cultural resources departments, as well as providing technical support on a range of waters of the U.S. projects. In late 2015, I joined Zephyr Environmental Corporation ("Zephyr") to open and successfully lead Zephyr's San Antonio office. In 2018, Zephyr was acquired by POWER, and I currently serve as the central biology department manager for POWER, overseeing biology staff and department financials and managing projects involving waters of the U.S. and other technical areas.

Since 2001, I have performed or overseen hundreds of waters of the U.S. assessments in Texas and other states. I have successfully submitted and/or managed numerous pre-construction notifications ("PCN") to the U.S. Army Corp of Engineers ("USACE") for nationwide permits ("NWP"), regional general permits, CWA Section 404 individual permits (both Standard and Letter of Permission), and Rivers and Harbors Act ("RHA") Section 10 permitting. PCN

submittals included assessments of streams (river and tributaries); emergent, scrub/shrub, and forested wetlands; and open waterbodies. The submittals also included evaluations of possible impacts to federally-listed threatened and endangered species, historical places/cultural resources, and other permit conditions, as appropriate. Earlier this year and in 2017, I managed the USACE permitting for a 68-mile refined products pipeline and secured CWA Section 404 (NWP 12) and RHA Section 10 authorizations for the project.

II. SUMMARY OF TESTIMONY

Q. PLEASE SUMMARIZE YOUR TESTIMONY

A. The USACE has identified the location of the Columbia Bottomlands throughout the region that includes the study area for CenterPoint Energy Houston Electric's ("CenterPoint Energy") Bailey to Jones Creek 345 kV transmission line project ("Project"). Columbia Bottomlands consist of woodland and grassland areas that also contain wetlands. In 2017, the USACE made changes to the NWP regional conditions for the State of Texas for the permitting process under CWA Section 404 and RHA Section 10. The changes included a requirement that any activity involving the discharge of dredged or fill material into waters of the U.S. (including wetlands) located within the designated Columbia Bottomland areas will require an individual permit, unless the activity could be authorized under NWP 3 (Maintenance). NWP 3 is not normally applicable to new construction projects. Individual permits under Section 404/10 are more difficult and time-consuming to acquire than NWP authorizations. Therefore, during the routing process, POWER

and CenterPoint Energy carefully considered ways to avoid locating route segments in areas that would require crossing/impacting waters of the U.S. within the Columbia Bottomlands, or if those areas could not be avoided, sought to route the segments in a manner that would allow for spanning the waters of the U.S. within Columbia Bottomlands.

III. PURPOSE AND SCOPE OF TESTIMONY

Q. WHAT IS THE PURPOSE AND SCOPE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe and explain the requirements for permitting under Section 404 of the Clean Water Act, and, in particular, the comparison between receiving individual permits as opposed to qualifying for the nationwide permitting process. I also explain the recent changes to the Section 404/10 permitting process as it relates to construction that impacts waters of the U.S. within USACE-designated areas of Columbia Bottomlands. Finally, I co-sponsor portions of the document entitled *Bailey to Jones Creek Transmission Line Project Environmental Assessment and Alternative Route Analysis* (the "EA") and co-sponsor specific portions of CenterPoint Energy's *Application to Amend a Certificate of Convenience and Necessity to Construct a 345 kV Transmission Line in Brazoria, Matagorda and Wharton Counties* (the "Application"). The EA was prepared by POWER on behalf of CenterPoint Energy. The EA is Attachment 1 to the Application. The EA is the culmination of the thorough environmental and routing analysis conducted by POWER, in conjunction with CenterPoint Energy,

of the proposed 345 kV double-circuit transmission line between the Bailey Substation in Wharton County and Jones Creek Substation in Brazoria County.

Q. WHAT IS THE BASIS OF YOUR TESTIMONY?

A. I have 15 years of experience assisting clients in obtaining permits under Section 404 and Section 10, nationwide permits, regional general permits, and individual permits for infrastructure projects, including transmission lines. I am also familiar with the Columbia Bottomland habitats and the wetlands in general. In preparing my testimony, I reviewed and relied upon the Application, the EA, the 2017 NWP 3 (Maintenance), and the 2017 NWP Regional Conditions for the State of Texas.

Q. WHAT PORTIONS OF THE APPLICATION DO YOU SPONSOR?

A. I am co-sponsoring the answer to question 17 in the Application. I am also co-sponsoring the portions of the EA related to Columbia Bottomlands habitat.

Q. HOW WAS THE INFORMATION COMPILED BY POWER USED FOR PURPOSES OF THE APPLICATION?

A. POWER provided environmental and land use information for the proposed alternative routes, which was used to complete several specific questions in the Application.

Q. DID YOU OR SOME OTHER KNOWLEDGEABLE PERSON UPON WHOSE EXPERTISE AND JUDGMENT YOU COULD REASONABLY RELY PREPARE YOUR TESTIMONY AND THE INFORMATION YOU HAVE IDENTIFIED AS SPONSORING?

A. Yes.

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

A. Yes.

IV. COLUMBIA BOTTOMLANDS

Q. WHAT ARE THE COLUMBIA BOTTOMLANDS?

A. The Columbia Bottomlands habitat is a rare mixture of grasslands, hardwood forests, and coastal wetlands that include diverse old-growth bottomlands and are important stopover habitats for millions of migratory birds. For purposes of the 2017 NWP regional conditions for the State of Texas, the USACE defines designated Columbia Bottomlands as waters of the U.S. that are dominated by bottomland hardwoods in the Lower Brazos and San Bernard River basins, as identified in the 1997 Memorandum of Agreement between the USEPA, USFWS, NRCS, and TPWD for bottomland hardwoods in Brazoria County. The USEPA and USFWS may designate Columbia Bottomland wetlands as Aquatic Resources of National Importance ("ARNI"). If designated an ARNI, the USACE may evaluate the potential loss or conversion of these wetlands on a case-by-case under an individual permit.

Only the areas within the Columbia Bottomlands that are also waters of the U.S. are subject to regulation by the USACE under Section 404/10; however, Columbia Bottomlands habitat may include both jurisdictional and non-jurisdictional areas under the Clean Water Act.

Q. WHERE ARE COLUMBIA BOTTOMLANDS WITHIN THE STUDY AREA?

A. Within the Project's study area, Columbia Bottomlands occur in the San Bernard River basin in Brazoria County. During the routing process, POWER obtained spatial data of designated Columbia Bottomlands from the USACE and mapped these areas by geographic information systems ("GIS"). These areas are shown in purple shading on Figure 3-3 and 5-1 of the EA, which consist of maps of the routes and study area.

Q. IN GENERAL, WHAT IS THE PROCESS FOR CONSTRUCTING PROJECTS IN AREAS UNDER THE JURISDICTION OF THE USACE?

A. Typically, once the Public Utility Commission of Texas ("PUC" or "Commission") has approved a final route for a transmission project, the project proponent will engage in additional coordination, jurisdictional water of the U.S. verifications, and permitting with the USACE if any of the project is located within areas under USACE jurisdiction. In this case, CenterPoint Energy will engage with the USACE Galveston District, which has responsibility for the waters of the U.S. within the Project study area. Following this additional coordination, the USACE Galveston District may determine that the Project requires a permit authorization under Section 404 of the CWA and/or Section 10 of the RHA if the approved route includes utility facilities (i.e., substations, foundations, and access roads) to be built within waters of the U.S. Often, utility facilities constructed within waters of the U.S. meet the conditions of NWP 12, which applies to "Utility Line Activities."

NWP 12 authorizes activities for the construction, repair, and removal of utility lines and associated facilities (i.e., substations, foundations, and access roads) in waters of the U.S., provided the general and regional conditions of the permit are met.

Q. PLEASE EXPLAIN THE PROCESS TO OBTAIN A NWP 12.

A. Under Section 404 of the CWA and Section 10 of the RHA, the USACE issues NWPs to authorize activities that have only minimal individual and cumulative adverse environmental effects. NWPs are general permits which can often authorize project activities without requiring a PCN submittal to the USACE, so long as the permittee or project activities comply with the authorizing NWP general and regional conditions. In this "self-certification" scenario, if the proposed project activities meet the general and regional conditions of a NWP, the project can proceed to construction without any additional USACE coordination or approval. In many cases, when a project relies on NWP 12, self-certification is possible.

If self-certification under NWP 12 is not an option (for instance, when the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way), the permittee must submit a NWP 12 PCN permit application to the appropriate USACE district. The PCN submittal includes, at a minimum, USACE district permit application forms, the project description, a jurisdictional determination report (preliminary or approved), a waters of the U.S. impact analysis, an assessment of federally-listed threatened or endangered species, an assessment of historical properties and cultural resources, and supporting

photographs and exhibits. If the applicant is required to conduct compensatory mitigation for impacts to waters of the U.S., that information must also be submitted to the USACE as a part of the PCN application. Upon finding the application administratively complete, the USACE will evaluate the permit application for authorization under NWP 12. Typically, a standard PCN application review and NWP approval process takes between two and four months.

Q. COULD CENTERPOINT ENERGY OBTAIN AUTHORIZATION UNDER NWP 12 FOR TRANSMISSION LINE ACTIVITIES WITHIN JURISDICTIONAL WATERS THAT IMPACT COLUMBIA BOTTOMLANDS?

A. No.

Q. WHY NOT?

A. Within the USACE's Galveston District, which includes the Project's Study Area, the USACE's NWP Regional Condition 15c prohibits the use of NWP 12 for discharges of dredged or fill material within waters of the U.S. in Columbia Bottomland habitat. Under Regional Condition 15c, "fill" could include things such as temporary matting required for construction vehicles to traverse waters of the United States. Therefore, the Project could not use NWP 12 for activities that result in the discharge of dredged or fill into waters of the U.S. within the Columbia Bottomlands. Except for activities that could be authorized by NWP 3, the USACE may evaluate potential loss of or temporary impacts to waters of the U.S. within the

Columbia Bottomlands habitat on a case-by-case under a Section 404/10 individual permit.

Q. PLEASE EXPLAIN THE PROCESS TO OBTAIN AN INDIVIDUAL PERMIT.

A. An individual permit can be issued when a project has more than minimal individual or cumulative impacts. The project is evaluated using additional environmental criteria, and the permitting process involves a more comprehensive public interest review.

Individual permit authorization requires a PCN permit application submittal to the relevant USACE District. The PCN individual permit process requires the submittal of an individual permit application to the USACE, which must, at a minimum, include: USACE Form 4345, a jurisdictional determination report (preliminary or approved), a waters of the U.S. impact analysis, an alternative analysis, a CWA Section 401 water quality certification, a compensatory mitigation plan, an assessment of federally-listed threatened and/or endangered species, an assessment of historical properties and cultural resources, and supporting photographs and exhibits. Once the application is determined to be administratively complete, the USACE issues a joint public notice for CWA Section 404 and CWA Section 401 water certification for a period of up to 30 days. A public hearing opportunity is also afforded at this time. Upon completion of the public notice period, the USACE reviews comments, considers public interest factors, makes a decision on the permit application, and documents its decision in a decision

document. As part of the decision process, the USACE undertakes a National Environmental Policy Act ("NEPA") evaluation of the proposed activities. If the permit is issued, the permit may include project-specific conditions as a result of the public notice or as directed by the USACE. Typically, the individual permit review and permit decision can take anywhere from 12 to 24 months or longer, depending on project and permitting factors. Common factors that often contribute to a lengthy review schedule include sensitivity of the aquatic resource impacted and alternatives considered; determination and availability of compensatory mitigation; agency-to-agency consultation (i.e., between USACE and USFWS); and comments in response to public notice. For example, impacts to sensitive or unique aquatic resources can require a high ratio of in-kind compensatory mitigation relative to the project's impacts and may draw considerable public opposition that USACE must consider. These factors could require a redesign of the project. Projects with impacts to resources, such as federally-listed threatened or endangered species or cultural resources, usually require Endangered Species Act Section 7 consultation with the USFWS or National Historic Preservation Act Section 106 consultation with the State Historic Preservation Office, respectively. Consultation with federal or state agencies can require several months to achieve resolution. In summary, once USACE undertakes a federal action to issue an individual permit for activities in waters of the U.S., there are a series of other permit conditions and factors that must be considered, as part of USACE's individual permit decision, that could significantly delay permit issuance.

Q. WHY ARE THE DELAYS ASSOCIATED WITH AN INDIVIDUAL PERMIT UNACCEPTABLE FOR THIS PROJECT?

A. CenterPoint Energy witness Wes D. Woitt explains the need for the Project and why the delay that could be associated with the time required to obtain an individual permit would not be acceptable for the Project.

Q. PLEASE DESCRIBE HOW COLUMBIA BOTTOMLANDS WERE CONSIDERED DURING THE DEVELOPMENT OF ALTERNATIVE ROUTES.

A. POWER obtained spatial data of designated Columbia Bottomlands from the USACE and mapped these areas by GIS during the routing process. Where practical, proposed alternative routes avoided areas of USACE-designated Columbia Bottomlands and United States Fish and Wildlife Service-mapped National Wetlands Inventory ("NWI") wetlands within Columbia Bottomlands. Careful consideration was given to Columbia Bottomlands during the development of the preliminary and primary transmission line segments and proposed alternative routes because of the potential impact to the project schedule if the project triggered the need for an individual permit from the USACE.

Q. PLEASE DESCRIBE HOW THE PROPOSED ALTERNATIVE ROUTES IMPACT COLUMBIA BOTTOMLANDS HABITAT.

A. Twenty-two of the proposed alternative routes cross designated Columbia Bottomlands. Proposed Alternative Routes 7, 11, 12, 13, 14, 15, 18, and 19 do not cross designated Columbia Bottomlands at all, while Proposed Alternative Route 3 extends 1.85 miles through designated Columbia Bottomlands areas. The lengths across NWI-mapped wetlands within designated Columbia Bottomlands for each proposed alternative route range from zero for Proposed Alternative Routes 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 to 0.18 mile (approximately 950 feet) for Proposed Alternative Route 3, which can easily be spanned. POWER and CenterPoint Energy carefully considered these areas during the development of the preliminary transmission line segments. These crossings were evaluated using aerial photography, mapped wetlands, and National Hydrography Dataset data to minimize potential impacts and habitat fragmentation. The length across designated Columbia Bottomlands for each of the proposed alternative routes is presented in Table 4-2 of the EA.

Q. HOW DO THE ROUTES THAT POWER SELECTED AS THOSE THAT BEST MEET THE REQUIREMENTS OF PURA AND PUC RULES IMPACT COLUMBIA BOTTOMLANDS?

A. POWER and CenterPoint Energy identified Proposed Alternative Routes 5 and 28 as the two routes that best meet the criteria under PURA and PUC rules. Proposed Alternative Route 5 crosses approximately 0.75 mile of USACE-designated

Columbia Bottomlands but does not cross any NWI-mapped wetlands within USACE-designated Columbia Bottomlands. Avoidance and minimization of potential impacts to environmental integrity are maximized to the extent practicable with this route.

Proposed Alternative Route 28 crosses approximately 1.75 miles of USACE-designated Columbia Bottomlands, and 0.07 miles is NWI-mapped wetlands within USACE-designated Columbia Bottomlands, a distance that can easily be spanned. Avoidance and minimization of potential impacts to environmental integrity are also maximized to the extent practicable with this route.

Q. HOW IS AVOIDANCE OF COLUMBIA BOTTOMLANDS AND NWI-DESIGNATED WETLANDS WITHIN COLUMBIA BOTTOMLANDS CONSISTENT WITH PURA AND PUC RULES?

A. It is consistent with PURA's environmental integrity criteria and PUC substantive rules to minimize impacts to sensitive habitat and wetland areas to the extent practicable.

I. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

STATE OF TEXAS §
§
COUNTY OF BEXAR §

AFFIDAVIT OF RYAN K. BAYER

BEFORE ME, the undersigned authority, on this day personally appeared Ryan K. Bayer, who being by me first duly sworn, on oath, deposed and said the following:

1. "My name is Ryan K. Bayer. I am of sound mind and capable of making this affidavit. The facts stated herein are true and correct based on my personal knowledge. My current position is Project Manager/Department Manager within the Environmental Division for POWER Engineers, Inc.

2. The foregoing direct testimony and the attached exhibit have been prepared by me or under my direct supervision and are true and correct to the best of my knowledge."

Further affiant sayeth not.

Ryan K. Bayer

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 4 OF SEPTEMBER, 2018

Notary Public in and for the State of Texas

RACHAEL CASIAS RIVERA
Commission # 12043184
My Commission Expires
September 23, 2019

RYAN BAYER
SENIOR PROJECT MANAGER

YEARS OF EXPERIENCE
16

EDUCATION
- B.S., Zoology, University of Texas at Austin, 2001

AREAS OF EXPERTISE
- Program management
- Section 404/10 determination/delineation and permitting
- NEPA
- Endangered species habitat assessment/surveys
- Mitigation site development/monitoring
- Stream/wetland restoration/creation
- Stormwater/BMP management
- Cultural resources regulatory management
- Floodplain permitting
- Environmental field inspections

AFFILIATIONS
- Air and Waste Management Association, Alamo Chapter: Director 2014 – Present, Chairman 2008–2011, Vice Chairman 2007–2008
- Air and Waste Management Association 105th International Annual Conference 2012, Co-Chair
- Society of American Military Engineer, Member

EXPERIENCE SUMMARY

Mr. Bayer is an accomplished project and personnel manager with over 15 years of experience as an environmental consultant and industry professional. His experience is focused in the areas of environmental assessments (EA), permitting, and compliance of infrastructure developments and fixed-facility operations within the oil and gas, manufacturing, power generation, transportation, and federal/local government market sectors. As a successful personnel manager of multi-media environmental teams, he has managed numerous public and private projects to completion from the initial planning phase through project construction, including multi-agency coordination, permit acquisition, and scheduling. His applied regulatory experience includes the Clean Air Act, Clean Water Act, Endangered Species Act, National Historic Preservation Act, Texas Historical Commission (THC), National Environmental Policy Act (NEPA), Texas Commission on Environmental Quality's (TCEQ) Clean Texas Program, and Environmental Protection Agency (EPA). In addition, he has participated in environmental public speaking forums, presenting at the TCEQ Trade Fair, and the TCEQ Environmental Performance Partnership group.

PREVIOUS WORK HISTORY

Consulting Experience

Mr. Bayer served as project manager for more than nine years in support of numerous transportation, water resource, trailway/park system, commercial development, and demolition projects, providing environmental and cultural resources clearances for the city of San Antonio, Texas. In this role, Mr. Bayer was directly responsible for a broad range of activities, including: EA and categorical exclusion (CE) NEPA document development for transportation and trailway projects Waters of the United States assessments, U.S. Army Corps of Engineers (USACE) NWP/IP permitting, TCEQ Section 401 water quality permitting, stream restoration development (including engineering design), on- and off-site stream/wetland mitigation development, annual mitigation site monitoring, threatened and endangered species assessments, karst surveys and mapping, protective fish relocations, historic and archeological cultural resources assessments and agency permitting, Section 106 mitigation development, Section 4(f) evaluations, Phase I/II environmental site assessments (ESAs), asbestos and lead paint assessments, construction compliance inspections, and training of City of San Antonio staff.

Mr. Bayer served as project manager for exploration and production activities associated with the South Texas/Eagle Ford Shale regional area for several oil/gas operators, encompassing more than 250,000 lease acres and approximately 250 wells annually. Mr. Bayer oversaw environmental program management, asset assessments, operational inspections, and agency permitting for well pads, central facilities, access road, pipelines, staging areas, and office locations. Key tasks included Waters of the United States assessments, threatened/endangered species, Migratory Bird Treaty Act

evaluations, cultural resources assessments, water acquisition analysis, floodplain permitting, water quality/Best Management Practices (BMP) management, litigation support, Pipeline Hazardous Material Safety Administration evaluations, Texas Department of Transportation traffic impact analysis, and multi-agency permitting.

Mr. Bayer served as project manager for several midstream pipeline installation projects within the South Texas/Eagle Ford Shale region, ranging from 16-miles to 85-miles in length. Mr. Bayer managed the environmental and cultural resources requirements for the project which included Waters of the United States assessments, threatened/endangered species, cultural resources assessments, water acquisition analysis, hydrostatic test discharge permitting, landfarm site selection and permitting, floodplain development permitting (including compressor and processing facilities), USACE permitting and Texas Parks and Wildlife Department (TPWD) Sand, Marl and Gravel permitting.

Mr. Bayer served as project manager for the National Park Service (NPS), San Antonio Missions National Historical Park herpetology monitoring program in Bexar and Wilson counties, Texas. In this role, he was directly responsible for coordinating all monitoring events throughout the course of 12 months and ensuring monitoring teams adhered to NPS survey protocols for data collection, analysis, report development, and quality assurance.

Mr. Bayer was the project manager for the City Public Service (CPS) Energy environmental and cultural resources regulatory clearance of a natural gas pipeline project in Bexar County, Texas. Project tasks included Waters of the United States assessments, threatened and endangered species habitat evaluations, cultural resources investigative surveys, and USACE and THC permitting.

Mr. Bayer served as project manager for the San Antonio River Authority (SARA), San Antonio River bank stabilization project in Bexar County, Texas. The 300-foot bank stabilization effort included river dewatering, access road development within the river, native fish relocation, bank excavation, and fill placement. Project tasks included Waters of the United States assessments, threatened and endangered species evaluation, cultural resources surveys, and USACE/THC/TPWD permitting.

Mr. Bayer served as project manager for assessing environmental and cultural resources constraints for the repair of two large, highly erosive stormwater outfalls to Cibolo Creek in the City of Universal City, Texas. Both outfalls ranged from 20-40 feet above grade and had undermined the secondary channel bank of Cibolo Creek and were endangering private property through severe head-cut erosion. Construction access to the sites required crossing emergent wetlands, avoiding forested wetlands, and crossing of Cibolo Creek. To enable project construction repairs, project tasks included Waters of the United States, threatened/endangered species, and cultural resources assessments. Significant agency coordination with the USACE and THC was required; as a result, Section 106 and 404 permitting were successfully completed.

Mr. Bayer served as project manager for environmental constraint assessments associated with a 30-acre parcel to be developed as a nature park, including a complex trail system for the city of Laredo, Texas. Project tasks included engineering plan reviews to minimize environmental impacts, Waters of the United States assessments, threatened and endangered species evaluations, cultural resources surveys, and USACE and THC permitting.

Mr. Bayer was the field supervisor and environmental permitting coordinator for the EA conducted for the Brazos Electric Power Cooperative 50-acre, 500-megawatt generation station in Jack County, Texas. Project tasks included Waters of the United States assessments, threatened and endangered species/habitat assessments, assisting with the development of the project EA report, Section 404 permitting, and the assessment and development of an on-site 19-acre forested riparian compensatory mitigation site.

Mr. Bayer served as task lead for defining and facilitating the data discovery and mapping of environmental compliance processes and procedures associated with multiple CPS Energy generation facilities. The data were developed for an environmental information management system (EIMS) in Bexar County, Texas. Tasks included mapping tool development, guidance training, and operating as a liaison between facility staff and Enviance configuration personnel.

Mr. Bayer was a co-project manager for designing, developing, and implementing core environmental programs for the development of Applied Materials' environmental management system (EMS) serving a 2,500-employee/5 million-square-foot semi-conductor equipment manufacturing facility in Austin, Texas. Upon completion of the EMS, the system was registered to ISO 14001, TCEQ, and the EPA. Project tasks included standard air permitting, management of permit-by-rule compliance, oil and storm water pollution prevention development, compliance management of air and industrial (hazardous and non-hazardous) waste programs, toxic release inventory, hazardous material management plan, wastewater, environmental risk evaluation, training program development, implementation of an environmental auditing program, and establishment of objectives and targets. The facility was the second in the state of Texas to be registered to all three standards simultaneously and was recognized at the TCEQ Trade Fair. Comparable EMS programs were implemented at Applied Materials' facility in Horsham, England.

Mr. Bayer served as task leader for implementing an EIMS based on Enviance software for the management of Title V air permit compliance programs at DuPont's Cooper River Facility in Charleston, South Carolina and the MMC facility in Mobile, Alabama. Mr. Bayer's role was to review permit requirements, facilitate compliance mapping practices, and evaluate reporting requirements for EIMS implementation.

Mr. Bayer managed EAs of EnCana's north and south Texas operations. Project tasks included the assessment of exploration and production sites for Waters of the United States, threatened/endangered species, and cultural resources; evaluation of approximately 200 acres for SPCC and stormwater BMPs; and compressor station air permitting. Others management tasks included ESAs, spill response, and preparation and submittal of environmental permit applications for state and federal agencies.

Mr. Bayer served as technical lead for the 400-mile East Tennessee Natural Gas Company Patriot Pipeline Project located in Tennessee, Virginia, and North Carolina. For the Federal Energy Regulatory Commission pipeline, tasks included literature review analysis, Waters of the United States assessments, threatened and endangered species assessments, multi-state agency correspondence, and report development.