## APPLICATION FOR A

## CERTIFICATE OF CONVENIENCE AND NECESSITY

## FOR A PROPOSED TRANSMISSION LINE IN DALLAM

 AND SHERMAN COUNTIES, TEXAS
## DOCKET NO. 37104

Submit seven (7) copies of the application and all attachments to:
Public Utility Commission of Texas
Attn: Filing Clerk
1701 N. Congress Ave.
Austin, Texas 78711-3326

## 3. Project Description:

Name or Designation of Project
SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED 115 kV TRANSMISSION LINE WITHIN DALLAM COUNTY AND SHERMAN COUNTY, TEXAS. THE PROJECT NAME IS DALLAM COUNTY SUBSTATION TO SHERMAN COUNTY SUBSTATION.

Design Voltage Rating (kV): 115 kV
Operating Voltage Rating (kV): 115 kV
Normal Peak Operating Current Rating (A): 874 amps
The alternative routes described below are reflected on Figure 2-4.
Alternative \#1
XX-VV-TT-OO-E-F-I-J-QQ-M-N-P-T-Y-CC-HH-II

From the Dallam County Substation that is located approximately 0.5 miles east of US Highway 87 on Ponderosa Lane, on the northwest side of the City of Dalhart, this proposed route will exit the substation on the west side going slightly north/northwest for approximately 211 feet along Link XX. The route will then turn east and continue along Links XX, VV, and TT for approximately 380 feet before making a 90 -degree turn due south continuing along Link TT and crossing Ponderosa Lane to Link OO. The route will make a 90-degree turn to the east approximately 120 feet beyond Ponderosa Lane and continue on Link OO. The route will parallel the south side of Ponderosa Lane for approximately 1.70 miles crossing US Highway 385 all along Link OO. Once Link OO crosses US Highway 385, the route will continue in the same easterly direction along a property line to a point approximately 600 feet west of the Union Pacific Railroad and being the common point of Links OO, E, and NN. At that point, the route will turn north following Links E, F, and I for approximately 5.0 miles crossing McCartney Lane and stopping at 5M Lane. The route will then make a 90 -degree turn and head east along Link I and 5M Lane paralleling the south side of 5M Lane. The route will continue east along Link I for approximately 7.0 miles crossing Andy James Road and Chamberlin Road along Link J crossing the Union Pacific Railroad and US Highway 54 to Link QQ. The route will then follow Links QQ, M, N, and P all along the southeast right-of-way line of US Highway 54 in a northeasterly direction for approximately 9.0 miles until reaching the City of Conlen. The route will avoid the City of Conlen by following Link T and a property boundary that travels east-northeast crossing Ranch Road 807 and ending at Jake Road. The route will parallel Jake road to the north to a point approximately 35 feet southeast of the southeast right-of-way line of US Highway 54. The route continues along Link T and Link Y in a northeasterly direction to a point approximately 35 feet west of the west right-of-way line of Ranch Road 2014 to Link CC. At Ranch Road 2014, the route will turn north crossing US Highway 54 and the Union Pacific Railroad following along Link CC and property lines and section lines to the north, crossing County Road L and continuing to County Road K and the common point of Links CC, DD, and HH. The route turns 90 degrees to the east parallel to and following the south right-ofway line of County Road K and along Links HH and II for approximately 5.0 miles, crossing the Union Pacific

Railroad and US Highway 54, continuing on to the Sherman County Substation that is located approximately 0.17 miles south of the intersection of US Highway 54 and County Road 9, approximately 2.5 miles northeast of the City of Stratford.

Alternative \#2
XX-VV-TT-OO-NN-RR-H-QQ-M-N-P-K-V-DD-HH-II

From the Dallam County Substation that is located approximately 0.5 miles east of US Highway 87 on Ponderosa Lane, on the northwest side of the City of Dalhart, this proposed route will exit the substation on the west side going slightly north/northwest for approximately 211 feet along Link XX. The route will then turn east and continue along Links XX, VV, and TT for approximately 380 feet before making a 90-degree turn due south continuing along Link TT and crossing Ponderosa Lane to Link OO. The route will make a 90-degree turn to the east approximately 120 feet beyond Ponderosa Lane and continue on Link OO. The route will parallel the south side of Ponderosa Lane for approximately 1.70 miles crossing US Highway 385 all along Link OO. Once Link OO crosses US Highway 385, the route will continue in the same easterly direction along a property line to a point approximately 600 feet west of the Union Pacific Railroad and being the common point of Links OO, E, and NN. The route will then turn northeast and follows Link NN adjacent to the northwest right-of-way line of the Union Pacific Railroad for approximately 1,500 feet to the common point of Links NN, RR, and G. The route then turns along Link RR in a southeasterly direction crossing the Union Pacific Railroad and US Highway 54 at a 90 -degree angle to a point approximately 35 feet southeast of the southeast right-ofway of US Highway 54. The route will parallel the southeast right-of-way line of US Highway 54 along Links RR and H for approximately 2.5 miles, at which point Link H of the route makes a 90 -degree turn to the northwest crossing US Highway 54 and the Union Pacific Railroad to a point approximately 35 feet northwest of the northwest right-of-way line of the Union Pacific Railroad. The route will continue along Link H and the northwest right-of-way line of the Union Pacific Railroad for approximately 5.2 miles to a point west of Chamberlin Road. The route will then turn in a southeasterly direction along Link H crossing the Union Pacific Railroad and US Highway 54 to a point approximately 35 feet southeast of the southeast right-of-way line of US Highway 54. The route will then continue traveling in a northeasterly direction paralleling the southeast right-of-way line of US Highway 54 along Links H, QQ, M, N, and P for approximately 9.2 miles to a point approximately 0.75 miles southwest of the intersection of US Highway 54 and Ranch Road 807 and being the intersection of FM 3213 and Highway 54 and the common point of Links P, R, T, and K. The route will turn east along Link K and follow a property boundary for approximately 3,200 feet to Conlen Lane. The route will continue along Link K and Conlen Lane, which changes to County Road T, for approximately 5.0 miles to the common point of Links $\mathrm{O}, \mathrm{K}, \mathrm{V}$, and W . The route will then turn 90 degrees to the north along Link V following property lines for approximately 1.3 miles to the southern end of County Road 2. The route will then continue north parallel to the west right-of-way line of County Road 2 and along Link V for approximately 4.0 miles to US Highway 54 and the common point of Links V, T, U, DD, and Y. The route will then cross US

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Highway 54 and the Union Pacific Railroad continuing north along Link DD following property boundaries and section lines for approximately 4.9 miles, then turning east paralleling County Road K for approximately 7.0 miles along Links DD, HH, and II crossing the BNSF Railway, US Highway 287, the Union Pacific Railroad and US Highway 54, to the Sherman County Substation that is located approximately 0.17 miles south of the intersection of US Highway 54 and County Road 9, approximately 2.5 miles northeast of the City of Stratford.

Alternative \#3
XX-VV-TT-OO-NN-RR-H-KK-ZZ-YY-N-P-K-V-Y-CC-HH-II

From the Dallam County Substation that is located approximately 0.5 miles east of US Highway 87 on Ponderosa Lane, on the northwest side of the City of Dalhart, this proposed route will exit the substation on the west side going slightly north/northwest for approximately 211 feet along Link XX. The route will then turn east and continue along Links XX, VV, and TT for approximately 380 feet before making a 90 -degree turn due south continuing along Link TT and crossing Ponderosa Lane to Link OO. The route will make a 90-degree turn to the east approximately 120 feet beyond Ponderosa Lane and continue on Link OO. The route will parallel the south side of Ponderosa Lane for approximately 1.70 miles crossing US Highway 385 all along Link OO. Once Link OO crosses US Highway 385, the route will continue in the same easterly direction along a property line to a point approximately 600 feet west of the Union Pacific Railroad and being the common point of Links OO, E, and NN. The route will then turn northeast and follows Link NN adjacent to the northwest right-of-way line of the Union Pacific Railroad for approximately 1,500 feet to the common point of Links NN, RR, and G. The route then turns along Link RR in a southeasterly direction crossing the Union Pacific Railroad and US Highway 54 at a 90 -degree angle to a point approximately 35 feet southeast of the southeast right-ofway of US Highway 54. The route will parallel the southeast right-of-way line of US Highway 54 along Links RR and H for approximately 2.5 miles, at which point Link H of the route makes a 90 -degree turn to the northwest crossing US Highway 54 and the Union Pacific Railroad to a point approximately 35 feet northwest of the northwest right-of-way line of the Union Pacific Railroad. The route will continue along Link H and the northwest right-of-way line of the Union Pacific Railroad for approximately 5.2 miles to a point west of Chamberlin Road. The route will then turn in a southeasterly direction along Link H crossing the Union Pacific Railroad and US Highway 54 to a point approximately 35 feet southeast of the southeast right-of-way line of US Highway 54. The route will then continue traveling in a northeasterly direction paralleling the southeast right-of-way line of US Highway 54 along Link H to FM 3212, also being the intersection of Links H, J, QQ, and KK. At this point the route will turn east and follow Link KK parallel to the north right-of-way line of FM 3212 for approximately 3.5 miles to Steve Road then turning north along Links KK, ZZ, and YY parallel to the west right-of-way line of Steve Road to a point approximately 35 feet southeast of the southeast right-of-way line of US Highway 54 being the common point of Links YY, M, and N. The route then turns in a northeasterly direction along Links N and P paralleling the southeast right-of-way line of US Highway 54 for approximately 4.2 miles to a point approximately 0.75 miles southwest of the intersection of US Highway 54 and Ranch Road

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807 and being the common point of Links P, R, T, and K. The route will turn east along Link K and follow a property boundary for approximately 3,200 feet to Conlen Lane. The route will continue along Link K and Conlen Lane, which changes to County Road T, for approximately 5.0 miles to the common point of Links O, $\mathrm{K}, \mathrm{V}$, and W . The route will then turn 90 degrees to the north and continues along Link V following property lines for approximately 1.3 miles to the southern end of County Road 2. The route will then continue north parallel to the west right-of-way line of County Road 2 and along Link V for approximately 4.0 miles to a point approximately 35 feet southeast of the southeasterly right-of-way of US Highway 54 and the common point of Links V, T, U, DD, and Y. The route will turn northeast along Link Y and parallel to US Highway 54 for approximately 2.5 miles to a point approximately 35 feet west of the west right-of-way line of Ranch Road 2014 to Link CC. At Ranch Road 2014, the route will turn north crossing US Highway 54 and the Union Pacific Railroad following along Link CC and property lines and section lines to the north crossing County Road L to County Road K and the common point of Links CC, DD, and HH. The route turns 90 degrees to the east parallel to and following the south right-of-way line of County Road K and along Links HH and II for approximately 5.0 miles, crossing the Union Pacific Railroad and US Highway 54, continuing on to the Sherman County Substation that is located approximately 0.17 miles south of the intersection of US Highway 54 and County Road 9, approximately 2.5 miles northeast of the City of Stratford.

Alternative \#4
XX-VV-TT-OO-E-F-I-L-U-DD-HH-II

From the Dallam County Substation that is located approximately 0.5 miles east of US Highway 87 on Ponderosa Lane, on the northwest side of the City of Dalhart, this proposed route will exit the substation on the west side going slightly north/northwest for approximately 211 feet along Link XX. The route will then turn east and continue along Links XX, VV, and TT for approximately 380 feet before making a 90 -degree turn due south continuing along Link TT and crossing Ponderosa Lane to Link OO. The route will make a 90 -degree turn to the east approximately 120 feet beyond Ponderosa Lane and continue on Link OO. The route will parallel the south side of Ponderosa Lane for approximately 1.70 miles crossing US Highway 385 all along Link OO. Once Link OO crosses US Highway 385, the route will continue in the same easterly direction along a property line to a point approximately 600 feet west of the Union Pacific Railroad and being the common point of Links OO, E, and NN. At that point, the route will turn north following Links E, F, and I for approximately 5.0 miles crossing McCartney Lane and stopping at 5 M Lane. The route will make a 90 -degree turn to the east along Link I and 5M Lane paralleling the south side of the road. The route will continue east along Link I for approximately 7.0 miles crossing Andy James Road to Chamberlin Road and the common point for Links I, L, and J. At Chamberlin Road, the route turns north along the west right-of-way of Chamberlin Road and Link L for approximately 8.0 miles to AT-T Lane. The route then turns to the east along the north right-way-line of AT-T Lane and Link L, past Link S to Link U for approximately 11.0 miles to a point 35 feet northwest of the northwesterly right-of-way of the Union Pacific Railroad, at which point Link U turns northeasterly and

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continues along the northwest right-of-way of the Union Pacific Railroad for approximately 2.0 miles to the common point of Links U, V, T, and DD. The route then continues north along Link DD following property boundaries and section lines for approximately 4.9 miles, then turning east paralleling County Road K for approximately 7.0 miles along Links DD, HH, and II crossing the BNSF Railway, US Highway 287, the Union Pacific Railroad and US Highway 54, to the Sherman County Substation that is located approximately 0.17 miles south of the intersection of US Highway 54 and County Road 9, approximately 2.5 miles northeast of the City of Stratford.

## Alternative \#5 (Preferred Route)

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From the Dallam County Substation that is located approximately 0.5 miles east of US Highway 87 on Ponderosa Lane, on the northwest side of the City of Dalhart, this proposed route will exit the substation on the west side going slightly north/northwest for approximately 211 feet along Link XX. The route will then turn east and continue along Links XX, VV, and TT for approximately 380 feet before making a 90-degree turn due south and continuing along Link TT and crossing Ponderosa Lane to Link OO. The route will make a 90degree turn to the east approximately 120 feet beyond Ponderosa Lane and continue on Link OO. The route will parallel the south side of Ponderosa Lane for approximately 1.70 miles crossing US Highway 385 all along Link OO. Once Link OO crosses US Highway 385, the route will continue in the same easterly direction along a property line to a point approximately 600 feet west of the Union Pacific Railroad and being the common point of Links OO, E, and NN. The route will then turn northeast and follows Link NN adjacent to the northwest right-of-way line of the Union Pacific Railroad for approximately 1,500 feet to the common point of Links NN, RR, and G. The route then turns along Link RR in a southeasterly direction crossing the Union Pacific Railroad and US Highway 54 at a 90-degree angle to a point approximately 35 feet southeast of the southeast right-of-way of US Highway 54. The route will parallel the southeast right-of-way line of US Highway 54 along Links RR and H for approximately 2.5 miles, at which point Link H of the route makes a 90degree turn to the northwest crossing US Highway 54 and the Union Pacific Railroad to a point approximately 35 feet northwest of the northwest right-of-way line of the Union Pacific Railroad. The route will continue along Link H and the northwest right-of-way line of the Union Pacific Railroad for approximately 5.2 miles to a point west of Chamberlin Road. The route will then turn in a southeasterly direction along Link H crossing the Union Pacific Railroad and US Highway 54 to a point approximately 35 feet southeast of the southeast right-ofway line of US Highway 54. The route will then continue traveling in a northeasterly direction paralleling the southeast right-of-way line of US Highway 54 along Links H, QQ, M, N, P, and T for approximately 9.0 miles until reaching the City of Conlen. The route will avoid the City of Conlen by following Link T and a property boundary that travels east-northeast crossing Ranch Road 807 and ending at Jake Road. The route will parallel Jake Road to the north to a point approximately 35 feet southeast of the southeast right-of-way line of US Highway 54. The route continues along Link T and Link Y in a northeasterly direction to a point approximately

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35 feet west of the west right-of-way line of Ranch Road 2014 to Link CC. At Ranch Road 2014, the route turns north crossing US Highway 54 and the Union Pacific Railroad following along Link CC and property lines and section lines to the north crossing County Road L to County Road K and the common point of Links $\mathrm{CC}, \mathrm{DD}$, and HH. The route turns 90 degrees to the east parallel to and following the south right-of-way line on County Road K and along Links HH and II for approximately 5.0 miles, crossing the Union Pacific Railroad and US Highway 54, continuing on to the Sherman County Substation that is located approximately 0.17 miles south of the intersection of US Highway 54 and County Road 9, approximately 2.5 miles northeast of the City of Stratford.

## 4. Conductor and Structures:

Conductor Size and Type
Conductor for the 115 kV circuit will be 397.5 kcMIL , ACSR, 26/7 stranded, code name IBIS. The static wire will be $3 / 8$ " EHS galvanized steel.

## Type of Structures

The line will be built using single-pole and double-pole, self-supporting steel structures. All structures will utilize drilled pier foundations. Typical heights are shown on the attached drawings and are dependent on the clearance requirements to be determined. Highway crossings will utilize structures whose heights are greater than the minimum heights required by the Texas Department of Transportation (TxDOT) and/or the National Electric Safety Code (NESC).

## Height of Typical Structures

The typical heights for these structures will be between 70 and 140 feet.

Explain why these structures were selected; include such factors as landowner preference, engineering considerations, and costs comparisons to alternate structures that were considered.
Provide dimensional drawings of the typical structures to be used in the project.
SPS chose H-frame steel structures over wood structures, in part, because of the low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. The primarily agricultural land use of the area was an additional factor in selecting this type of structure since a selfsupporting H-frame line minimizes the impact to both farmers and landowners because it eliminates the need for guy wires on the landowner's property, which results in a smaller footprint than a guyed structure. The installed cost for a direct burial wood H -frame, single circuit structure would be approximately $\$ 12,500$. Estimated cost of the proposed steel H -frame, single circuit steel structures would be $\$ 12,600$. Steel poles would require fewer structures and would make it easier to span existing irrigation systems offsetting the additional cost. During the public meeting held for this project, landowners had no opposition to the selfsupporting two-pole H -frame design.

Typical 115 kV single circuit tangent structures are shown on SPS drawing T-10-402.
Typical 115 kV single circuit corner structures are shown on SPS drawing T-10-401.
Typical 115 kV double circuit tangent structures are shown on SPS drawing T-10-410.

## Refer to Attachment 3.

## 5. Right-of-way:

Miles of Right-of-Way: Approximately 37 to 47 miles depending on route approved.
Miles of Circuit: Approximately 37 to 47 miles of new 115 kV circuit depending on route approved.
Width of Right-of-Way: 70 feet
Percent of Right-of-Way Acquired: None

Provide a brief description of the area traversed by the proposed transmission line. Include a description of the general land uses in the area and the type of terrain crossed by the proposed line.

The project area is located in Dallam and Sherman Counties of the northwestern Texas Panhandle. The area described is from Dalhart, Texas to approximately two miles east of Stratford, Texas. The land uses in the area ranges from dry land farming, irrigated farming, Conservation Reserve Program (CRP) grass, open rangeland, and natural gas and oil exploration and drilling. Near Dalhart and Stratford the occurrence of commercial/industrial operations and residential home sites become more prevalent. The terrain can be characterized as flat to gently rolling plains with a high percentage of cropland.
6. Substations or Switching Stations:

List the name of all existing substations or switching stations that will be associated with the proposed new transmission line.

- Dallam County Substation
- Sherman County Substation

7. Estimated Schedule:

| Estimated Date of: | Start | $\underline{\text { Completion }}$ |
| :--- | :--- | :--- |
| Right-of-way Acquisition | Following CCN approval | 6 months following CCN approval |
| Construction of Facilities | Following right-of-way acquisition | 6 months following right-of-way <br> acquisition |
| Energize Facilities | ------------------------------- | 7 months following right-of-way <br> acquisition |

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## 8. Counties:

List all counties in which preferred or alternate routes are proposed to be constructed

- Dallam County
- Sherman County

9. Municipalities:

List all municipalities in which preferred or alternate routes are proposed to be constructed.
Dalhart, Texas and Stratford, Texas
Attach a copy of the franchise, permit or other evidence of the city's consent held by the utility. If franchise, permit, or other evidence of the city's consent has been previously filed, provide only the docket number of the application in which the consent was filed.

SPS acquires right-of-way within the city limits and does not rely on the city franchise for right-of-way purposes.

## Refer to Attachment 4.

## 10. Affected Utilities:

Identify any other electric utility served by or connected to facilities proposed in this application. Include any utilities sharing proposed facilities (double circuit structures, substation equipment) or right-of-way.

Rita Blanca Electric Cooperative (RBEC), Golden Spread Electric Cooperative
Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project.

Not applicable.

## 11. Financing:

Describe the method of financing this project. If the applicant is to be reimbursed for this project, or a portion of this project, identify the source and the amount of the contribution in aid of construction.

The proposed project will be financed through internally generated funds.

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12. Estimated Costs:

| Dallam County Substation to Sherman County Substation |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Route 1 <br> Links: XX-VV-TT-OO-E-F- <br> I-J-QQ-M-N-P-T-Y-CC-HH- <br> II <br> 40.6 miles |  | Route 2 <br> Links: XX-VV-TT-OO-NN- <br> RR-H-QQ-M-N-P-K-V-DD- <br> HH-II <br> 41.0 miles |  | Route 3 <br> Links: XX-VV-TT-OO-NN- <br> RR-H-KK-ZZ-YY-N-P-K-V- <br> Y-CC-HH-II <br> 41.7 miles |  | Route 4 <br> Links: XX-VV-TT-OO-E-F- <br> I-L-U-DD-HH-II $46.9 \text { miles }$ |  | Route 5 (Preferred Route) <br> Links: XX-VV-TT-OO-NN-RR-H-QQ-M-N-P-T-Y-CC-HH-II <br> 37.4 miles |  |
|  | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation <br> Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities |
| Right-of-Way (Easement \& Fees) | 1,640,000 |  | 1,646,000 |  | 1,658,000 |  | 1,745,000 |  | 1,585,000 |  |
| Material \& Supplies | 5,434,778 | 473,527 | 5,833,378 | 473,527 | 6,042,546 | 473,527 | 6,349,094 | 473,527 | 5,492,853 | 473,527 |
| Labor \& Transportation (Utility) | 1,393,865 | 209,697 | 1,240,179 | 209,697 | 1,251,781 | 209,697 | 1,242,912 | 209,697 | 1,387,150 | 209,697 |
| Labor \& Transportation (Contract) | 180,000 |  | 180,000 |  | 180,000 |  | 180,000 |  | 180,000 |  |
| Stores | 676,714 | 35,388 | 726,413 | 35,388 | 752,438 | 35,388 | 790,623 | 35,388 | 684,047 | 35,388 |
| Engineering \& Administration (Utility) | 773,456 | 73,737 | 765,006 | 73,737 | 748,756 | 73,737 | 768,656 | 73,737 | 697,856 | 73,737 |
| Engineering \& Administration (Contract) | 246,400 |  | 248,850 |  | 253,100 |  | 296,200 |  | 227,000 |  |
| Estimated Total Cost | \$10,345,213 | \$792,349 | \$10,639,826 | \$792,349 | \$10,886,621 | \$792,349 | \$11,372,485 | \$792,349 | \$10,253,906 | \$792,349 |

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## 13. Need for the Proposed Project:

Describe the need for the proposed construction. Describe the existing transmission system and conditions addressed by this application. Provide historical load data and load projections for at least five years to justify projects planned to accommodate load growth. State how the proposed facilities will meet the projected demand and provide a written description of the steady state load flow analysis that justifies the project. Provide any documentation of the review and recommendation of a PURA $\$ 39.151$ organization. Provide any documentation showing the proposed facilities are needed to provide service to a new transmission service customer.

The proposed 115 kV line from Dallam County Substation to Sherman County Substation is needed to provide reliable transmission service to the existing and growing loads in Dallam and Sherman Counties. This line will provide an alternate source to the communities of Dalhart and Stratford, and will provide additional transmission capacity supporting backup transmission services in Hartley and Moore Counties, and help support local voltage conditions.

## Existing Transmission System

Currently transmission service to Dallam County and Sherman County is provided through three 115 kV lines, which originate out of Moore County Substation (circuits V30, V63, and T47). These lines supply power to the Dallam County, Sherman County, Dalhart, Etter-Rural, and RBEC-Hogue substations. There is a total of 102 MVAR of reactive power support supplied to this area through 30 MVAR from the generation at Moore County Substation and 72 MVAR from capacitor banks at the above-mentioned substations.

The area load is made up primarily of agricultural and oil and gas industry production and facilities. The major loads in this area include a Cheese Plant located north of Dalhart, a meat processing plant located north of Cactus, multiple dairies scattered across the area, and the seasonal irrigation for the area farming. Backup support to the oil and gas industry is provided by the substation facilities at Dalhart and Etter-Rural substations. Figure 13.1 is a geographic map illustrating the project area, the existing transmission where the above referenced lines are identified, and the proposed 115 kV line from Dallam County Substation to Sherman County Substation.

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Figure 13.1: Project Area and Proposed 115 kV line from Dallam County Substation to Sherman County Substation

The critical conditions for this area are the loss of the Moore County to Etter-Rural 115 kV line or the loss of the Moore County to RBEC-Hogue 115 kV line. Without the proposed 115 kV line from Dallam County Substation to Sherman County Substation by summer 2010 these critical conditions will cause the transmission violations listed in Table 13.1. Additional load increases will only exacerbate these conditions.

Table 13.1: Area Critical Conditions

| For the loss of the Moore County to Etter-Rural 115 kV line |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Overloads: |  |  |  |  |  |  |  |
| Facility |  |  |  |  | $\begin{aligned} & \text { Rating } \\ & \text { (MVA) } \end{aligned}$ | Loading <br> (MVA) | Percent |
| RBEC-Hogue to Dalhart 115 kV line |  |  |  |  | 99 | 145.3 | 146.7\% |
| RBEC-Hogue to Moore Co. 115 kV line |  |  |  |  | 99 | 157.8 | 159.3\% |
| Low Voltage Conditions: |  |  |  |  |  |  |  |
| NAME | BASE KV | V(PU) | V(KV) | NAME | BASE KV | V(PU) | V(KV) |
| RBEC-HOGUE | 115 | 0.6577 | 75.638 | RBEC-DALLAM | 69 | 0.5512 | 38.03 |
| DALLAM | 115 | 0.5581 | 64.179 | HILMARCHZ | 115 | 0.5546 | 63.77 |
| DALHART | 69 | 0.5857 | 40.414 | DALHART | 115 | 0.5632 | 64.77 |
| ETTER | 34.5 | 0.4895 | 16.888 | ETTER | 115 | 0.5018 | 57.71 |
|  |  |  |  |  |  |  |  |
| For the loss of the Moore County to RBEC-Hogue 115 kV line |  |  |  |  |  |  |  |
| Overloads: |  |  |  |  |  |  |  |
| Facility |  |  |  |  | Rating (MVA) <br> (MVA) | Loading <br> (MVA) | Percent |
| Etter-Rural to Moore Co. 115 kV line |  |  |  |  | 99 | 157.8 | 159.3\% |

## Load History:

In the area north of Amarillo, Texas, SPS serves a mixture of customer types from agriculture related to that of the oil and gas industries. Though the electrical load varies seasonably, SPS continues to experience growth in the summer peaking electrical demand. Growth in the agricultural loads has been from the continued electrification of irrigation wells and the additions of agriculture related industries such as the cheese plant near Dalhart and the expansion of the meat processing plant near Cactus. The oil and gas industries have also contributed to the area load growth. Over the last eight years, the electrical load in this area has increased by $23.97 \%$, with an average load growth rate of $2.78 \%$ per year. Table 13.2 below illustrates eight years of historical growth in the summer peak load served by SPS to the area north of Amarillo, Texas.

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Table 13.2: Area Load History

| Load Data (MW) July 2000 - July 2008 |  |  |
| :---: | :---: | :---: |
| Year | Load | \% Change |
| 2000 | 701 | - |
| 2001 | 681 | $-2.85 \%$ |
| 2002 | 681 | $0.00 \%$ |
| 2003 | 728 | $6.90 \%$ |
| 2004 | 732 | $0.55 \%$ |
| 2005 | 752 | $2.73 \%$ |
| 2006 | 794 | $5.59 \%$ |
| 2007 | 809 | $1.89 \%$ |
| 2008 | 869 | $7.42 \%$ |
| Average Growth Per Year (\%) |  | $2.78 \%$ |
| Total 8 Year Growth (\%) |  | $23.97 \%$ |

## Load Forecast:

The electrical load in this area is expected to continue to grow steadily, and the forecasted loads are included in the system planning models. Figure 13.2 below illustrates the area's historic summer loads and the forecasted summer loads that SPS used in the system planning models.

Figure 13.2: Historical Peak Load (2000-2008) with the Forecasted Peak Load (2009-2019)


## Project Description

To improve the reliability of the transmission service to the customers in Dallam and Sherman counties, and to provide backup transmission service to the customers in Hartley and Moore counties, SPS proposes to construct between 37 to 47 miles of 115 kV transmission line from the Dallam County Substation to the Sherman County Substation. Figure 13.3 below illustrates this project's construction scope.

Figure 13.3: Dallam County Substation to Sherman County Substation 115 kV Line Construction Scope


## Planning Criteria / Philosophy

SPS is a member of the Southwest Power Pool (SPP), and does not operate in the Electric Reliability Council of Texas (ERCOT) region. ERCOT takes no position on SPS's transmission projects. SPS determined the need for this proposed project through internal system planning in conformance with SPP's Planning Criteria, summarized as follows:

- Under system intact or normal system operation, the loading on any transmission element will not exceed that element's normal rating and service voltage levels will be maintained within normal acceptable levels.


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- Under single-contingency conditions, the loading on any transmission element will not exceed its emergency rating, and service voltage levels will be maintained within emergency limits.


## Powerflow Studies:

As part of SPS's long range planning, and to evaluate in concert several requests to interconnect new load, SPS developed a group of transmission projects to improve the transmission reliability in the Texas Panhandle area. This group of projects has been named the Texas North System Upgrades. Each project was developed to support or enhance the benefit of the other projects in the group, but with the expectation that each project will withstand the scrutiny to be self-justified. (See section 14 of this application for a brief description and illustration of the line construction included in this group of projects.)

SPS has already completed the first improvement project by increasing the $230 / 115 \mathrm{kV}$ transformer capacity at Moore County Substation, and SPS has already started the improvement project to create a new transmission source from the 345 kV Hitchland Substation located at the Texas/Oklahoma border.

The 115 kV line from Dallam County Substation to Sherman County Substation is one of the improvement projects of the Texas North System Upgrades, and it addresses the area critical conditions illustrated in Table 13.1. Using the latest Southwest Power Pool (SPP) models with the latest load projections, the critical n-1 or single contingency conditions were tested before and after factoring in the new 115 kV line from Dallam County Substation to Sherman County Substation. Table 13.3 below illustrates the low voltages and line overloads observed in the study from the critical conditions before the new 115 kV line is added.

Table 13.3: Contingency Study Results

| Contingency (Outaged Transmission Element) | Limiting Elements | Transmission Loading Above Emergency Rating, or Number of Low Voltage Services |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2010 | 2011 | 2014 | 2019 |
| 115 kV line from Moore County Substation to Etter-Rural Substation | Number Services with Low Voltage | 5 | 5 | 5 | 5 |
|  | RBEC-Hogue to Dalhart 115 kV line | $\begin{gathered} 146.7 \% \\ (46.3) \end{gathered}$ | $\begin{gathered} 155.4 \% \\ (54.8) \end{gathered}$ | $\begin{gathered} 163.8 \% \\ (63.2) \end{gathered}$ | $\begin{gathered} \hline 172.8 \% \\ (72.1) \end{gathered}$ |
|  | RBEC-Hogue to Moore Co. 115 kV line | $\begin{array}{\|c} 159.3 \% \\ (58.8) \end{array}$ | $\begin{gathered} 169.1 \% \\ (68.4) \end{gathered}$ | $\begin{gathered} 169.8 \% \\ (69.1) \end{gathered}$ | $\begin{gathered} 187.4 \% \\ (86.5) \end{gathered}$ |
| 115 kV line from Moore County Substation to RBEC-Hogue Substation | Number Services with Low Voltage | - | 2 | - | 4 |
|  | Etter-Rural to Moore Co. 115 kV line | $\begin{gathered} 101.1 \% \\ (2.1) \end{gathered}$ | $\begin{gathered} 107.8 \% \\ (7.7) \end{gathered}$ | $\begin{gathered} 105.2 \% \\ (5.2) \end{gathered}$ | $\begin{gathered} 132.4 \% \\ (32.0) \end{gathered}$ |
|  | Etter-Rural to Hilmar Cheese. 115 kV line |  |  |  | $\begin{gathered} 104.4 \% \\ (4.0) \end{gathered}$ |

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To illustrate the magnitude of the critical conditions differently, Table 13.4 below illustrates the minimal level of load shedding that would be required to mitigate the contingency overloading and low voltage conditions.

Table 13.4: Required Contingency Load Shedding (MVA)

| Load Shed Under Single Contingency Conditions (MVA) |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |

SPS re-evaluated the benefits of the 115 kV line from Dallam County Substation to Sherman County Substation, and found no post contingency problems remained throughout the study period. For comparison purposes, Table 13.5 reports the results of the single contingency studies of post project construction. These results were determined without load shed being implemented in the study.

Table 13.5: Post Project Conditions

| Contingency <br> (Outaged Transmission Element) | Limiting Elements |  | Transmission Loading Above <br> Emergency Rating, or Number of <br> Low Voltage Services |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: |
|  |  | 2010 | 2011 | 2014 | 2019 |
| 115 kV line from Moore County <br> Substation to Etter-Rural Substation | NONE | - | - | - | - |
| 115 kV line from Moore County <br> Substation to RBEC-Hogue <br> Substation | NONE | - | - | - | - |

## 14. Alternatives to Proposed Project:

Describe alternatives to the construction of this project (not routing options). Include an analysis of distribution alternatives, upgrading voltage or bundling of conductors of existing facilities, adding transformers, and for utilities that have not unbundled, distributed generation as alternatives to the proposed project. Explain how the proposed project overcomes the insufficiencies of the other options that were considered.

SPS developed the proposed project along with other projects to create a group of transmission system improvements named the Texas North System Upgrades. This group of projects was developed late in 2006 and has been revised to accommodate the changing needs of our customers. The current scope of projects that make up the Texas North System Upgrades is summarized in the following list.

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- Increase the $230 / 115 \mathrm{kV}$ transformer capacity at Moore County Substation. SPS completed this project in 2008.
- Create a new transmission source north of Moore County Substation from the 345 kV line near the Texas/Oklahoma border called the Hitchland Substation. SPS has started engineering and land rights acquisition on this project.
- Construct a new breaker station to coordinate the 115 kV between Hitchland Substation and Moore County Substation. SPS has completed the engineering and land acquisition on this project, with construction to start in 2009.
- Construct a new 115 kV line from Dallam County Substation to Sherman County Substation. This application addresses the need for this project.
- Construct a new 230 kV line to from Dallam County Substation to Channing Substation to Northwest Substation. This line will provide a much needed backup source to the communities of Channing, Tascosa, and Boys Ranch, and will be initially operated at 115 kV .
- Construct a new 230 kV line from Hitchland Substation to Moore County Substation to provide a backup 230 kV supply to Moore County Substation.
- Construct a new 230 kV line from Hitchland Substation to a new $230 / 115 \mathrm{kV}$ Ochiltree County substation north of Perryton, Texas. This new line and substation will provide the much-needed backup transmission to the communities in the northern Texas Panhandle that are currently served from some long 115 kV transmission lines.
- Construct a new 230 kV line from Hitchland Substation to Pringle Substation. This line will provide a necessary backup to the 230 kV line from Hitchland Substation to Moore County Substation.

Figure 14.1 illustrates the planned transmission lines that are included in the Texas North System Upgrades.

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Figure 14.1: Texas North System Upgrades

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When the projects of the Texas North System Upgrades were developed, combinations of other transmission projects were studied to find the most effective group of projects that would achieve the capacity and reliability requirements. However, every combination of transmission projects included the construction of the 115 kV line from Dallam County Substation to Sherman County Substation, because this line offers the shortest connection between existing facilities that would create an alternate source to the Dalhart area. The following is the descriptions of alternative projects considered in this application.

Alternative Project 1: 115 kV to 230 kV Transmission Voltage Upgrade.
This project alternative proposes to upgrade the 115 kV transmission voltage to 230 kV on the transmission lines from Moore County to Etter-Rural to Hilmar Cheese to Dallam County to Dalhart to RBEC-Hogue and back to Moore County. The increase transmission voltage would increase the power capacity of the transmission, and would be less susceptible to low voltage during contingencies.

SPS evaluated the requirements for the voltage upgrade of this project and found that the existing structures would be inadequate for 230 kV spacing and would not support insulators and conductors of the new 230 kV line. Therefore, this project alternative would require the complete wreck out of the existing line, and then the rebuilding of a new 230 kV line in its place. The estimated cost to wreck out, and then rebuild approximately 90 miles of 230 kV line is $\$ 54,550,000$. SPS did not pursue this project alternative due to its prohibitive capital cost relative to SPS's proposed project.

Alternative Project 2: Re-conductor of Existing 115 kV Transmission.
With this project alternative, SPS would re-conductor the existing 115 kV transmission lines from Moore County to Etter-Rural to Hilmar Cheese to Dallam County to Dalhart to RBEC-Hogue and back to Moore County. This re-conductor project would increase the line ratings from 99 MVA to 271 MVA and thereby mitigate the contingency overloads. Furthermore, this project would reduce the impedance of the line, reducing the voltage drop on the line such that there would be sufficient service voltage during the critical contingencies listed in Table 13.3.

SPS studied this project alternative and found that the re-conductor of the existing 115 kV line would be insufficient to mitigate the contingency low voltage conditions, and would be prohibitively expensive. Table 14.1 illustrates how the low voltage conditions under the contingency loss of the 115 kV line from Moore County Substation to Etter-Rural Substation return by 2019 summer.

Table 14.1: Alternative Project 2 - Post Project Conditions

| Contingency <br> (Outaged Transmission Element) | Limiting Elements | Transmission Loading Above Emergency Rating, or Number of Low Voltage Services |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2010 | 2011 | 2014 | 2019 |
| 115 kV line from Moore County Substation to Etter-Rural Substation | Number Services with Low Voltage | - | - | - | 4 |
| 115 kV line from Moore County Substation to RBEC-Hogue Substation | NONE | - | - | - | - |

Further evaluation of the existing 115 kV structures found the structures to be inadequate to support the new larger conductors. Therefore, this project alternative would require the complete wreck out of the existing line, and then the rebuilding of a new line in its place with the new larger conductors. The estimated cost to wreck out, and then rebuild approximately 90 miles of line is $\$ 31,580,000$. SPS did not pursue this project alternative due to its inadequate support of the 115 kV voltage and its prohibitive capital cost relative to SPS's proposed project.

Alternative Project 3: Construct a new natural gas generation plant near Dalhart, Texas

This project alternative proposes the construction of a natural gas generation plant near Dalhart, Texas. The plant's rating would match the capacity needed to backup the contingency loss of the 115 kV line from Moore County Substation to Etter-Rural Substation of at least 30 MW. This plant would provide the necessary power to meet the minimal growth in load (as projected in the study models), and would be available as an alternate source under contingency conditions for the Dalhart, Texas area.

The estimated installed cost ${ }^{1}$ for a gas turbine generator with a 30 MW rating at $\$ 895$ per kW is approximately $\$ 26,850,000$. This cost does not include permitting, fuel supply interconnection or transmission interconnection. SPS did not pursue this project alternative due to its prohibitive capital cost relative to SPS's proposed project and a long project schedule due to permitting.

## Alternative Project 4: Distributed Generation

This project alternative would use 200 kW micro-turbine generators grouped together at appropriate locations to mitigate overloads and low voltage conditions. The primary difference of this alternative project is the size and cost of the individual generators.

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The estimated $\operatorname{cost}^{2}$ for a 200 kW gas turbine generator is $\$ 150,000$. Therefore, the cost for enough 200 kW gas turbine generators is estimated as follows.

$$
\text { Generator Cost }=\frac{\mathrm{kW} \text { Required }}{\text { Unit Rating } \mathrm{kW}} \times \text { Unit Cost }=\frac{30,000}{200} \times \$ 150,000=\$ 22,500,000
$$

This cost does not include fuel supply, sales tax, shipping or the costs to interconnect to the system. SPS rejected this project alternative because of its prohibitive capital cost relative to SPS's proposed project.

Project Alternative 5: Implement a Distribution Solution
This project alternative sought to mitigate the contingency overloading and low voltage conditions through a distribution alternative.

The existing SPS and RBEC substations provide the distribution in the Dalhart, Texas area. The current loads in the Dalhart area are served by SPS and RBEC substations, which cannot be reliably served during critical contingencies on the existing transmission. Furthermore, the nearest distribution served by other transmission is more than 30 miles away from the Dalhart area. Therefore, there is no distribution alternative to the proposed project.

Project Alternative 6: Implement a Solution by Adding Transformers
At this time, SPS does not consider adding transformers to existing facilities as a viable solution to mitigate the critical conditions listed in Table 13.3. Since there is no other source voltage to transform to in the Dalhart area, adding transformers does not make sense. However, SPS plans to construct the Dallam County to Channing to Potter County transmission line designed for 230 kV , and operated initially at 115 kV . When this line is converted to 230 kV operation, SPS would then consider adding a 230/115 kV transformer at Dallam County Substation as an alternative source to the Dalhart area.

## 15. Schematic or Diagram:

Provide a schematic or diagram of the applicant's transmission system in the proximate area of the proposed project. Show the location and voltage of existing transmission lines and substations, and the location of the proposed construction. Locate any taps, ties, meter points, or other facilities involving other utilities on the system schematic.

## Refer to Attachment 5. (SPS System Map)

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## 16. Routing Study:

Provide a brief summary of the routing study that includes a description of the process of selecting the study area, identifying routing constraints, selecting potential line segments, and the selection of the preferred and alternate routes. Provide a copy of the complete routing study conducted by the utility or consultant.

The environmental assessment (EA) and alternative routing analysis for this project, which was produced by PBS\&J with input from SPS, is included as Attachment 1 to the Application. The objective of the EA and alternative routing analysis was to select and evaluate several alternative transmission line routes and ultimately recommend a preferred and several alternate routes for the proposed 115 kV transmission line that are feasible from economic, engineering, and environmental standpoints. SPS and PBS\&J utilized comprehensive transmission line routing and evaluation methodologies to delineate and evaluate the alternative transmission line routes. Methods used to evaluate potential routes were governed by SPS's transmission line routing processes and criteria and the Texas Public Utility Regulatory Act. The following sections provide a description of the process used in the selection and evaluation of alternate transmission line routes.

Data used by PBS\&J in the delineation of alternative routes were drawn from a variety of sources, including published literature (documents, reports, maps, aerial photography, etc.) and information obtained from local, state, and federal agencies. Aerial photography acquired from the National Agriculture Imagery Program dated 2008; U.S. Geological Survey (USGS) topographic maps, TxDOT county highway maps, and ground reconnaissance surveys were used throughout the selection and evaluation of alternative routes. Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery were utilized for both the refinement and evaluation of alternative routes. The data collection effort, although concentrated in the early stages of the project, was an ongoing process that continued up to the point of final route selections.

The first step in the selection of alternative routes was to select a study area. This area needed to encompass both project termination points (the existing Dallam County Substation and the existing Sherman County Substation) and include a large enough area within which an adequate number of alternative routes could be located. The study area is a roughly rectangular area located between Dallam County Substation on the southwest and Sherman County Substation on the northeast. The study area is approximately 20 miles long and 35 miles wide. Altogether, this study area covers approximately 700 square miles in Dallam and Sherman Counties.

Since a large number of potential routes could be drawn to connect the Dallam County Substation and the Sherman County Substation, a constraints mapping process was used in selecting/refining possible alternative routes. The geographic locations of environmentally sensitive and other restrictive areas within the study area were located and considered during transmission line route delineation. These constraints were mapped on a topographic base map, which was created using USGS 1:100,000 topographic maps. The overall impact of the

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alternative routes presented in this report has been greatly reduced by avoiding, to the greatest extent possible, such constraints as individual residences, rural subdivisions, community facilities, airstrips, traveling irrigation systems, cemeteries, historic sites, archaeological sites, wetlands, parks, churches, schools, and endangered or threatened species habitat, and by utilizing or paralleling existing compatible right-of-way (ROW) and property lines, where possible.

PBS\&J identified numerous preliminary routes, which were presented to SPS for review and comment. These initial preliminary routes were examined in the field in spring 2008 by PBS\&J staff. The project team made modifications to the preliminary routes, based on the results of the field evaluation and review of highresolution aerial photography. These preliminary routes were presented to the public at an open-house meeting held in the study area on June 24, 2008.

Subsequent to the public meetings, PBS\&J staff and/or SPS performed additional reviews to look at areas of concern discussed at the public meetings, met with individual landowners, evaluated the public comments, and considered revisions to the preliminary routes. In response to public and landowner concerns, some new links were added and others were dropped completely. The project team, utilizing this input, made final revisions to the preliminary routes and identified the primary alternative routes to be evaluated by PBS\&J in this document.

Generally, the changes that were made to the preliminary routes after the June public meeting were made for the following reasons:

- To improve the paralleling of apparent property lines,
- To improve the paralleling of compatible ROW,
- To reduce other land use impacts to ranching and farming operations,

Ultimately, five primary alternative routes were selected that were then specifically studied and evaluated by the PBS\&J staff. Each of the alternative routes was examined in detail in the field during summer 2008 and winter 2009. In evaluating the alternative routes, 33 environmental criteria were considered. The goal of this evaluation was to select a preferred and several alternate transmission line routes between the Dallam County Substation and the Sherman County Substation. The analysis of each route involved inventorying and tabulating the number or quantity of each environmental criterion located along the centerline of each route (e.g., number of habitable structures, the length across wooded areas, etc.). The number or amount of each factor was determined by reviewing various maps and recent color aerial photography, and by field verification, where possible. The environmental advantages and disadvantages of each alternative were then evaluated. After PBS\&J made their preferred and alternate route recommendations, SPS undertook a further evaluation in which PBS\&J's environmental evaluations were considered in conjunction with SPS's criteria associated with constructability, maintenance, and operation. SPS's evaluation and made their selection of preferred and alternate routes.

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Following the evaluation by discipline, the group of PBS\&J evaluators discussed the relative importance and sensitivity of the various criteria as they applied to the five primary alternative routes and the study area. It was the decision of the group that land use criteria should be the primary route selection factor. Following this decision, the group selected route 5 as the consensus preferred route and then agreed on a consensus ranking for the remaining alternatives, starting with the least-impacting alternate route. The decision to recommend the preferred route was based primarily on the following advantages for route 5 among the objective criteria.

- shortest alternative route
- least amount of mobile irrigation systems
- least amount of known habitat of endangered or threatened species
- least amount of high-probability areas crossed

And, like each of the primary alternative routes, route 5:

- crosses no open waters
- crosses no recorded cultural resource sites


## 17. Public Meeting or Public Open House:

Provide the date and location for each public meeting or public open house that was held in accordance with Procedural Rule $\$ 22.52$. Provide a summary of each public meeting or public open house including the approximate number of attendants, and a copy of any survey provided to attendants and a summary of the responses received. Provide a description of the method of notice, a copy of any notices, and the number of notices that were mailed and/or published.

SPS conducted one public meeting, which took place on June 24, 2008 from 5:00-8:00 p.m. The meeting was held at the Allyn Finch Intermediate School Cafeteria located at 701 East $10^{\text {th }}$ Street in Dalhart, Texas. The notices were mailed to the individual property owners. Refer to Appendix B of Attachment 1 (EA), for an example copy of the notice.

At the meeting, rather than a formal presentation in speaker-audience format, SPS and PBS\&J staff used space by setting up several information stations. Each station was devoted to a particular aspect of the routing study and was manned by SPS Siting and Land Rights, Transmission Engineering, Regulatory personnel, and/or PBS\&J staff. Each station had maps, illustrations, photographs, and/or text explaining each particular topic. Interested citizens and property owners were encouraged to visit each station in order, so that the entire process could be explained in the general sequence of project development. The information station format is advantageous because it allows attendees to process information in a more relaxed manner and allows them to focus on their particular area of interest and ask specific questions. More importantly, the one-on-one discussions with SPS and PBS\&J staff encouraged more interaction from those citizens who might be hesitant to participate in a speaker-audience format.

PBS\&J staff at the first station signed visitors in and handed out a questionnaire. The questionnaire solicited comments on citizen concerns as well as an evaluation of the information presented at the open house. Copies of the questionnaire are included in Appendix B. Completed questionnaires were received either at the meeting or later. Following is a description of the meeting and a summary of questionnaires received:

Of the 199 directly affected landowners (within 300 feet of the alternative routes) invited to the landowner meeting, a total of 28 people signed in as attending the public open-house meeting in Dalhart, Texas, on June 24,2008 . Eleven individuals returned questionnaires.

The most important considerations for most respondents who completed questionnaires included maintaining reliable electric service and for the proposed transmission to be along roads and railroads.

## Refer to Section 5.2 and Appendix B of Attachment 1 (EA).

## 18. Routing Maps:

Base maps should be a full scale (one inch = one mile) highway map of the county or counties involved, or a U.S.G.S. 7-minute topographical map, or other map of comparable scale with sufficient cultural and natural features to permit location of the proposed route in the field. Provide a map (or maps) that shows the study area, routing constraints, and all routes or line segments that were considered prior to the selection of the preferred and alternate routes. Identify the preferred and alternate routes and any existing facilities to be interconnected or coordinated with the proposed project. Locate any taps, ties, meter points, or other facilities involving other utilities on the routing map. Show all existing transmission facilities located in the study area. Include the location of the habitable structures, radio transmitters and other electronic installations, airstrips, irrigated pasture or cropland, parks and recreational areas, historical and archeological sites, and any environmentally sensitive areas.

Refer to Figure 2-4 of Attachment 1 (EA) for the Primary Alternatives Route Map.
Refer to Figure 4-1 of Attachment 1 (EA) for the Land Use Constraints Map.
Refer to Attachment 5 for the System Map, which shows SPS's existing transmission system.
Refer to Attachment 6 for the Highway Map.
Refer to Figure 6-1 of Attachment 1 (EA) for the habitable structures.

## 19. Permits:

List any permits or approvals required by other governmental agencies for the construction of the proposed project. Indicate whether or not permits have been obtained.
Permits will be obtained from the Texas Department of Transportation (TxDOT) for any crossing of a state-

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maintained roadway prior to construction. Crossing permits will be obtained from the Burlington Northern Santa Fe Railway and the Union Pacific Railroad prior to construction.

## 20. Habitable structures:

List all single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230 kV or less, or within 500 feet of the centerline of a transmission project greater than 230 kV . Provide a general description of each habitable structure and its distance from the centerline of the proposed project. In cities, towns or rural subdivisions, houses can be identified in groups. Provide the number of habitable structures in each group and list the distance from the centerline to the closest habitable structure in the group. Locate all listed habitable structures or groups of structures on the routing map.

Tables 6-3, 6-4, 6-5, 6-6, and 6-7 and Figure 6-1 in PBS\&J's EA report provides the number and location of habitable structures within 300 feet of the five primary alternative routes from the Dallam County Substation to the Sherman County Substation. There are five habitable structures located within 300 feet of the proposed centerline of Route 1, ten for Route 2, nine for Route 3, two for Route 4, and eight for Route 5. Habitable structures located within 300 feet of the primary alternative routes consist of single-family residences and businesses.

## 21. Electronic Installations:

List all commercial AM radio transmitters located within 10,000 feet of the center line of the proposed project; and all FM radio transmitters, microwave relay stations or other similar electronic installations located within 2,000 of the center line of the proposed project. Provide a general description of each installation and its distance from the center line of the project. Locate all listed installations on a routing map.

All five primary alternative routes are within 10,000 feet of one AM radio transmitter (KXIT). Additionally, Routes 2,3 , and 5 are within 2,000 feet of two communication towers while there are no towers within 2,000 feet of Route 4. See Figure 4-1 of Attachment 1 (EA) report for locations of electronic installations.

## 22. Airstrips:

List all known private airstrips within 10,000 feet of the center line of the project. List all airports registered with the Federal Aviation Administration (FAA) with at least one runway more than 3,200 feet in length that are located within 20,000 feet of the center line of the proposed project. Indicate whether any transmission structures will exceed a 100:1 horizontal slope (one foot in height for each 100 feet in distance) from the closest point of the closest runway. List all listed airports registered with the FAA having no runway more than 3,200

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feet in length that are located within 10,000 feet of the center line of the proposed project. Indicate whether any transmission structures will exceed a 50:1 horizontal slope from the closest point of the closest runway. List all heliports located within 5,000 feet of the center line of the proposed project. Indicate whether any transmission structures will exceed a $25: 1$ horizontal slope from the closest point of the closest landing and takeoff area of the heliport. Provide a general description of each private airstrip, registered airport, and registered heliport; and state the distance of each from the center line of the proposed transmission line. Locate all airstrips, airports, and heliports on a routing map.

Section 4.5.4 of Attachment 1 (EA) report discusses the details and data relative to the number and proximity of aviation facilities within the minimum distance of all five primary alternative routes. See Figure 4-1 of Attachment 1 (EA) report for locations of airstrips and airports.

## 23. Irrigation Systems:

Identify any pasture or cropland irrigated by traveling irrigation systems (rolling or pivot type) that will be traversed by the proposed project. Provide a description of the irrigated land and state how it will be affected by the proposed project (number and type of structures etc.). Locate any such irrigated pasture or cropland on a routing map.

Each primary alternative route is heavily developed with center pivot irrigation sprinkler systems. The sprinklers range in radius from less than one-eighth of a mile to one-half mile in length. The routes selected will not interfere with any of the existing center pivot sprinkler systems. There are no rolling type irrigation systems in existence near this project. Where the sprinklers overlap the potential easement location, transmission lines will be designed in such a manner as to span the length of the sprinkler overlap area. See Figure 4-1 of Attachment 1 (EA) report for locations of irrigation systems.

## 24. Notice:

Notice is to be provided in accordance with Procedural Rule §22.52.
A. Provide a copy of the written direct notice to owners of directly affected land. Attach a list of the names and addresses of the owners of directly affected land receiving notice.

Refer to Attachment 7. (Figure 2-4 of the EA was included with the notice.)
B. Provide a copy of the written notice to utilities that are located within five miles of the proposed transmission line.

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## Refer to Attachment 8. (Figure 2-4 of the EA was included with the notice.)

C. Provide a copy of the written notice to county and municipal authorities.

## Refer to Attachment 9. (Figure 2-4 of the EA was included with the notice.)

D. Provide a copy of the notice that is to be published in newspapers of general circulation in the counties in which the proposed facilities are to be constructed. Attach a list of the newspapers that will publish the notice for this application. After the notice is published, provide the publisher's affidavits and tear sheets.

## Refer to Attachment 10. (A map was included in the newspaper notice.)

## 25. Parks and Recreation Areas:

List all parks and recreational areas owned by a governmental body or an organized group, club, or church located within 1,000 feet of the center line of the project. Provide a general description of each area and its distance from the center line. Identify the owner of the park or recreational area (public agency, church or club). List the sources used to identify the parks and recreational areas. Locate the listed sites on a routing map.

A review of the Texas Outdoor Recreation Inventory (TORI), Texas Land and Water Conservation and Recreation Plan, Dalhart Area Chamber of Commerce, USFS National Grasslands Plan Revision, Office of the Governor Economic Development and Tourism, and federal, state, and local maps identified several park/recreational facilities within the study area.

The largest recreational area in the study area is the Rita Blanca National Grasslands, numerous small shortgrass prairie tracts managed by the United States Forest Service intermixed with private lands across 115,000 acres in New Mexico and the Texas Panhandle. The tracts are managed for wildlife, vegetation and soil conservation; grazing; and recreation (birdwatching, hunting, hiking, and riding). This feature is documented on the Texas Parks \& Wildlife Departments Rita Blanca Loop map of the Panhandle Plains Wildlife Viewing Trail.

A portion of route 4 is located within $1,000 \mathrm{ft}$ of the Rita Blanca National Grasslands. Because this route does not cross the National Grassland's boundary, there would be no interference with any potential recreational activities.

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## Refer to Figure 4-1 of Attachment 1 (EA).

## 26. Historical and Archeological Sites:

List all historical and archeological sites known to be within 1,000 feet of the center line of the proposed project. Include a description of the site and its distance to the center line of the project. List the sources (national, state or local commission or societies) used to identify the sites. Locate all historical sites on a routing map. For the protection of the sites, archeological sites need not be shown on maps.

SPS contracted with PBS\&J to identify any possible historical or archeological sites within 1,000 feet of the centerline of the proposed project. PBS\&J conducted historical /archeological fieldwork on the preferred route (Route 5) during February and March 2009. The interim report was sent to the Texas Historical Commission on April 30, 2009. Based on PBS\&J's investigation, no historical or archeological sites were found to be within 1,000 feet of the centerline of the proposed project.

## Refer to Attachment 2.

## 27. Coastal Management Program:

Indicate whether the proposed project is located, either in whole or in part, within the coastal management program boundary as defined in 31 T.A.C. §503.1. If the project is, either in whole or in part, in the coastal management program, indicate whether if any part of the proposed facilities are seaward of the Coastal Facilities Designation Line as defined in 31 T.A.C. §19.2(a)(21). Identify the type(s) of Coastal Natural Resource Area(s) using the designations in 31 T.A.C. $\S 501.3(b)$ impacted by any part of the proposed facilities.

The proposed project is not located within the coastal management program boundary as defined in 31 T.A.C. 503.1.

## 28. Environmental Impact:

Provide copies of any environmental impact studies or assessments of the project. If no formal study was conducted for this project, explain how the routing and construction of this project will impact the environment. List the sources used to identify the existence or absence of sensitive environmental areas. Locate any environmentally sensitive areas on routing map. In some instances, the location of the environmentally sensitive areas or the location of protected or endangered species should not be included on maps to insure preservation of the areas or species.

See "Environmental Assessment and Alternate Route Analysis for the Dallam to Sherman 115-kV Transmission Line Project Dallam and Sherman Counties, Texas" labeled as "Attachment 1" to the Application.

# Application For A Certificate of Convenience and Necessity <br> For A Proposed Transmission Line 

## AFFIDAVIT

## STATE OF TEXAS

## COUNTY OF POTTER

I, James M. Bagley, after first being duly sworn state the following: I am filing this application as Manager, Regulatory Administration. I am qualified and authorized to file and verify this application, and am personally familiar with the information supplied in this application; and to the best of my knowledge, all information provided, statements made, and matters set forth in this application are true and correct; and all requirements for the filing of this application have been satisfied. I further state that this application is made in good faith and that this application does not duplicate any filing presently before the commission.

AFFIANT
(Applicant's Authorized Representative)

SUBSCRIBED AND SWORN TO BEFORE ME, a Notary Public in and for the state of Texas, this $\qquad$ day of June 2009.

SEAL
$\square$
Notary Public

My Commission Expires:


[^0]:    ${ }^{1}$ "Rising Utility Construction Costs: Sources and Impacts," prepared for The Edison Foundation by Marc W. Chupa and Gregory Basheda of The Brattle Group, September 2007.

[^1]:    2 "Overview of Distributed Resources" Dan Rastler, Area Manager Distributed Resource, Electric Power Research Institute (EPRI) solutions.

