Filing Receipt

Filing Date - 2024-10-04 02:48:48 PM

Control Number - 57115

Item Number - 4

PUC DOCKET NO. 57115

JOINT APPLICATION OF THE CITY OF SAN ANTONIO, ACTING BY AND THROUGH THE CITY PUBLIC SERVICE BOARD (CPS ENERGY), AND SOUTH TEXAS ELECTRIC COOPERATIVE (STEC) TO AMEND THEIR CERTIFICATES OF CONVENIENCE AND NECESSITY FOR THE PROPOSED HOWARD ROAD-TO-SAN MIGUEL 345 KV TRANSMISSION LINE IN BEXAR AND ATASCOSA COUNTIES	§	**PUBLIC UTILITY COMMISSION OF TEXAS**

DIRECT TESTIMONY AND EXHIBITS

OF

KENNETH BOWEN

ON BEHALF OF APPLICANTS

CPS ENERGY AND SOUTH TEXAS ELECTRIC COOPERATIVE, INC.

October 4, 2024

PUC DOCKET NO. 57115

DIRECT TESTIMONY AND EXHIBITS OF KENNETH BOWEN

TABLE OF CONTENTS

EXHIBITS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kenneth Bowen. My business address is 500 McCullough Avenue, San Antonio, Texas 78215.

Q. WHAT IS YOUR CURRENT OCCUPATION?

A. I am employed by CPS Energy, as Manager of Transmission Planning and Operations Engineering.

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

A. My educational and professional qualifications are outlined in Exhibit KB-1 attached to this testimony.

Q. PLEASE DESCRIBE YOUR JOB RESPONSIBILITIES.

A. I manage two departments at CPS Energy, Transmission Planning and Transmission Operations Engineering. My responsibilities with regard to Transmission Planning include ensuring engineering staff perform several functions that ensure the planning and construction of a reliable transmission system according to North American Electric Reliability Corporation (NERC) and Electric Reliability Council of Texas (ERCOT) planning standards in the near-term and long-term horizons. These functions include developing planning models for CPS Energy's portion of the ERCOT transmission grid, analyzing those models under regulatory standards, and determining optimal corrective action plans for observed criteria violations. Once optimal corrective action plans have been determined, I am responsible to ensure these plans are approved through necessary regulatory bodies and communicating these plans to internal departments at CPS Energy to ensure they are budgeted and constructed in a timely manner. Additionally, I am responsible for ensuring all interconnection request studies are performed to determine

system impacts of newly interconnected large load customers, new generation customers, as well as connection to other transmission service provider systems.

My responsibilities with regard to Transmission Operations Engineering includes ensuring engineering staff perform several functions, including ensuring the real-time transmission system is modeled in ERCOT and CPS Energy systems accurately for use in real-time system operations; performing studies for planned and emergency outages, including same-day, next-day, next-week, next-season, and up to one year out, to ensure CPS Energy System Operations and Outage Coordination departments have situational awareness for potential reliability concerns; and development of the CPS Energy Black Start Plan.

Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS (COMMISSION)?

A. Yes, I filed written direct testimony in PUC Docket No. 55728.

Q. WERE YOUR TESTIMONY AND THE PORTIONS OF THE APPLICATION YOU SPONSOR PREPARED BY YOU OR BY KNOWLEDGEABLE PERSONS UPON WHOSE EXPERTISE, JUDGMENT, AND OPINIONS YOU RELY IN PERFORMING YOUR DUTIES?

A. Yes, they were.

Q. IS THE INFORMATION CONTAINED IN YOUR TESTIMONY AND IN THE PORTIONS OF THE APPLICATION YOU SPONSOR TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE?

A. Yes, it is.

II. SCOPE AND PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to sponsor certain portions of CPS Energy's and STEC's joint application to amend their certificates of convenience and necessity (CCN) (the Joint Application) for the proposed Howard Road to San Miguel 345 kV Transmission Line Project in Bexar and Atascosa Counties (Project), including to describe and support:

1. The need for the 345 kV transmission line that is required to connect CPS Energy's existing Howard Road Station to STEC's existing San Miguel Station; and

2. The reasons why the Project is the best solution when compared to other project alternatives.

Q. WHAT PORTIONS OF THE JOINT APPLICATION DO YOU SPONSOR?

A. I sponsor the responses to Question Nos. 14, 15, and 16 in the Joint Application. I co-sponsor the response to Question Nos. 4 and 7 of the Joint Application with Mr. Scott Lyssy, Mr. Daniel Otto, and Mr. Paul Person, the response to Question No. 11 with Mr. Otto and Mr. Person, and the response to Question No. 17 with Mr. Lyssy, Mr. Otto, Mr. Person, and Ms. Denise Williams. Additionally, I sponsor Attachments Nos. 3a, 3b, 3c, 3d, 3e, 3f, and 3g to the Joint Application. I also co-sponsor with Mr. Lyssy, Mr. Otto, Mr. Person, and Ms. Williams, Section 1 of the *Howard Road to San Miguel Transmission Line Project Environmental Assessment and Alternative Route Analysis Bexar and Atascosa Counties* (EA), prepared by POWER Engineers, Inc., which is included as Attachment No. 1 to the Joint Application. Please refer to Exhibit DTO-5 to Mr. Otto's direct testimony for an overview of the sponsorship of the Joint Application in this case.

III. PROJECT NEED

Q. PLEASE DESCRIBE THE PROJECT.

A. CPS Energy and STEC are jointly proposing to construct, own, and operate a new double-circuit 345 kV transmission line and upgrade station facilities in Bexar and Atascosa Counties. The new proposed transmission line will connect the CPS Energy Howard Road Station currently under construction approximately three miles northeast of the intersection of State Highway (SH) 16 and SH 1604, to the existing STEC San Miguel Station located approximately four miles east of SH 16 and approximately 0.65 miles southwest of Farm-to-Market Road (FM) 3387. The new line will cross portions of southern Bexar County and nearly all of Atascosa County, from north to south, with the total length of the transmission line ranging between approximately 45 to 59 miles, depending on the route approved by the Commission.

Q. WHY IS THE PROJECT NEEDED?

A. As a result of (i) new generation additions in areas south of San Antonio, (ii) 345 kV projects planned for the Lower Rio Grande Valley area, and (iii) planned generation retirements in the San Antonio area, the Project is needed to address NERC Category P1 thermal overloads of the 345 kV J.K. Spruce to Pawnee transmission line. There are currently only two 345 kV transmission paths from South Texas into the San Antonio area. One of these paths from Pawnee interconnects with San Antonio in the southeast and is a single circuit with a total normal capacity of 1,077 megavolt-amperes (MVA). The other from San Miguel interconnects with San Antonio from the northeast and is a double circuit with a combined total normal capacity of 2,372 MVA. The Pawnee and San Miguel stations are approximately 50 miles south of San Antonio.

Beginning in 2027, the loss of the connection from San Miguel to northeast San Antonio is projected to cause the overload of the remaining single-circuit from Pawnee to southeast San Antonio. Construction of the Project will result in a third path from San Miguel interconnecting with San Antonio from the south.

The response to Questions Nos. 14 and 15 in the Joint Application and Attachment Nos. 3a, 3b, 3c, 3d, 3e, 3f, and 3g provide further information regarding the need for the Project.

Q. WAS THE PROJECT SUBMITTED FOR REVIEW BY ERCOT?

A. Yes. As addressed in response to Question No. 14 of the Joint Application, CPS Energy submitted the San Antonio South Reliability Project to the ERCOT Regional Planning Group (RPG) to address the critical transmission system needs I previously identified. See Attachment No. 3a to the Joint Application. Between January and June 2023, ERCOT staff evaluated and considered five options to address the identified need. See Attachment No. 3b to the Joint Application for the ERCOT staff scoping presentation. On June 23, 2023, ERCOT staff recommended Option 5 to the ERCOT RPG to address the need identified in the San Antonio South Reliability Project. Please refer to Attachment No. 3c to the Joint Application.

The ERCOT staff evaluation and recommended approval of Option 5 was presented to the ERCOT Technical Advisory Committee (TAC), and on July 25, 2023, TAC voted

unanimously to approve Option 5. See Joint Application Attachment No. 3d, which is the TAC meeting minutes and TAC combined ballot.

On August 31, 2023, the ERCOT Board of Directors considered the Project. See Joint Application Attachment No. 3e, which is the ERCOT Board Meeting notes concerning the Project. The ERCOT Board voted unanimously to approve the recommendation of ERCOT staff and TAC to endorse the need for the Tier 1 CPS Energy – San Antonio South Reliability Project in order to meet the reliability requirements of the ERCOT system. See Attachment Nos. 3f and 3g to the Joint Application, which are the ERCOT Board meeting minutes from August 31, 2023 and the ERCOT endorsement letter for the Project.

The Project was included as a component of the ERCOT Board of Directors approval and designated as critical to the reliability of the ERCOT system pursuant to 16 Texas Administrative Code (TAC) § 25.101(b)(3)(D). See Attachment No. 3f.

Q. PLEASE DESCRIBE THE EXISTING ELECTRIC SYSTEM TOPOLOGY IN THE AREA OF THE PROJECT.

A. Figure 1.1 in Attachment No. 3c to the Joint Application (page 5) provides an illustration of the existing transmission system in the area.

Q. WHAT ALTERNATIVES TO THE PROJECT HAVE BEEN CONSIDERED?

A. Multiple alternatives to the Project have been considered and evaluated by CPS Energy and ERCOT staff. The response to Question No. 15 of the Joint Application describes the alternative options to the Project that have been considered and evaluated. See also Joint Application Attachment No. 3c.

ERCOT staff fully evaluated five system-improvement options to address the thermal overloads that were identified as part of the San Antonio South Reliability Project. All five options resolved the identified thermal overloads; however, ERCOT staff ultimately determined that Option 5 (which includes the Project), improves long-term load serving capability, performance in the summer peak operations case sensitivity, and operational flexibility. TAC and the ERCOT Board of Directors also reviewed and considered the alternative options and both unanimously approved Option 5 as the best

option to address the identified system needs. See Joint Application Attachment Nos. 3d and 3f.

Q. DO ALL OF THE ROUTING OPTIONS PROPOSED IN THE JOINT APPLICATION ADDRESS THE NEED FOR THE PROJECT?

A. Yes, any forward progressing combination of the 109 route segments presented in the Joint Application will address the need for the Project.

Q. DOES THE PROJECT COMPLY WITH PUC, ERCOT, AND NERC TRANSMISSION PLANNING REQUIREMENTS?

A. Yes, the Project complies with all applicable PUC, ERCOT, and NERC transmission system planning requirements.

IV. PROJECT COMPLIANCE WITH PURA AND OTHER CRITERIA CONSIDERED BY THE COMMISSION

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS IN THIS PROCEEDING.

A. The Project is needed to provide adequate service in accordance with CPS Energy and STEC standard planning criteria and good utility practice as well as state and federal electric service reliability standards. The Project is necessary for the service, accommodation, convenience, and safety of the public, and the Project is also the best option to address the thermal overloads on the 345 kV J.K. Spruce to Pawnee transmission line when compared to other solutions, including employing distribution facilities.

Q. PLEASE SUMMARIZE THE STATE OF SERVICE WITHOUT THE PROJECT.

A. Transmission improvements are needed to address the thermal overloads that were identified on the 345 kV J.K. Spruce to Pawnee transmission line as part of the San Antonio South Reliability Project. Absent the Project, CPS Energy's and STEC's ability to reliably deliver electricity in South Texas would come at a significantly increased cost and the existing distribution infrastructure is not able to provide adequate service. Therefore, the Project is necessary to ensure the long-term reliability standards and expectations of CPS Energy, STEC, their customers, ERCOT, and the Commission.

Q. WILL CONSTRUCTION OF THE PROJECT RESULT IN IMPROVED SERVICE OR LOWER COSTS TO ELECTRIC SERVICE CUSTOMERS?

A. Yes, as described in response to Question No. 14 of the Joint Application and in Attachment No. 3c, the Project will result in improved service to CPS Energy's and STEC's electric service customers. Without the Project, CPS Energy and STEC cannot address the thermal overloads that have been identified on the 345 kV J.K. Spruce to Pawnee transmission line. The Project will also ensure CPS Energy and STEC have sufficient capacity to provide service to both new and existing customers throughout Bexar and Atascosa Counties.

Q. WHAT WILL BE THE EFFECT ON CPS ENERGY, STEC, AND OTHER UTILITIES IN THE AREA IF THE PROJECT IS BUILT?

A. The Project will significantly improve CPS Energy's and STEC's ability to provide reliable electric delivery service. Because the Project connects into CPS Energy's Howard Road Station, which is currently under construction, and STEC's existing San Miguel Station, the Project will significantly improve the reliability and resilience of the interconnected transmission grid in the area of the Project and will improve the reliability of all other municipally-owned utilities, electric cooperatives, and investor owned utilities in the area of the Project.

Q. DO THE PROPOSED ROUTING ALTERNATIVES INCLUDED IN THE JOINT APPLICATION ADEQUATELY CONSIDER ELECTRICAL EFFICIENCY AND RELIABILITY?

A. Yes, the alternative routes and the endpoints associated with the Project will provide for immediate efficiency and reliability benefits to CPS Energy, STEC, and their customers. Performance of the proposed routing alternatives was determined using applicable NERC Reliability Standards and Transmission Planning Criteria for ERCOT, CPS Energy, and STEC.

Q. DID CPS ENERGY AND STEC CONSIDER DISTRIBUTION ALTERNATIVES TO THE PROJECT?

A. No, distribution alternatives were not identified because the distribution system is not capable of addressing the thermal overloads discussed in detail above. As a result,

distribution alternatives cannot address the need upon which the Project, and the larger San Antonio South Reliability Project, is designed to address.

Q. DID CPS ENERGY AND STEC CONSIDER DISTRIBUTED GENERATION AS AN ALTERNATIVE TO THE PROJECT?

A. No. The San Antonio South Reliability Project is needed to meet reliability under both the NERC Transmission Planning standards and the ERCOT Planning Guide. Distributed generation would not be capable of addressing the thermal and voltage violations that the Project is designed to address.

Q. IS THE PROJECT THE BEST ALTERNATIVE TAKING INTO ACCOUNT CONSIDERATIONS OF EFFICIENCY, RELIABILITY, AND COST BENEFITS?

A. Yes, the Project is the best alternative because it addresses the thermal violations discussed in detail above while introducing no new reliability issues, improves the long-term load serving capability throughout the greater San Antonio area, improves performance in the summer peak operations case sensitivity, improves operational flexibility, and provides a new transmission path from South Texas to the San Antonio area while also having the lowest estimated cost of the options evaluated to address the area transmission needs.

Q. IF THE COMMISSION ISSUES A FINAL ORDER APPROVING THE PROJECT, ARE YOU PRESENTLY AWARE OF ANY CIRCUMSTANCE THAT WOULD WARRANT THE EXTENSION OF THE SEVEN-YEAR DEFAULT PERIOD FOR WHICH SUCH AUTHORITY WOULD REMAIN IN EFFECT?

A. No, not at this time.

V. SUMMARY AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. ERCOT studied several options and recommends the Project to improve long-term load serving capability, operational flexibility, and provide an additional transfer path from South Texas into the San Antonio area. The purpose and need for the Project has been studied and evaluated extensively by transmission professionals at CPS Energy and STEC

and ERCOT has designated the Project as critical to the reliability of the ERCOT System pursuant to 16 TAC § 25.101(b)(3)(D).

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

KENNETH BOWEN P.E.

PROFILE

Hard working leader with focus on maximizing employee engagement and productivity through continual process improvement, strategic planning and innovation. Drawing upon my experience with long-term planning, operational planning, system protection, real-time systems, process development, and knowledge of NERC Standards and ERCOT Protocols, I am able to manage available staff and technology to take on new and challenging tasks.

CONTACT

Office 210–353–4142
Mobile 210–288–5437
Email kbowen@cpsenergy.com

PROFESSIONAL DEVELOPMENT

- APPA Public Power Manager Certificate Program (2022)
- TSDOS Advisory Board Member (2021-2023)
- CPS Energy Office Manager Development Program (2021)
- People First Leadership Training
- Six Sigma Yellow Belt
- City South Leadership Academy

TOP FIVE STRENGTHS

- Achiever: Satisfaction in productivity
- Learner: Desires continuous improvement
- Strategic: Finds alternative solutions
- Belief: Has strong core values
- Relator: Inspires collaboration

EDUCATION AND PROFESSIONAL LICENSURE

University of Texas at San Antonio Dec 1999
Bachelor of Science in Electrical Engineering

Professional Engineer in State of Texas June 2006
License #97257

WORK EXPERIENCE

CPS Energy Manager Transmission Planning and Operations Engineering
May 2018–Present
Currently managing the Transmission Planning and Operations Engineering departments in support of real-time operations and long-term planning. Responsibilities include employee development, employee engagement and safety, cost-center budgeting, managing and improving processes, developing near and long-term system assessments, maintaining NERC Compliance and representing CPS Energy as a voting member of the ERCOT Reliability and Operations Subcommittee.

CPS Energy Senior Engineer Transmission Planning
Sep 2005–May 2018
Responsible for long-term system planning and reaching compliance goals and deadlines through improved processes and documentation and through coordination of annual studies. Participated in development of policies through involvement in the ERCOT Planning Working Group. Performed interconnection studies and developed Interconnection Agreements for interconnection of generation, end-use customers and neighboring Transmission Service Providers.

CPS Energy T&D Engineer 2 System Protection
Nov 2001–Sep 2005
Performed acceptance and commissioning of protection equipment, including adjusting protection device settings (relays) and testing of protection schemes at new and existing transmission and generation facilities without supervision. I reviewed and corrected schematics. On-call monthly to respond to forced outage conditions in the transmission system which involved quick decision making to correctly diagnose issues and restore equipment in a timely manner.

UTSA Graduate Research Assistant
Jan 2001–May 2001
While taking graduate courses, I worked on research under supervision of a professor. Research focus was on branch prediction techniques used in computer architecture, including performance gain techniques and focus on alias reduction.

Motorola Production Supervisor
Jan 2000–Jan 2001
I supervised thirty machine operators and was responsible for six manufacturing lines. My primary responsibilities included employee development, goal-setting, performance evaluations and conflict resolution. Communication was essential from the lowest level employee to upper management in meeting daily production goals and escalating daily issues to appropriate engineering staff and management.