

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN )  
PUBLIC SERVICE COMPANY'S )  
APPLICATION FOR EXPEDITED: (1) )  
ISSUANCE OF A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY )  
AUTHORIZING CONSTRUCTION AND )  
OPERATION OF A 345 KV TRANSMISSION )  
LINE AND ASSOCIATED FACILITIES IN )  
EDDY AND LEA COUNTIES, NEW MEXICO; ) CASE NO. 14-\_\_\_\_-UT  
(2) APPROVAL OF THE LOCATION OF THE )  
345 KV TRANSMISSION LINE; (3) )  
DETERMINATION OF RIGHT OF WAY )  
WIDTH AND (4) AUTHORIZING ACCRUAL )  
OF AN ALLOWANCE FOR FUNDS USED )  
DURING CONSTRUCTION FOR THE )  
TRANSMISSION LINE AND ASSOCIATED )  
FACILITIES, )  
SOUTHWESTERN PUBLIC SERVICE )  
COMPANY, )  
APPLICANT. )

DIRECT TESTIMONY

*of*

HOWARD C. HIGGINS

*on behalf of*

SOUTHWESTERN PUBLIC SERVICE COMPANY

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## **GLOSSARY OF ACRONYMS AND DEFINED TERMS**

<b>Acronym/Defined Term</b>	<b>Meaning</b>
BLM	United States Bureau of Land Management
CCN	Certificate of Public Convenience and Necessity
Commission	New Mexico Public Regulation Commission
Environmental Assessment	Environmental Assessment for the Proposed Project
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
kV	kilovolt
NMSLO	New Mexico State Lands Office
Proposed Project	345 kV transmission line and associated substation facilities in Eddy and Lea Counties, New Mexico
ROW	right-of-way
SPS	Southwestern Public Service Company, a New Mexico corporation
TRC	TRC Environmental Corporation
Xcel Energy	Xcel Energy Inc.

## **LIST OF ATTACHMENTS**

<b>Attachment</b>	<b>Description</b>
HCH-1(CD)	Environmental Assessment: SPS Potash Junction Substation to Roadrunner Substation Connection Point, 345 kV Transmission Line in Eddy and Lea Counties, New Mexico <i>(provided on CD in electronic format)</i>

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1                   **I. WITNESS IDENTIFICATION AND QUALIFICATIONS**

2   **Q.    Please state your name and business address.**

3   **A.    My name is Howard C. Higgins, and my business address is 4221-A Balloon Park**  
4           Road NE, Albuquerque, New Mexico.

5   **Q.    On whose behalf are you testifying in this proceeding?**

6   **A.    I am filing testimony on behalf of Southwestern Public Service Company**  
7           ("SPS"), a New Mexico corporation, and wholly-owned subsidiary of Xcel  
8           Energy Inc. ("Xcel Energy"). Xcel Energy is a registered holding company and  
9           owns several electric and natural gas utility operating companies.<sup>1</sup>

10   **Q.   By whom are you employed and in what position?**

11   **A.    I am employed by TRC Environmental Corporation ("TRC") as Vice President**  
12           and Principal Consultant.

13

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<sup>1</sup> Xcel Energy is the parent company of the following four wholly owned utility operating companies: Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation; and SPS, a New Mexico corporation. Xcel Energy's natural gas pipeline subsidiary is WestGas InterState, Inc.

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1   **Q.   Please briefly outline your responsibilities as Vice President and Principal**  
2       **Consultant.**

3   A.   As Vice President and Principal Consultant for TRC, my responsibilities include  
4       overseeing all work performed by a team of professionals in the completion of the  
5       *Environmental Analysis for the SPS existing Potash Junction Substation to the*  
6       *new Roadrunner Substation Connection Point, 345 kV Transmission Line in Eddy*  
7       *and Lea Counties, New Mexico* ("Environmental Assessment") prepared by TRC  
8       at the request of SPS. This includes the selection of the team of TRC  
9       professionals assigned to the project, field review of proposed routes, oversight of  
10      data collection activities, and assistance with the compilation and review of the  
11      Environmental Assessment.

12   **Q.   Please describe your educational background.**

13   A.   In 1972, I received my Bachelor of Arts degree in Comparative Religion from  
14       Princeton University. In 1975, I received my Master of Arts degree in  
15       Anthropology from the University of New Mexico. I received my Ph.D. in  
16       Anthropology from the University of New Mexico in 1982.

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1   **Q.   Please describe your professional experience.**

2   A.   Since 1974, I have conducted environmental technical studies, assisted with  
3       environmental permitting, and conducted environmental projects for the United  
4       States and Canadian governments, federal and state agencies, municipalities,  
5       private companies, and utilities. Projects have included transmission lines,  
6       substation and generation facilities, mines, pipelines, fiber optic lines, housing  
7       developments, and a variety of other types of undertakings. I have been involved  
8       in transmission line routing studies since 1995, and I have managed or provided  
9       oversight on over 30 projects. The transmission line projects I have managed  
10      ranged in size from 69 kilovolts ("kV") to 345 kV, and have ranged in length  
11      from one mile to 180 miles.

12   **Q.   Have you testified before any regulatory authorities?**

13   A.   Yes, I have previously testified before the New Mexico Public Regulation  
14       Commission ("Commission") and the Public Utility Commission of Texas , where  
15       I have presented environmental assessments, biological evaluations, and cultural  
16       resource surveys for transmission line projects in SPS's New Mexico and Texas  
17       service areas.

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1                   **II.   ASSIGNMENT AND RECOMMENDATIONS**

2   **Q.    What is your assignment in this proceeding?**

3   A.    I will discuss the environmental, biological, and cultural resource impacts related  
4           to SPS's request for a certificate of public convenience and necessity ("CCN"),  
5           and its request for location approval of the proposed 345 kV transmission line and  
6           associated facilities to be constructed in Eddy and Lea Counties ("Proposed  
7           Project"). I will also discuss the permits required from the United States Bureau  
8           of Land Management ("BLM") and New Mexico State Lands Office  
9           ("NMSLO").

10   **Q.    Please summarize your testimony.**

11   A.    The Environmental Assessment prepared for the Proposed Project indicates that  
12           the impacts associated with the construction of the transmission line and  
13           associated facilities within either the proposed or alternative routes will be within  
14           the acceptable range for facilities of this type, it will have minimal environmental  
15           impact, and it will not unduly impair important environmental values.  
16           Construction will have short-term low level impacts to air due to the emissions  
17           from and particulates associated with vehicles. There will be a minor amount of  
18           rangeland in the footprints of the structures removed from production. There will



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1 be the addition to the view shed of a new visual element due to the transmission  
2 line itself.

3 **Q. Please generally describe the Environmental Assessment.**

4 A. The Environmental Assessment evaluates the impact of the Proposed Project on  
5 the cultural, biological, geological, water and visual resources located in the study  
6 area. The Proposed Project might possibly affect previously unknown cultural  
7 resources in the study area. However, a 100 percent pedestrian survey of the  
8 proposed right-of-way ("ROW") has been completed by trained archaeologists.  
9 This survey identified eight cultural resource sites along the route, of which only  
10 two were considered to be eligible to the National Register of Historic Places, and  
11 thus having archaeological importance. "Avoidance by design" has been  
12 implemented for these two cultural resources that were considered important to  
13 the land management agencies (that is avoidance through design of the pole  
14 placement so as to avoid any such resources). Because of this avoidance there  
15 will be no significant effect upon cultural resources from construction of the  
16 project.

17 The effect upon sensitive biological species, most notably a particular  
18 species of cacti and raptor nests, has been similarly dealt with. As with the

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1 cultural resources, a biological survey was conducted, and the small biological  
2 locations of sensitive species found will be "avoided by design." The effects on  
3 mineral resources (especially potash), are expected to be minimal as the  
4 transmission line and facility locations have been designed to avoid these  
5 resources. No effects are expected on paleontology, although the proposed route  
6 crosses Nash Draw, where three known sources of paleontological material are  
7 located. These three known locations are respectively approximately 1.56, 10.1  
8 and over 30 miles from the transmission line. The closest location is the Nash  
9 Draw, UTEP Site 112. This location is due east of the route, and will be avoided  
10 by the Proposed Project. There will also be no effect on climate or wetlands.

11 Significant effects on karst, which refers to the geological formations in  
12 the area that have resulted from the dissolving of layers of soluble rocks, such as  
13 gypsum and limestone, have been avoided by the routing of the transmission line.

14 The proposed and alternative ROW and tower heights meet FAA  
15 requirements.

16 Finally, a positive effect on socioeconomics for the local community is  
17 expected as a result of the Proposed Project.

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**III. ENVIRONMENTAL STUDIES**

1  
2 **Q. Have you prepared an Environmental Assessment for the Proposed Project?**

3 A. Yes. The BLM is currently reviewing and evaluating the Environmental  
4 Assessment and it has not been accepted by the BLM for publication at this time.  
5 SPS is attaching the current version, in electronic format, of the Environmental  
6 Assessment that has been submitted to BLM for informational purposes, as  
7 Attachment HCH-1(CD). SPS will supplement this testimony to indicate whether  
8 the draft Environmental Assessment has been accepted by the BLM for  
9 publication or revised by the BLM.

10 **Q. For whom was this Environmental Assessment conducted?**

11 A. The Environmental Assessment was conducted by TRC for, and under the  
12 supervision of, the BLM, the primary land manager for the lands traversed by the  
13 Proposed Project. Funding for the study was provided by SPS.

14 **Q. Will the BLM make a finding regarding the Proposed Project based upon the**  
15 **Environmental Assessment?**

16 A. Yes, based on TRC's findings in the Environmental Assessment, I anticipate the  
17 BLM will publish a Finding of No Significant Impact ("FONSI") for the Proposed  
18 Project. SPS will supplement its filing when a FONSI is issued by the BLM.

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1   **Q.   Please identify and briefly discuss matters evaluated in the Environmental**  
2       **Assessment.**

3   **A.   For the Environmental Assessment we reviewed and evaluated the effects of the**  
4       **Proposed Project on the human environment. Specific areas examined included**  
5       **Climate and Air Quality; Land Use and Recreation; Visual Resources; Cultural**  
6       **Resources; Biological, Earth, and Water Resources (including Paleontology); and**  
7       **Socioeconomics. For each of these areas we considered the nature of the current**  
8       **environment which would be affected, focusing upon existing conditions, and the**  
9       **environmental consequences (impacts) the Proposed Project would have.**

10   **Q.   Did you perform field investigations as part of this study?**

11   **A.   Yes, TRC performed cultural resources, biological, geological, and visual effect**  
12       **field studies. The cultural resource studies included a 100 percent pedestrian**  
13       **survey of the proposed ROW by a team of trained archaeologists; the biological**  
14       **surveys included both a 100 percent inspection of the ROW by a trained biologist,**  
15       **and more intensive surveys in areas identified by the BLM for the presence of**  
16       **sensitive cacti; the geological survey included in-depth examination of areas**  
17       **along the ROW identified by the BLM karst specialist and a senior TRC geologist**  
18       **for the presence of cave openings and sensitive karst; and the visual study**

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1 included a visit with accompanying photo-documentation from selected vantage  
2 points along the ROW by the BLM visual specialist and a TRC visual impact  
3 expert.

4 **Q. Were there any modifications to the route as a result of these studies?**

5 A. Yes, there were adjustments to the proposed route and minor changes to the ROW  
6 to minimize impacts to biology, karst geology, and visuals.

7 **Q. Please discuss the findings of the Environmental Assessment.**

8 A. The studies associated with the Environmental Assessment indicate that the  
9 impacts associated with the proposed and alternative routes studied are within the  
10 acceptable range for facilities of this type. Accordingly TRC concluded that the  
11 Proposed Project will not unduly impair any important environmental values.

12 **Q. Based on the environmental and cultural resources studies conducted in the**  
13 **Environmental Assessment, have you formed a professional opinion**  
14 **regarding the effect of the Proposed Project on the human environment?**

15 A. Yes. The Proposed Project would have short-term, low level impacts on air due  
16 to tailpipe emissions from construction and maintenance vehicles, and particulate  
17 emissions due to fugitive dust, during construction and transmission line  
18 maintenance. There could be moderate effects on land use due to permanent

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1 removal from use of a minor amount of rangeland in the footprint of the  
2 structures, compaction of soil and short term limitation on aircraft operations  
3 during construction. The visual character of the area will be altered by the  
4 addition of the additional transmission lines in the viewscape. The Proposed  
5 Project possibly could affect previously unknown cultural and/or paleontological  
6 resources in the study area. There could be a small effect upon sensitive  
7 biological species. Effects on mineral resources; are expected to be minimal. No  
8 effects are expected on paleontology, climate, or wetlands. A positive effect on  
9 socioeconomics is expected as a result of the Proposed Project.

10 **Q. Do you have an opinion regarding the need for further environmental studies**  
11 **and/or future mitigation measures following approval of ROW?**

12 **A.** Yes. If the proposed route is selected, no further environmental studies will be  
13 needed. A 100 percent pedestrian survey of the ROW for the proposed route has  
14 been conducted by professional archaeologists, biologists and geologists. If an  
15 alternative ROW, or re-routes to the proposed ROW are made, we would  
16 recommend similar surveys of the unsurveyed portions of the revised ROW be  
17 conducted prior to construction. These surveys will enable design of the  
18 Proposed Project so effects of the pole and access road placements on previously

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1 unknown sensitive archaeological sites, habitat for sensitive species, and karst are  
2 mitigated.

3 **Q. What comprised the biological evaluation, cultural resource survey, and**  
4 **geological survey for the Proposed Project?**

5 A. Site file searches and a walk through of the project area were conducted by  
6 qualified archaeologists, a trained biologist, and a team under the direction of a  
7 senior geologist. Biological, cultural resource, and geological consultation and  
8 evaluations were completed.

9 The site file search and inspection of the proposed ROW were conducted  
10 to identify any known locations of threatened and endangered species,  
11 archeological resources, and sensitive karst which could be affected by the  
12 construction, operation, and/or maintenance of the Proposed Project, and  
13 determine if any mitigation measures would be necessary.

14 **Q. Please summarize the findings in the biological evaluation.**

15 A. TRC concludes that the proposed route appears to avoid the biological resources.  
16 Small scale manifestations, such as individual cacti, can be avoided by careful  
17 design and pole placement. With such design and placement, the Proposed  
18 Project would not have any adverse affect on wildlife or vegetation.

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1   **Q.   What is your recommendations regarding the biological aspect of the**  
2   **Proposed Project?**

3   A.   As stated earlier, we recommend that once there is an approved ROW the pole  
4       and access road placement should be designed to avoid any identified sensitive  
5       biological resources.

6   **Q.   Please summarize the findings in the cultural resource study.**

7   A.   The site file search and 100 percent pedestrian inspection by trained  
8       archaeologists indicated that the proposed route appears to be acceptable from the  
9       standpoint of avoiding all cultural resources. The survey documented eight  
10      archaeological sites along the route of the proposed transmission line alternative.  
11      Of these, only two were considered to have archaeological value. Mitigation  
12      measures for these two, a historic railroad grade and a prehistoric camp site are  
13      being designed in consultation with the BLM, NMSLO, and the State Historic  
14      Preservation Officer, and will be implemented prior to construction.

15   **Q.   What is your conclusion regarding the need for further cultural resource**  
16   **studies and/or further mitigation measures?**

17   A.   Once a ROW has been approved and mitigation measures agreed to by the  
18       agencies indicated above, the mitigation measures should be implemented before



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1 any ground disturbance associated with the Proposed Project occurs. This will  
2 mitigate the effects on these resources.

3

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1                    **IV.    PUBLIC AND AGENCY PARTICIPATION**

2    **Q.    Please describe the public involvement process conducted in association with**  
3    **the studies.**

4    A.    Efforts were made to include public and local agencies in the study process.  
5    Local agency personnel were contacted in conjunction with inventory efforts  
6    associated with the Proposed Project, and a public open house meeting was held  
7    by the BLM and SPS in Carlsbad, New Mexico on July 9, 2013 at the Pecos River  
8    Conference Center. A newsletter describing the Proposed Project was also sent to  
9    landowners with property within 300 feet of the approximated centerline of the  
10   alternatives, as well as federal and state agencies, local governmental entities, and  
11   other key stakeholders in the area. This newsletter invited individuals to attend  
12   and provide comments on the Proposed Project at the open house and provided a  
13   website address ([www.powerfortheplains.com](http://www.powerfortheplains.com)) for access to project information  
14   available on Xcel Energy's *Power for the Plains* website.

15           Meeting attendees were provided comment forms and allowed to browse  
16   informational boards and maps of the Proposed Project. Representatives from  
17   SPS were available to answer questions. Detailed aerial photographs illustrating  
18   the location of alternatives were available for the public to review and to identify

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1 areas of their concerns. Comment forms provided the opportunity for attendees to  
2 identify themselves and provide information regarding key potential factors to be  
3 considered in the environmental studies. These forms could be completed onsite  
4 and submitted at the open house or sent to the BLM by mail.

5 **Q. What were the principal concerns expressed by the public?**

6 A. The only comments received from the public indicated the need for a geological  
7 (karst) survey prior to designation of a proposed route for the transmission line by  
8 the BLM. In addition, a representative from Mosaic Potash Mine reviewed the  
9 proposed siting, and indicated it would have no impact on the operation of the  
10 mine.

11 **Q. Did you consult with federal and New Mexico state agencies regarding the**  
12 **Proposed Project?**

13 A. Yes, as mentioned above, the BLM is in the process of approving the Proposed  
14 Project route, and the NMSLO is issuing an easement for the construction across  
15 state land.

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**V. GOVERNMENT PERMITS**

1

2 **Q. In relation to SPS's request that the Commission approve the proposed**  
3 **location of the 345 kV transmission line, what governmental permits are**  
4 **required?**

5 **A.** In accordance with 17.9.592.10(F) NMAC, the following governmental permits  
6 are required before the location of the 345 kV transmission line can be approved:

7 \* BLM ROW Grant/Temporary Use Permit (BLM Permit), and

8 \* NMSLO Permit

9 **Q. What is the status of each of the required permits?**

10 **A.** On June 3, 2013, SPS filed its SF-299 application with the BLM requesting a  
11 permit for the 345 kV transmission line to be constructed and operated on federal  
12 lands under Title V of the Federal Land Policy and Management Act. SPS  
13 anticipates obtaining the BLM approval before the end of spring 2014 and during  
14 the pendency of the case. SPS will supplement its filing with the requisite permit  
15 from the BLM as soon as it is received, or will advise regarding any unanticipated  
16 delays in the issuance of the permit.

17 As to the remaining permit, on April 16 2014, SPS received authorization  
18 from the NMSLO for construction of the 345 kV transmission line within the

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1 ROW on state land. SPS has not received the final permit from the NMSLO at  
2 this time and will supplement its filing with the fully executed permit as soon as it  
3 is received.

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1 VI. CONCLUSION

2 Q. Was Attachment HCH-1 prepared by you or under your direct supervision  
3 and control?

4 A. Yes.

5 Q. Does this conclude your pre-filed direct testimony?

6 A. Yes.

**VERIFICATION**

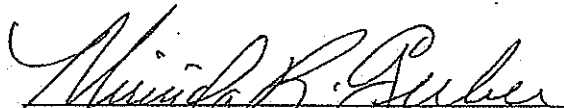
STATE OF NEW MEXICO     )  
  ) ss.  
COUNTY OF BERNALILLO    )

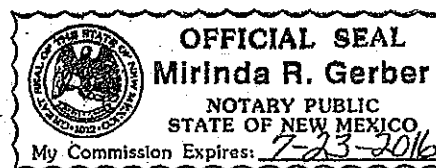
Howard C. Higgins, first being sworn on his oath, states:

I am the witness identified in the preceding testimony. I have read the testimony and the accompanying attachments and am familiar with their contents. Based upon my personal knowledge, the facts stated in the direct testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

  
HOWARD C. HIGGINS

SUBSCRIBED AND SWORN TO before me this 16 day of April, 2014.

  
Notary Public, State of New Mexico  
My Commission Expires: 7-23-2016



CASE NO. 14-00 \_\_-UT

SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR  
EXPEDITED : (1) ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE  
AND NECESSITY AUTHORIZING CONSTRUCTION AND OPERATION OF A 345  
KV TRANSMISSION LINE AND ASSOCIATED FACILITIES IN EDDY AND LEA  
COUNTIES, NEW MEXICO; (2) APPROVAL OF THE LOCATION OF THE 345  
KV TRANSMISSION LINE; (3) DETERMINATION OF RIGHT OF WAY WIDTH  
AND (4) AUTHORIZING ACCRUAL OF AN ALLOWANCE FOR FUNDS USED  
DURING CONSTRUCTION FOR THE TRANSMISSION LINE AND ASSOCIATED  
FACILITIES

ATTACHMENT HCH-1 (CD)  
Environmental Assessment