



IN THE MATTER OF THE
APPLICATION OF PUBLIC SERVICE
COMPANY OF COLORADO FOR A
CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY
FOR THE MIDWAY - WATERTON
345KV TRANSMISSION PROJECT

DOCKET NO: 07A-____E

DIRECT TESTIMONY
AND EXHIBITS

May 1, 2007

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

IN THE MATTER OF THE APPLICATION OF)	
PUBLIC SERVICE COMPANY OF)	
COLORADO FOR A CERTIFICATE OF)	
PUBLIC CONVENIENCE AND NECESSITY)	DOCKET NO.
FOR THE MIDWAY - WATERTON 345KV)	
TRANSMISSION PROJECT)	

**VERIFIED APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
WITH SPECIFIC FINDINGS WITH RESPECT TO
ELECTROMAGNETIC FIELDS AND NOISE**

Pursuant to § 40-5-101, C.R.S., and Rules 3002(a)(III) and 3102 of the Commission's Rules Regulating Electric Utilities, 4 CCR 723-3, Public Service Company of Colorado ("Public Service" or the "Company"), hereby respectfully requests a certificate of public convenience and necessity ("CPCN") authorizing it to construct the Midway – Waterton 345kV Transmission Project ("Midway – Waterton Project" or the "Project"). The Project will establish a 345kV transmission circuit from Midway Substation to Waterton Substation in order to accommodate planned new generation that will interconnect with the Company's bulk transmission system north of the Midway Substation. For the Southern Section of the Project, the Company seeks authorization to operate at 345kV the east circuit of the double circuit 345kV capable transmission to be rebuilt from Midway to Daniels Park as part of the Comanche - Daniels Park Transmission Project approved in Docket No. 05A-072E. This circuit will then connect to one of the 345kV circuits of the double circuit 345kV transmission facilities the Company is proposing to be constructed as part of the Northern Section of the Project. For the reasons expressed in this Application,

Public Service further requests that in granting the CPCN, the Commission make specific findings with respect to the reasonableness of the projected Electromagnetic Fields ("EMF") and the reasonableness of the projected noise levels that the Company estimates will result from operation of the Northern Section the Midway - Waterton Project.¹

DIRECT TESTIMONY AND EXHIBITS

Public Service is submitting, with this Application, testimony and exhibits from the following witnesses:

Gerry Stellern, Manager, Transmission Reliability and Assessment, Public Service Company of Colorado ("Public Service Company" or "Company"), describes the Midway - Waterton Project and the process Public Service used to evaluate the transmission facilities necessary to accommodate Squirrel Creek Energy Center. Mr. Stellern also explains why the Company requires specific findings regarding the reasonableness of projected noise and Electromagnetic Fields ("EMF") levels for the Northern Section and provides the costs and the timeline associated with the proposed Project.

Thomas Green, Principal Transmission Planning Engineer, Public Service Company, addresses the need for the Project. He presents the Company's Transmission Study Report, which sets forth the Company's evaluation of several transmission system alternatives to accommodate the power injection from the Squirrel Creek Energy Center. Mr. Green explains why the Company's proposed

¹ As described *infra* at Paragraph 11, the Midway – Waterton Project consists of a Southern and a Northern Section. The Commission previously approved, as reasonable, projected noise and EMF levels expected as a result of operation of the Southern Section of the Project as part of its decision

Project is the best alternative transmission solution to accommodate the new generation being constructed at the Squirrel Creek Energy Center.

Danny Pearson, Principal Design Engineer, Transmission Engineering, Xcel Energy Service Inc., describes the design of the transmission structures selected by the Company for rebuilding the Northern Section between Daniels Park and Waterton Substations, the projected Electromagnetic Fields ("EMFs") and noise levels from the Northern Section of the Project, the prudent avoidance techniques the Company proposes to minimize EMF levels, and the reasonable techniques the Company proposes to mitigate audible noise.

Anne MacRae, Principal Agent, Siting and Land Rights, Public Service Company, describes the processes that the Company will employ to obtain the land rights and local permits necessary to construct the Project.

INFORMATION REQUIRED BY RULE 3002(b) AND (c).

1. **Name and Address of Applicant.** The Applicant is Public Service Company of Colorado. Public Service's principal office is located at 1225 Seventeenth Street, Suite 1000, Denver, Colorado 80202. Public Service is a Colorado corporation.

2. **Name Under Which Applicant will Provide Service in Colorado.** All operations conducted by Public Service under the CPCN sought by this Application shall be conducted under the name of Public Service Company of Colorado.

3. **Representatives to Whom Inquiries Concerning the Application**

Should be Made. Copies of all notices, other correspondence, and all inquiries

concerning this Application should be sent to:

Roy Palmer, Executive Director, State Public Affairs
Xcel Energy Services Inc.
1225 Seventeenth Street
Suite 1000
Denver, Colorado 80202
(303) 294-2180

and

Ann E. Hopfenbeck
Ducker, Montgomery, Aronstein & Bess, P.C.
C/o Xcel Energy Services, Inc.
1225 17th Street, Suite 900
Denver, CO 80202
(303) 294-2059
ann.e.hopfenbeck@xcelenergy.com
ahopfenbeck@duckerlaw.com

4. **Agreement to Comply with 4 CCR 723-3002(b)(IV)-(VI).** Public

Service has read, and agrees to abide by, the provisions of 4 CCR 723-3002(b)(IV)-(VI), 4002(b)(IV-VI), 8002(b)(IV)-(VI).

5. **Description of Existing Operations and General Colorado Service**

Area. Public Service provides electric and gas public utility service in numerous areas throughout the State of Colorado. The Company also provides steam utility service within the downtown area of Denver. A full listing of Public Service's existing operations and service area is set forth in Public Service's tariffs on file with the Commission.

6. **Location of Hearing.** If a hearing is held on this Application, Public Service prefers that the hearing be held at the Commission's offices in Denver, Colorado.

7. **Acknowledgment.** Public Service has read and agrees to abide by the provisions of 4 CCR 723-3002(b)(XI)(A)-(C), 4002(b)(XI)(A)-(C), and 8002(b)(XI)(A)-(C).

8. **Statement Under Oath.** An affidavit signed by an agent of the Company verifying that the contents of the Application are true, accurate, and correct is attached hereto as Exhibit 1. Exhibit 1 contains the name, title and the complete address of the affiant, as required by Commission rules.

9. **Information Required by Rule 3002(b)(IX) and (c).** Public Service hereby incorporates by reference the following information, which is on file with the Commission in Docket No. 06M-525EG:

a. A copy of Public Service's Amended Articles of Incorporation, which was last filed on October 3, 2006;

b. The name, business address and title of each of Public Service's officers and directors, which was last filed on April 24, 2007;

c. The names and addresses of affiliated companies that conduct business with Public Service, which was last filed on March 5, 2007;

d. The name and address of Public Service's agent for service of process, which was last filed on October 3, 2006.

e. A copy of Public Service's most recent audited balance sheet, income statement, and statement of retained earnings was last filed on April 2, 2007.

INFORMATION REQUIRED BY RULE 3102.

10. **Facts Relied Upon to Show the Public Convenience and Necessity Require Granting this Application.** The Midway – Waterton Project is being proposed in order to accommodate 500 MW of new generation capacity known as the Squirrel Creek Energy Center (“Squirrel Creek”) that was selected to fulfill a portion of the resource need determined as part of the Company’s 2003 Least Cost Plan. Squirrel Creek will be located approximately six miles northeast of the Company’s Midway Substation and will interconnect the double circuit 345kV capable transmission line to be constructed on the east side of the Front Range Corridor as part of the Comanche – Daniels Park Transmission Project approved in Docket No. 05A-072E. Public Service witness Mr. Green sponsors Exhibit No. TG-1, the Transmission Study Report that establishes that the transmission facilities currently in-service, or approved for construction, are insufficient to reliably accommodate the additional injection of electric power from the Squirrel Creek Energy Center.

Although the primary purpose of the Project is to accommodate the injection of approximately 500 MW of generation from the planned Squirrel Creek generating facility, while avoiding overloads on the Colorado Springs Utilities network and the transmission north of Daniels Park, Mr. Green also shows that the Project will provide additional operational flexibility and increase the reliability of the regional network in Southern Colorado.

11. **Description of the Proposed Facilities to Be Constructed.** The Midway – Waterton Project can be described in two sections: the “Southern

Section”, which includes the circuit to be operated at 345kV from the Midway Substation to just outside of the Daniels Park Substation, and the “Northern Section” which includes upgrades between Daniels Park and Waterton Substations. In total the Project consists of the following:

- The Southern Section consists of approximately 73-miles, or 90% of the total project length running from Midway Substation to just outside of the Daniels Park Substation. For the Southern Section, the east circuit of a double-circuit 345kV capable transmission facility to be rebuilt as part of the previously approved Comanche – Daniels Park Transmission Project will be operated at 345kV. Only minor changes have to be made to the design of the planned transmission in that section in order to interconnect the east circuit with the 345kV additions at Midway, and tie into the Northern Section of the project.
- The Northern Section is approximately 9 miles, or 10% of the total project length, running from Daniels Park Substation to Waterton Substation. The Northern Section consists of terminating the existing Daniels Park to Tarryall 230kV line at the Waterton Substation. The Daniels Park – Waterton single-circuit 230kV transmission line will then be rebuilt to double-circuit 345kV capable transmission. The northern circuit of the new double-circuit transmission between Waterton and Daniels Park Substation will operate at 230kV and terminate at both Daniels Park and Waterton Substations. The southern circuit of this new double-circuit transmission will operate at 345kV, and will connect

to the Southern Section described above to create the Midway – Waterton 345kV circuit.

- The Midway – Waterton 345kV transmission will connect to the Midway and Waterton Substations using single 560 MVA 345/230kV autotransformers at each substation.
- Two (2) 100 MVA 230/115kV autotransformers will be replaced at Waterton Substation with two (2) 280 MVA units.

More details regarding the proposed Project are set forth in the Company's testimony and exhibits that are being filed contemporaneously with this Application.

12. **Project Cost.** The Project is currently estimated to cost approximately \$30 million. The Company's estimate is expressed in 2007 dollars and is a high-level scoping estimate; the Company anticipates that final costs will be within +/- 30% of this estimate.

13. **Schedule for Construction.** Public Service has developed a time schedule to construct the Project to have it in-service by May 2010. The detailed time schedule is set forth in the Direct Testimony of Gerry Stellern at page 14.

14. **Maps and Electric One-Line Diagrams.** Maps showing the location where the facilities will be constructed, population centers, major highways and county and state boundaries as well as electric one-line diagrams are attached to the Direct Testimony of Gerry Stellern as Exhibit Nos. GS-1 through GS-4.

15. **Alternatives Studied.** The Transmission Study Report submitted as Exhibit No. TG-1 to the Direct Testimony of Thomas Green and Mr. Green's Direct Testimony describes Public Service's evaluation of the system alternatives for

accommodating the generation of the Squirrel Creek Energy Center and the criteria used to rank or eliminate alternatives.

16. **Prudent Avoidance of EMF and Mitigation of Audible Noise.**

Public Service respectfully requests that in granting the CPCN the Commission make specific findings as to the reasonableness of the noise and EMF levels that the Company projects will result from the operation of the Northern Section of the Midway - Waterton Project. In his Direct Testimony and Exhibits, Mr. Pearson projects the noise and EMF levels that can be expected from the proposed Project design for the Northern Section as well as three other design alternatives. He discusses the cost-effective techniques the Company proposes to mitigate noise and the prudent avoidance techniques to minimize the levels of EMF associated with this Project. Specifically, Mr. Pearson shows in his Exhibit No. DJP-2 that the audible noise at the southern and northern edges of the right-of-way for the Company's preferred design (Case No. 4) is 49.8 and 50.1 dB(A) respectively. The Company requests that the Commission specifically approve the Company's preferred design which is represented by Case No. 4 presented by Mr. Pearson. The Company also requests that the Commission find that these noise levels, which are quantified on Mr. Pearson's Exhibit No. DJP-2, are reasonable.

Mr. Pearson also presents the EMF model results for Case No. 4, the Company's preferred design. His Exhibit No. DJP-3 shows that EMF levels for the Northern Section of the Project will be only slightly higher than the levels that exist today. The Company requests that the Commission specifically find that the EMF levels reflected on Exhibit DJP-4 for Case No. 4 are also reasonable.

Public Service makes this request for specific findings because of two relatively recent legal developments. The first development is a law enacted in 2004 and codified as C.R.S. §25-12-103 (12). This law allows the Commission to determine, when reviewing utility applications for certificates of public convenience and necessity, whether projected noise levels for electric transmission lines are reasonable, notwithstanding the maximum permissible noise levels otherwise established under Colorado law for various “zones”. The General Assembly authorized the Commission to make this determination because, as set forth in the legislative declaration of the statute, “electric transmission facilities are linear and may pass through several local jurisdictions and zoning districts including residential, commercial, light industrial and industrial.” The General Assembly expressed concern that there was “considerable uncertainty” as to how the noise abatement levels would apply to such a linear facility, and expressed concern that there was a need to “have an adequate, reliable, and cost-effective electricity infrastructure to serve the needs of the people of Colorado for their homes, businesses, and industries.” Further, to avoid inconsistent local laws addressing noise, the General Assembly found that “statewide noise standards need to be determined and applied to electric transmission facilities” by this Commission. Commission determinations under this statute preempt more restrictive local laws and civil actions based upon transmission line noise.

In other words, the General Assembly has charged this Commission, and not local governments or the courts, with making the public interest determination as to how transmission lines should be designed and how much money should be spent

to mitigate projected noise levels. Public Service needs the certainty of a Commission determination of reasonable noise levels before finalizing the design and undertaking the construction of the Project.

In order for the Commission to have before it the evidence it requires to make the determination of reasonable noise levels, Public Service is presenting testimony and exhibits of Mr. Pearson providing all of the information regarding noise levels and actions and techniques employed to mitigate noise that is required by Rule 3102(c) of the Commission's Rules Regulating Electric Utilities. Mr. Pearson presents four design cases for the Northern Section of the Midway – Waterton Project. He explains why the Company's proposed Project is the most cost effective solution and why the noise levels should be determined by the Commission to be reasonable.

The second legal development that led to Public Service's request for specific findings with respect to the reasonableness of both the projected EMF and the projected noise levels from the Midway - Waterton Project is the ruling by the Colorado Supreme Court in the case of *Public Service Company of Colorado v. Van Wyk*, 27 P.3d 377, 393 (Colo. 2001). In that case, the Court ruled that the plaintiffs could maintain a claim against Public Service for intentional nuisance as a result of EMF and noise from the continued operation of a 230kV transmission line that is adjacent to their property, despite the fact that the Commission had granted Public Service a CPCN for the construction and operation of the transmission line. The Court found that the intentional nuisance action could be maintained because there had been no finding of fact by the Commission, in granting the CPCN, quantifying

the reasonable level of EMF and noise expected in connection with operation of the transmission line.

Public Service does not wish to intentionally create a nuisance in constructing or operating its transmission facilities. Nor does the Company want to construct a transmission line that will subject the Company to future lawsuits that complain of nuisance. In order to create an intentional nuisance, the Company must take an act that is unreasonable in relation to the property owner's use and enjoyment of the land. The Colorado Supreme Court ruled in the *Van Wyk* case that the PUC could determine the reasonableness of the Company's actions, if the Commission would quantify the level of EMF and noise that the Commission considers to be reasonable in connection with the proposed transmission line.

In sum, the Company requests that the Commission review the evidence presented by Mr. Pearson and find that the EMF and noise levels quantified in his testimony and exhibits are reasonable. Public Service requests that the Commission specifically find that the public convenience and necessity require the construction and operation of the Midway - Waterton Project as proposed by the Company with these EMF and noise levels.

The Commission has made findings that the projected EMF and noise levels were reasonable for Public Service transmission facilities in the following dockets: Denver Terminal-Dakota-Arapahoe 230kV Transmission Line, Docket No. 03A-265E; the Chambers 230/115kV Transmission Intertie Project, Docket No. 03A-329E; Midway-Daniels Park Transmission Rebuild Project, Docket No. 03A-276E, and the Comanche – Daniels Park Transmission Project, Docket No. 05A-072E.

CONCLUSION

17. As demonstrated by the Company's direct testimony and exhibits, the Company's proposed Project is the lowest cost transmission system alternative that meets all of the Company's objectives, including fully accommodating new generation in the southern Colorado system; not interfering with existing electric systems of other utilities; making practical use of existing transmission facilities and corridors, thereby minimizing environmental impacts; emitting reasonable levels of EMF and noise; and providing for additional capacity and flexibility in the Northern Section that will accommodate longer range planning needs. For all these reasons, the Company's proposed Project is the most cost-effective transmission alternative available to the Company.

Request That Application Be Granted Without Hearing if Not Contested.

18. Public Service respectfully requests, if this Application is not contested, that it be granted without hearing, under the Commission's modified procedure under Rule 1403. Whether the Application is granted with or without hearing, Public Service requests that the specific findings with respect to EMF and noise be included in the Commission's order granting the CPCN.

WHEREFORE, Public Service Company of Colorado respectfully requests that the Commission to grant it a certificate of public convenience and necessity for the Midway - Waterton 345kV Transmission Project and that the Commission make specific findings with respect to the reasonableness of the projected noise and EMF levels for this Project.

Dated this 1st day of May , 2007.

Respectfully submitted,

By:


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ATTORNEY FOR PUBLIC SERVICE COMPANY
OF COLORADO

VERIFICATION

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The undersigned, being under oath, says that he is Manager, Transmission Reliability and Assessment for Public Service Company of Colorado. The undersigned further says that he has reviewed the Application and the supporting documentation and has knowledge of the factual matters set forth therein. Under penalty of perjury the undersigned declares that all statements made in the Application and supporting documents are true and complete to the best of his knowledge. The undersigned understands that any statement made in violation of this oath shall constitute grounds for dismissal of the Application or revocation of any authority granted.

Geny Steel

Gerry Stellern
Manager, Transmission Reliability and
Assessment

Subscribed and sworn to before me this
30th day of April 2007

Scheana D. Wright
Notary Public

Notary Public

My commission expires: 4/28/2009



CERTIFICATE OF SERVICE

I hereby certify that on this 1st day of May 2007, the original and ten (10) copies of the foregoing **“IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE MIDWAY – WATERTON 345KV TRANSMISSION PROJECT”** were hand delivered to:

Doug Dean, Director
Colorado Public Utilities Commission
1560 Broadway, Suite 250
Denver, CO 80202

and a copy was hand delivered to:

James Greenwood
Director, Office of Consumer Counsel
1580 Logan Street, Suite 740
Denver, CO 80203

and a copy was delivered via U.S. Mail to:

Bill Vidal
Manager of Public Works
201 W. Colfax, Dept. 608
Denver CO 80202

Ken Rowberg
El Paso County Planning Director
27E. Vermijo Avenue
Colorado Springs, CO 80903

Betty Allen
Assistant Director Of Planning
Douglas County
100 3rd Street
Castle Rock, CO 80104

A handwritten signature in black ink, appearing to read "William A. Hight", is written over a horizontal line.