## APPLICATION FOR A

## CERTIFICATE OF CONVENIENCE AND NECESSITY

## FOR A PROPOSED TRANSMISSION LINE

## WITHIN DALLAM, HARTLEY, OLDHAM, AND POTTER COUNTIES, TEXAS

DOCKET NO. 37771

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 230 kV TRANSMISSION LINE INITIALLY OPERATED AT 115 kV WITHIN DALLAM, HARTLEY, AND POTTER COUNTIES, TEXAS. THE PROJECT NAME IS DALLAM COUNTY SUBSTATION TO CHANNING SUBSTATION TO NORTHWEST SUBSTATION.

Design Voltage Rating (kV): 230 kV
Operating Voltage Rating (kV): 115 kV
Normal Peak Operating Current Rating (A): 1371 amps

The proposed transmission line project is presented in two segments. Segment I Dallam County Substation to Channing Substation and Segment II Channing Substation to Northwest Substation. The Segment I Dallam County Substation to Channing Substation portion of the project will be presented with a preferred route and two alternate routes consisting of a combined 29 links. The Segment II Channing Substation to Northwest Substation portion will be presented with one preferred route and four alternate routes consisting of a combined 16 links. The proposed transmission line will be constructed as 230 kV due to future load growth projections in the Dalhart area. A future 230 kV source will strengthen and reinforce the existing 115 kV system by placing a 230/115 kV transformer near Dalhart. The proposed new 230 kV transmission line will be constructed using both single-pole steel structures and two-pole steel H -frame structures. The Segment I Dallam County Substation to Channing Substation portion will be constructed on new right-ofway consisting of a proposed easement width of 70 feet for the portion of the line that is constructed with single pole steel and 90 feet for that portion of the line where H -frame structures are used. The Segment II Channing Substation to Northwest Substation portion proposes to be constructed on the same corridor as existing 69 kV circuit Y66 for approximately 35 miles. The existing 69 kV circuit Y 66 , which is currently the main source from North Amarillo Switching Station to Channing Substation, will in some instances, be removed and replaced with the new 230 kV transmission line, and in other instances will parallel the new line from Channing Substation to Cliffside Tap which is approximately 35 miles. Approximately eight miles of new 230 kV transmission line will then be constructed from Cliffside Tap to Northwest Substation. The new 230 kV transmission line from Channing Substation to Tascosa Substation, which is approximately 14 miles, will be constructed as double circuit. When the line is converted to 230 kV , a new 33 kV breaker will be added at Channing Substation and a 33 kV three-phase circuit will occupy the second circuit position which will serve Tascosa Substation. The proposed easement width for the Segment II Channing Substation to Northwest Substation portion is 70 feet for the portion of the line that is constructed with single pole steel and 90 feet for that portion of the line where two-pole steel H -frame structures are used. The substation upgrades for this project include: a 115 kV breaker addition at Dallam County

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Substation, a 115 kV breaker terminal at Channing Substation along with the addition of a new 115/34.5 kV transformer, a new 115 kV bus, and a new 115 kV breaker terminal for the Northwest Substation line. The load presently served from the 69 kV source will be transferred to the new 115 kV source. Tascosa distribution substation, presently served with a tap from existing 69 kV circuit Y 66 , will be converted to 115 kV and a new $115 / 13.2 \mathrm{kV}$ transformer will be added along with a new 115 kV circuit switcher and high-side structure. There will also be a new 115 kV breaker terminal added at Northwest Substation to receive the new transmission line.

## Segment I Dallam County Substation to Channing Substation

All routes described below will begin at the Dallam County Substation and end at the existing Channing Substation which will be expanded.

## Route 1 (QQ-KK-L-R-II-HH-P-SS-UU-U-W-GG-NN-Y-BB)

Route 1 is approximately 34.5 miles in length and begins at the existing Dallam County Substation and follows Link QQ in a southwesterly direction for approximately 3,100 feet, crossing Ponderosa Lane, U.S. Highway 87, and the BNSF Railroad. Link QQ turns in a southeasterly direction for approximately 2,000 feet and then proceeds in a southerly direction for approximately 3,800 feet. Link QQ then heads in a southwesterly direction for approximately 5,000 feet, generally parallel to, and northwest of, the Union Pacific Railroad and U.S. Highway 54. At this point, Link QQ turns in a southeasterly direction for approximately 11,300 feet, crossing the Union Pacific Railroad and U.S. Highway 54 while paralleling a portion of existing transmission Circuit T-47 before terminating at the intersection of Links LL, KK, and QQ. Link KK begins at the intersection of Links QQ, KK, and LL and heads in a southerly direction for approximately 5,301 feet and ends at the north end of Link L. Link L begins at the south end of Link KK and heads in a southerly direction for approximately 10,454 feet before terminating at the west end of Link R. Link R begins at the south end of Link $L$ and heads in an easterly direction for approximately 15,721 feet before terminating at the intersection of Links II, R, and M. Link II begins at the intersection of Links R, M, and II and heads in a southeasterly direction for approximately 269 feet generally parallel, to and west of, the BNSF Railroad and U.S. Highway $87 / 385$ before terminating at Link HH. Link HH begins at the south end of Link II and continues in a southeasterly direction for approximately 37,182 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 87/385. Link HH crosses County Road 1 and County Road 36 midway through the alignment and terminates at Link P. Link P begins at the south end of Link HH and heads in a southerly direction for approximately 3,221 feet before terminating at the intersection of Links TT, SS, and P. Link SS begins at the intersection of Links SS, P, and TT and heads in a westerly direction for approximately 800 feet and then continues in a southerly direction for approximately 5,600 feet, at which point it crosses County Road M. Link SS then extends for approximately 50 feet south of the centerline of County Road M before turning to the east. The route then heads in an easterly direction for approximately 4,000 feet parallel to County Road M, along the southern

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edge of the town of Hartley, Texas. Link SS then continues in a southeasterly direction for approximately 3,000 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links UU, TT, and SS. Link UU begins at the intersection of Links SS, TT, and UU and heads in a southeasterly direction for approximately 2,736 feet, generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at Link U. Link U begins at the south end of Link UU and continues in a southeasterly direction for approximately 51,474 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385, crossing County Roads R and T before terminating at Link W. Link W begins at the south end of Link $U$ and continues in a southerly direction for approximately 9,237 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links FF, GG, and W. Link GG begins at the intersection of Links W, FF, and GG and heads in a southerly direction for approximately 1,447 feet, crossing the BNSF Railroad and U.S. Highway 385 and ends at the north end of Link NN. Link NN begins at the south end of Link GG and heads in a southerly direction for approximately 159 feet, terminating at the intersection of Links Y and OO. Link Y begins at the intersection of Links NN, OO, and Y and heads in a southerly direction for approximately 4,420 feet before terminating at Link BB. Link BB begins at the south end of Link Y and heads in a southwesterly direction for approximately 1,318 feet before terminating at the existing Channing Substation.

## Route 2 (B-F-G-I-M-II-HH-P-TT-UU-U-W-FF-EE-AA)

Route 2 is approximately 33.1 miles in length and begins at the Dallam County Substation and follows Link B in an easterly direction for approximately 9,869 feet, crossing U.S. Highway 385 and terminating at Link F. Link F begins at the east end of Link B and heads in an easterly direction for approximately 3,706 feet, crossing the Union Pacific Railroad and U.S. Highway 54 before terminating at Link G. Link G begins at the east end of Link F and heads in an easterly direction for approximately 2,640 feet to Noble Road, then turns south along Noble Road for approximately 10,560 feet, crosses Ranch Road 297 and terminates at the north end of Link I. Link I begins at the south end of Link G and heads in a southerly direction for approximately 10,462 feet, crossing Ranch Road 281, U.S. Highway 87/385, and the BNSF Railroad before terminating at the intersection of Links M, K, and I. Link M begins at the intersection of Links I, K, and M and heads in a southeasterly direction for approximately 11,474 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway $87 / 385$ before terminating at the intersection of Links M, R, and II. Link II begins at the intersection of Links R, M, and II and heads in a southeasterly direction for approximately 269 feet generally parallel to, and west of, the BNSF Railroad before terminating at Link HH. Link HH begins at the south end of Link II and heads in a southeasterly direction for approximately 37,182 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 87/385. Link HH then crosses County Road 36 before terminating at Link P. Link P begins at the south end of Link HH and heads in a southerly direction for approximately 3,221 feet before terminating at the intersection of Links TT, SS, and P. Link TT begins at the intersection of Links P, SS, and TT and heads in an easterly direction for

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approximately 5,200 feet, crossing the BNSF Railroad and U.S. Highway $87 / 385$ generally parallel to FM 807. Link TT then turns in a southerly direction for approximately 8,000 feet, crossing Elm Street, U.S. Highway 87, U.S. Highway 385, and the BNSF Railroad before terminating at the intersection of Links SS, TT, and UU. Link UU begins at the intersection of Links SS, TT, and UU and heads in a southeasterly direction for approximately 2,736 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at Link U . Link $U$ begins at the south end of Link UU and heads in a southeasterly direction for approximately 51,474 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385, crossing County Roads R and T before terminating at Link W. Link W begins at the south end of Link $U$ and heads in a southerly direction for approximately 9,237 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at Links FF, GG, and W. Link FF begins at the intersection of Links W, GG, and FF and heads in a southeasterly direction for approximately 1,642 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links EE, H, and FF. Link EE begins at the intersection of Links $\mathrm{H}, \mathrm{FF}$, and EE and heads in a southwesterly direction for approximately 4,494 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at Link AA. Link AA begins at the south end of Link EE and heads in a southwesterly direction for approximately 1,200 feet generally parallel to, and west of, West Railroad Avenue, the BNSF Railroad, and U.S. Highway 385. Link AA then turns east for approximately 900 feet, crossing West Railroad Avenue, the BNSF Railroad, and U.S. Highway 385 before turning to the southeast. Link AA extends for approximately 230 feet and then terminates at the existing Channing Substation.

## Route 3 (QQ-LL-K-M-II-HH-P-SS-UU-U-W-FF-H-OO-Y-BB) (Preferred Route)

Route 3 is approximately 33.4 miles in length and begins at the existing Dallam County Substation and follows Link QQ in a southwesterly direction for approximately 3,100 feet, crossing Ponderosa Lane, U.S. Highway 87, and the BNSF Railroad. Link QQ heads in a southeasterly direction for approximately 2,000 feet and then proceeds in a southerly direction for approximately 3,800 feet. Link QQ then heads in a southwesterly direction for approximately 5,000 feet generally parallel to, and northwest of, the Union Pacific Railroad and U.S. Highway 54. At this point, Link QQ turns in a southeasterly direction for approximately 11,300 feet, crossing the Union Pacific Railroad and U.S. Highway 54 while paralleling a portion of existing transmission Circuit T-47 before terminating at the intersection of Links LL, KK, and QQ. Link LL begins at the intersection of Links QQ, KK, and LL and heads in a southeasterly direction parallel to existing transmission line Circuit T-47 for approximately 5,948 feet before terminating at Link K. Link K begins at the south end of Link LL and heads in an easterly direction for approximately 8,051 feet, parallel to existing transmission line Circuit T-47 to a point west of the BNSF Railroad and U.S. Highway $87 / 385$ before terminating at the intersection of Links M, I, and K. Link M begins at the intersection of Links I, K, and M and heads in a southeasterly direction for approximately 11,474 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway $87 / 385$ before terminating at the

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intersection of Links M, R, and II. Link II begins at the intersection of Links R, M, and II and heads in a southeasterly direction for approximately 269 feet, generally parallel to and west of the BNSF Railroad and U.S. Highway $87 / 385$ before terminating at Link HH. Link HH begins at the south end of Link II and heads in a southeasterly direction for approximately 37,182 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 87/385. Link HH then crosses County Road 36 and terminates at Link P. Link P begins at the south end of Link HH and heads in a southerly direction for approximately 3,221 feet before terminating at the intersection of Links TT, SS, and P. Link SS begins at the intersection of Links SS, P, and TT and heads in a westerly direction for approximately 800 feet and then continues in a southerly direction for approximately 5,600 feet, at which point it crosses County Road M. Link SS then extends approximately 50 feet south of the centerline of County Road $M$ before turning to the east. The route then heads in an easterly direction parallel to County Road M for approximately 4,000 feet along the southern edge of the town of Hartley, Texas to a point west of the BNSF Railroad and U.S. Highway 385. Link SS then heads in a southeasterly direction for approximately 3,000 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links UU, TT, and SS. Link UU begins at the intersection of Links SS, TT, and UU and heads in a southeasterly direction for approximately 2,736 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385, before terminating at the north end of Link U. Link U begins at the south end of Link UU and heads in a southeasterly direction for approximately 51,474 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 crossing County Roads R and T before terminating at Link W. Link W begins at the south end of Link $U$ and heads in a southerly direction for approximately 9,237 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links FF, GG, and W. Link FF begins at the intersection of Links W, FF, and GG and heads in a southerly direction for approximately 1,642 feet generally parallel to, and west of, the BNSF Railroad and U.S. Highway 385 before terminating at the intersection of Links EE, H, and FF. Link H begins at the intersection of Links FF, EE, and H and heads in an easterly direction for approximately 257 feet, crossing the BNSF Railroad and U.S. Highway 385 before terminating at Link OO. Link OO begins at the east end of Link H and heads in an easterly direction for approximately 33 feet before terminating at the intersection of Links NN, Y, and OO. Link Y begins at the intersection of Links NN, OO, and Y and heads in a southerly direction for approximately 4,420 feet before terminating at Link BB. Link BB begins at the south end of Link Y and heads in a southwesterly direction for approximately 1,318 feet before terminating at the existing Channing Substation.

## Segment II Channing Substation to Northwest Substation

All routes described below will begin at the Channing Substation and end at the existing Northwest Substation, which will be expanded.
Route 1 (A-C-L-P-N-D-I-R-J) (Preferred Route)
Route 1 is approximately 43.8 miles in length and begins at the existing Channing Substation and follows

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Link A in a southerly direction for approximately 4,300 feet generally parallel to Tascosa Avenue. Link A crosses $4^{\text {th }}, 5^{\text {th }}, 6^{\text {th }}, 7^{\text {th }}$, and $8^{\text {th }}$ Streets before terminating at the intersection of Links A, B, and C. Link C heads in a westerly direction for approximately 300 feet before turning in a southerly direction parallel to U.S. Highway 385 for approximately 9,000 feet, crossing an unnamed road and U.S. Highway 385 and terminating at the intersection of Links M, L, and C. Link C is a relocation of a portion of existing Circuit Y66 to be adjacent to U.S. Highway 385. Link L heads in a southerly direction for approximately 12,900 feet parallel to County Road Z and the BNSF Railroad, then crosses two tributaries of the Canadian River. Link L then heads in a southeasterly direction for approximately 40,100 feet generally parallel to the existing Circuit Y66 transmission line, crossing County Road Y and two tributaries of the Canadian River before terminating at the intersection of Links P, O, and L. Link P heads in a southerly direction for approximately 3,500 feet and then proceeds in a southeasterly direction for approximately 1,800 feet, crossing a tributary of the Canadian River. Link P then heads in a southerly direction for approximately 4,000 feet, turns in a southeasterly direction for approximately 4,000 feet, and then heads in an easterly direction for approximately 4,000 feet, crossing U.S. Highway 385 before terminating at the intersection of Links P, Q, and N. Link N heads in a southeasterly direction for approximately 92,800 feet, generally parallel to the existing Circuit Y66 transmission line with a small section of Y66 being replaced to relocate the new line adjacent to Ranch Road 1061. Link N crosses County Road W, the BNSF Railroad, Ranch Road 1061, Hackberry Lane, Ady Street, Ferns Road, Knob Hill Road, and seven tributaries of the Canadian River before terminating at the intersection of Links N, H, and D. Link D heads in a southeasterly direction for approximately 4,350 feet generally parallel to the existing Circuit Y66 transmission line and ends at the intersection of Links D, I, and G. Link I heads in a southeasterly direction for approximately 19,900 feet, crossing Juan Powell Road, an unnamed road and a tributary of the Canadian River before terminating at the intersection of Links R, G, and I. Link R heads in a southerly direction for approximately 2,000 feet, crossing Brickplant Road and terminating at the intersection of Links R, J, and K. Link J heads in a southerly direction for approximately 22,600 feet generally parallel to, and west of, Soncy Road, crossing the BNSF Railroad, Patrick Street, Cliffside Road, and five tributaries of the Canadian River. Link J then heads in an easterly direction for approximately 300 feet, crossing Soncy Road and terminating at the existing Northwest Substation.

## Route 2 (A-C-L-O-Q-N-D-I-R-J)

Route 2 is approximately 42.9 miles in length and begins at the existing Channing Substation and follows Link A in a southerly direction for approximately 4,300 feet, generally parallel to Tascosa Avenue. Link A crosses $4^{\text {th }}, 5^{\text {th }}, 6^{\text {th }}, 7^{\text {th }}$, and $8^{\text {th }}$ Streets before terminating at the intersection of Links A, B, and C. Link C heads in a westerly direction for approximately 300 feet before turning in a southerly direction parallel to U.S. Highway 385 for approximately 9,000 feet, crossing an unnamed road and U.S. Highway 385 and terminating at the intersection of Links M, L, and C. Link C is a relocation of a portion of existing Circuit Y66 to be adjacent to U.S. Highway 385. Link L heads in a southerly direction for approximately 12,900

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feet parallel to County Road $Z$ and the BNSF Railroad, then crosses two tributaries of the Canadian River. Link $L$ then heads in a southeasterly direction for approximately 40,100 feet generally parallel to the existing Circuit Y66 transmission line, crossing County Road Y and two tributaries of the Canadian River before terminating at the intersection of Links $\mathrm{P}, \mathrm{O}$, and L . Link O heads in a southeasterly direction for approximately 9,200 feet, crossing a tributary of the Canadian River before terminating at the intersection of Links O, M, and Q. Link Q heads in a southeasterly direction for approximately 5,100 feet generally parallel to the existing Circuit Y66 transmission line and crosses U.S. Highway 385, before terminating at the intersection of Links $\mathrm{Q}, \mathrm{P}$, and N . Link N heads in a southeasterly direction for approximately 92,800 feet, generally parallel to the existing Circuit Y66 transmission line with a small section of Y66 being replaced to relocate the new line adjacent to Ranch Road 1061. Link N crosses County Road W, the BNSF Railroad, Ranch Road 1061, Hackberry Lane, Ady Street, Ferns Road, Knob Hill Road, and seven tributaries of the Canadian River before terminating at the intersection of Links N, H, and D. Link D heads in a southeasterly direction for approximately 4,350 feet generally parallel to the existing Circuit Y66 transmission line and ends at the intersection of Links D, I, and G. Link I heads in a southeasterly direction for approximately 19,900 feet, crossing Juan Powell Road, an unnamed road, and a tributary of the Canadian River before terminating at the intersection of Links R, G, and I. Link R heads in a southerly direction for approximately 2,000 feet, crossing Brickplant Road and terminating at the intersection of Links R, J, and K. Link J heads in a southerly direction for approximately 22,600 feet generally parallel to and west of Soncy Road, crossing the BNSF Railroad, Patrick Street, Cliffside Road, and five tributaries of the Canadian River. Link J then heads in an easterly direction for approximately 300 feet, crossing Soncy Road and terminating at the existing Northwest Substation.

## Route 3 (B-C-M-Q-N-D-I-R-J)

Route 3 is approximately 43.4 miles in length and begins at the existing Channing Substation and follows Link B in an easterly direction for approximately 1,400 feet, crossing Rosine and Alabama Avenues. Link B then turns in a southerly direction for approximately 4,200 feet, crossing State Highway 354. Link B turns in a westerly direction for approximately 2,300 feet and terminates at the intersection of Links A, B, and C. Link C heads in a westerly direction for approximately 300 feet before turning in a southerly direction parallel to U.S. Highway 385 for approximately 9,000 feet, crossing an unnamed street and U.S. Highway 385 and terminating at the intersection of Links M, L, and C. Link C is a relocation of a portion of existing Circuit Y66 to be adjacent to U.S. Highway 385. Link M heads in a southeasterly direction for approximately 47,500 feet generally parallel to U.S. Highway 385. Link M crosses County Road Y, four unnamed roads, and five tributaries of the Canadian River before terminating at the intersection of Links $\mathrm{M}, \mathrm{O}$, and Q . Link Q heads in a southeasterly direction for approximately 5,100 feet generally parallel to the existing Circuit Y66 transmission line and crosses U.S. Highway 385 before terminating at the intersection of Links Q, P, and N. Link N heads in a southeasterly direction for approximately 92,800 feet, generally parallel to the existing Circuit Y66 transmission line with a small section of Y66 being replaced

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to relocate the new line adjacent to Ranch Road 1061. Link N crosses County Road W, the BNSF Railroad, Ranch Road 1061, Hackberry Lane, Ady Street, Ferns Road, Knob Hill Road, and seven tributaries of the Canadian River before terminating at the intersection of Links N, H, and D. Link D heads in a southeasterly direction for approximately 4,350 feet, generally parallel to the existing Circuit Y66 transmission line and ends at the intersection D, I, and G. Link I heads in a southeasterly direction for approximately 19,900 feet, crossing Juan Powell Road, an unnamed road, and a tributary of the Canadian River before terminating at the intersection of Links R, G, and I. Link R heads in a southerly direction for approximately 2,000 feet, crossing Brickplant Road and terminating at the intersection of Links R, J, and K. Link J heads in a southerly direction for approximately 22,600 feet generally parallel to, and west of, Soncy Road, crossing the BNSF Railroad, Patrick Street, Cliffside Road, and five tributaries of the Canadian River. Link J then heads in an easterly direction for approximately 300 feet, crossing Soncy Road and terminating at the existing Northwest Substation.

## Route 4 (B-C-M-Q-N-D-G-R-K)

Route 4 is approximately 46.8 miles in length and begins at the existing Channing Substation and follows Link B in an easterly direction for approximately 1,400 feet, crossing Rosine and Alabama. Link B then turns in a southerly direction for approximately 4,200 feet, crossing State Highway 354. Link B turns in a westerly direction for approximately 2,300 feet and terminates at the intersection of Links A, B, and C. Link C heads in a westerly direction for approximately 300 feet before turning in a southerly direction, parallel to U.S. Highway 385, for approximately 9,000 feet, crossing an unnamed road and U.S. Highway 385 and terminating at the intersection of Links M, L, and C. Link C is a relocation of a portion of existing Circuit Y66 to be adjacent to U.S. Highway 385. Link M heads in a southeasterly direction for approximately 47,500 feet generally parallel to U.S. Highway 385. Link M crosses County Road Y, four unnamed roads, and five tributaries of the Canadian River before terminating at the intersection of Links $\mathrm{M}, \mathrm{O}$, and Q . Link Q heads in a southeasterly direction for approximately 5,100 feet, generally parallel to the existing Circuit Y66 transmission line and crosses U.S. Highway 385 before terminating at the intersection of Links Q, P, and N. Link N heads in a southeasterly direction for approximately 92,800 feet, generally parallel to the existing Circuit Y66 transmission line with a small section of Y66 being replaced to relocate the new line adjacent to Ranch Road 1061. Link N crosses County Road W, the BNSF Railroad, Ranch Road 1061, Hackberry Lane, Ady Street, Knob Hill Road, Ferns Road, and seven tributaries of the Canadian River before terminating at the intersection of Links N, H, and D. Link D heads in a southeasterly direction for approximately 4,350 feet, generally parallel to the existing Circuit Y66 transmission line and ends at the intersection D, I, and G. Link G heads in an easterly direction for approximately 17,000 feet, crosses Hedge Coke Pass and several unnamed roads, and then turns in a southerly direction, paralleling the existing Circuit J3 transmission line, for approximately 22,500 feet, crosses two more unnamed roads and a tributary of the Canadian River before terminating at the intersection of Links G, I, and R. Link R heads in a southerly direction for approximately 2,000 feet,
crossing Brickplant Road and terminating at the intersection of Links R, J, and K. Link K heads in a southeasterly direction for approximately 28,700 feet, crossing the BNSF Railroad, Cliffside Road, and two Canadian River tributaries before turning west for approximately 3,160 feet and terminating at the existing Northwest Substation.

## Route 5 (A-C-L-P-N-H)

Route 5 is approximately 45.9 miles in length and begins at the existing Channing Substation and follows Link A in a southerly direction for approximately 4,300 feet generally parallel to Tascosa Avenue. Link A crosses $4^{\text {th }}, 5^{\text {th }}, 6^{\text {th }}, 7^{\text {th }}$, and $8^{\text {th }}$ Streets before terminating at the intersection of Links A, B, and C. Link C heads in a westerly direction for approximately 300 feet before turning in a southerly direction parallel to U.S. Highway 385 ,for approximately 9,000 feet, crossing an unnamed road and U.S. Highway 385 and terminating at the intersection of Links M, L, and C. Link C is a relocation of a portion of existing Circuit Y66 to be adjacent to U.S. Highway 385. Link L heads in a southerly direction for approximately 12,900 feet, crossing County Road Z and the BNSF Railroad, then crosses two tributaries of the Canadian River. Link L then heads in a southeasterly direction for approximately 40,100 feet, generally parallel to the existing Circuit Y66 transmission line, crossing County Road Y and two tributaries of the Canadian River before terminating at the intersection of Links $\mathrm{P}, \mathrm{O}$, and L . Link P heads in a southerly direction for approximately 3,500 feet and then proceeds in a southeasterly direction for approximately 1,800 feet, crossing a tributary of the Canadian River. Link P then heads in a southerly direction for approximately 4,000 feet, turns in a southeasterly direction for approximately 4,000 feet, and then heads in an easterly direction for approximately 4,000 feet, crossing U.S. Highway 385 before terminating at the intersection of Links P, Q, and N. Link N heads in a southeasterly direction for approximately 92,800 feet, generally parallel to the existing Circuit Y66 transmission line with a small section of Y66 being replaced to relocate the new line adjacent to Ranch Road 1061. Link N crosses County Road W, the BNSF Railroad, Ranch Road 1061, Hackberry Lane, Ady Street, Ferns Road, Knob Hill Road, and seven tributaries of the Canadian River before terminating at the intersection of Links N, H, and D. Link H heads in a southerly direction for approximately 33,300 feet, crossing Hedge Coke Pass, the BNSF Railroad, Tascosa Road, five unnamed roads, and a tributary of the Canadian River. Link H then proceeds in a southeasterly direction for approximately 8,800 feet, crossing Estates Drive, one unnamed road and a tributary of the Canadian River. Link H then heads in an easterly direction for approximately 15,900 feet, crossing Girl Scout Road, Ranch Road 1061, and Soncy Road before terminating at the existing Northwest Substation.

## 4. Conductor and Structures:

Conductor Size and Type
Conductor for the circuit will be 795 kcMIL, ACSR, $26 / 7$ stranded, code name DRAKE. The static wire will be $3 / 8$ " EHS galvanized steel.

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## Segment I Dallam County Substation to Channing Substation

## Type of Structures

The line will be built using primarily two-pole steel H -frame structures with a few single-pole steel structures. 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 80 and 135 feet.

Explain why these structures were selected; include such factors as landowner preference, engineering considerations, and costs comparisons to alternate structures that were considered.
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 self-supporting H -frame structure 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 estimated installed cost for a direct burial wood H-frame, single circuit structure would be approximately $\$ 18,600$. Estimated installed cost of the proposed steel H -frame, single circuit steel structures would be $\$ 20,300$. 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 voiced no opposition to the structures proposed for this project.

Provide dimensional drawings of the typical structures to be used in the project.
Typical 230 kV two-pole steel H-frame tangent structures are shown on SPS drawing T-10-421.
Typical 230 kV two-pole steel H-frame corner structures are shown on SPS drawing T-10-427.
Typical 230 kV single-pole steel vertical tangent structures are shown on SPS drawing T-10-429

## Refer to Attachment 3, pages 1-3.

## Segment II Channing Substation to Northwest Substation

## Type of Structures

The line will be built using primarily single pole steel structures with some two-pole steel H-frame structures. Typical heights are shown on the attached drawings and are dependent on the clearance

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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 80 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.
Within the city limits of Channing SPS chose single pole double circuit steel structures because that is the only type of structure that can be fabricated in the required heights with a small enough footprint to be placed in the street right-of-way. Additional advantages are, in part, low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. The self-supporting single pole steel structures minimize the impact to landowners because it eliminates the need for guy wires on the landowner's property, which results in a smaller footprint than a guyed structure. During the public meeting held for this project, landowners voiced no opposition to the structures proposed for this project.

From the south city limits of Channing to Tascosa Substation SPS chose single pole double circuit steel structures because most of the line will be paralleling an existing distribution circuit and using single pole design will minimize the amount of right-of-way required. Additional advantages are, in part, low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. The primarily ranching land use of the area was an additional factor in selecting this type of structure since a self-supporting single pole structure minimizes the impact to both ranchers 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. Single pole wood is not a viable option for this section of line because the heights and classes of poles required are not available. During the public meeting held for this project, landowners had no opposition to the self-supporting single pole structure design.

From Tascosa Substation to a point near Potter County Substation SPS chose single pole single circuit steel structures because about 60 percent of the line will be paralleling an existing distribution circuit or existing 69 kV line and using single pole design will minimize the amount of right-of-way required. Additional advantages are, in part, low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. The primarily ranching and farming land use of the area was an additional factor in selecting this type of structure since a self-supporting single pole structure minimizes the impact to ranchers, 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. This section of the line also goes through a rural subdivision known as Valle De Oro. The use of single pole steel structures

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minimizes the impact to the landowners. Single pole wood is not a viable option for this section of line because the heights and classes of poles required are not available. During the public meeting held for this project, landowners voiced no opposition to the structures proposed for this project.

From a point near Potter County Substation to the intersection of circuit V28, SPS chose single pole single circuit steel structures to minimize the required right-of-way. Additional advantages are, in part, low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. The primarily ranching land use of the area was an additional factor in selecting this type of structure since self-supporting single pole structures minimizes the impact to ranchers 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 estimated installed cost for a direct burial wood single pole, single circuit structure would be approximately $\$ 9,500$. Estimated installed cost of the proposed steel single pole, single circuit steel structures would be $\$ 12,700$. Steel poles would require fewer structures and would make it easier to span existing ravines offsetting the additional cost. During the public meeting held for this project, landowners voiced no opposition to the structures proposed for this project.

From the intersection of circuit V28 to Northwest Substation, SPS chose single pole double circuit steel structures to utilize the existing right-of-way of circuit V28. Furthermore, this section of the line is adjacent to the Cliffside and Bishop Hills residential communities and the single pole steel structures will provide a more aesthetically pleasing line. Additional advantages are, in part, low maintenance cost, strength of the line during adverse conditions, resistance to fire damage, and increased span lengths. In addition to the primarily residential communities, the ranching land use of the area was an additional factor in selecting this type of structure since a self-supporting single pole structures minimizes the impact to ranchers 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. Single pole wood is not a viable option for this section of line because the heights and classes of poles required are not available. During the public meeting held for this project, landowners voiced no opposition to the structures proposed for this project.

## Provide dimensional drawings of the typical structures to be used in the project.

Typical 230/115 kV steel tangent structures in Channing, Texas are shown on SPS drawing T-20-460.
Typical 230/115 kV steel tangent structures between Channing, Texas and Tascosa Substation are shown on SPS drawing T-20-464.

Typical 230 kV steel tangent structures between Tascosa Substation and a point near Potter County Substation are shown on SPS drawing T-20-463.
Typical $115 / 115 \mathrm{kV}$ steel tangent structures between a point near Potter County Substation and Northwest Substation are shown on SPS drawing T-20-465.

Typical 230/115 kV steel corner structures are shown on SPS drawing T-20-466.

Typical 230 kV steel corner structure is shown on SPS drawing T-20-490.
Typical $115 / 115 \mathrm{kV}$ steel corner structure is shown on SPS drawing T-20-467.
Typical 230/115 kV steel H-frame river-crossing structure is shown on SPS drawing T-20-468.

## Refer to Attachment 3, pages 4-11.

## 5. Right-of-way:

Miles of Right-of-Way Segment I is approximately 33 to 35 miles and Segment II is approximately 43 to 47 miles depending on the route approved.

Miles of Circuit Segment I is approximately 33 to 35 miles of new 230 kV circuit depending on the routes approved.

Segment II is approximately 43 to 47 miles of new 230 kV circuit depending on the routes approved.

Width of Right-of-Way
All of the right-of-way required will be 70 or 90 feet, depending on whether single pole steel or two-pole steel H-frame structures are used, respectively. For the Segment II Channing Substation to Northwest Substation portion of the line, SPS will utilize existing right-of-way and purchase additional right-of-way where needed, but will remain in the same corridor as the existing line.

## Percent of Right-of-Way Acquired

No new or expanded right-of-way has been acquired at this time.

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 overall project area is located in Dallam, Hartley, Oldham, and Potter Counties, Texas. The area described is from Dalhart, Texas to Amarillo, Texas. The land uses in the area range from dry land farming, irrigated farming, Conservation Reserve Program (CRP) grass, open rangeland, rural residential, commercial and industrial development, and natural gas and oil exploration and drilling. The terrain can be characterized as flat to gently rolling.

## 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
- Channing Substation
- Tascosa Substation
- Northwest Substation
- Cliffside Substation

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

None.
7.

## Estimated Schedule:

## Segment I Dallam County Substation to Channing Substation

| Estimated Date of: | Start | $\underline{\text { Completion }}$ |
| :--- | :--- | :--- |
| Right-of-way Acquisition | Following CCN approval | 9 months following CCN <br> approval |
| Construction of Facilities | Upon completion of <br> right-of-way acquisition | 6 months following right- <br> of-way acquisition |
| Energize Facilities | $------------------------\quad$1 month following <br> completion of <br> construction |  |

## Segment II Channing Substation to Northwest Substation

(Construction of this segment will begin upon completion of Segment I.)

| Estimated Date of: | $\underline{\text { Start }}$ | $\underline{\text { Completion }}$ |
| :--- | :--- | :--- |
| Right-of-way Acquisition | Following CCN approval | 9 months following CCN <br> approval |
| Construction of Facilities | Following the energizing <br> of Segment I | 9 months following <br> energizing of Segment I |
| Energize Facilities | $---------------------\quad$1 month following <br> completion of <br> construction |  |

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## 8. Counties:

List all counties in which preferred or alternate routes are proposed to be constructed.
Dallam, Hartley, Oldham, and Potter Counties, Texas
9. Municipalities:

List all municipalities in which preferred or alternate routes are proposed to be constructed. Dalhart and Channing

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 when possible and relies on the city franchise for right-ofway purposes when necessary. SPS will use a corridor in Channing where we have existing facilities. Copies of the Dalhart and Channing franchise agreements are attached.

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

The new line will cross areas that are certificated to RBEC. As a result, construction coordination between SPS and RBEC may be required when SPS crosses existing RBEC distribution circuits. However, all necessary construction for this project will be handled by SPS.
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.
12. Estimated Costs:

Segment I Dallam County Substation to Channing Substation

|  | Route 1 <br> Links: QQ-KK-L-R-II-HH-P-SS- <br> UU-U-W-GG-NN-Y-BB <br> 34.5 miles |  | Route 2 <br> Links: B-F-G-I-M-II-HH-P-TT-UU-U- <br> W-FF-EE-AA <br> 33.1 miles |  | Route 3 (Preferred Route) <br> Links: QQ-LL-K-M-II-HH-P-SS-UU- <br> U-W-FF-H-OO-Y-BB <br> 33.4 miles |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities |
| Right-of-Way (Easement \& Fees) | \$1,668,832 |  | \$1,654,104 |  | \$1,657,260 |  |
| Material \& Supplies | \$8,862,405 | \$2,607,251 | \$9,074,253 | \$2,607,251 | \$8,896,270 | \$2,607,251 |
| Labor \& Transportation (Utility) | \$4,100,355 | \$635,698 | \$4,540,684 | \$635,698 | \$4,029,962 | \$635,698 |
| Labor \& Transportation (Contract) |  | \$507,924 |  | \$507,924 |  | \$507,924 |
| Stores | \$1,294,740 | \$256,470 | \$1,322,097 | \$256,470 | \$1,300,764 | \$256,470 |
| Engineering \& Administration (Utility) | \$474,220 | \$503,014 | \$521,033 | \$503,014 | \$607,407 | \$503,014 |
| Engineering \& Administration (Contract) | \$435,200 |  | \$435,200 |  | \$435,200 |  |
| Estimated Total Cost | \$16,835,752 | \$4,510,357 | \$17,547,371 | \$4,510,357 | \$16,926,863 | \$4,510,357 |

## Application For A Certificate of Convenience and Necessity

## For A Proposed Transmission Line

## Segment II Channing Substation to Northwest Substation

|  | Route 1 (Preferred Route) <br> Links: J-R-I-D-N-P-L-C-A <br> 43.8 miles |  | Route 2 <br> Links: J-R-I-D-N-Q-O-L-C-A <br> 42.9 miles |  | Route 3 <br> Links: J-R-I-D-N-Q-M-C-B <br> 43.4 miles |  | Route 4 <br> Links: K-R-G-D-N-Q-M-C-B <br> 46.8 miles |  | Route 5 <br> Links: H-N-P-L-C-A <br> 45.9 miles |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities | Transmission Facilities | Substation Facilities |
| Right-of-Way (Easement \& Fees) | \$1,039,000 |  | \$1,033,160 |  | \$1,025,600 |  | \$773,650 |  | \$901,800 |  |
| Material \& Supplies | \$12,834,328 | \$934,210 | \$12,507,665 | \$934,210 | \$13,043,587 | \$934,210 | \$13,680,310 | \$934,210 | \$12,878,707 | \$934,210 |
|  <br> Transportation (Utility) | \$5,261,288 | \$208,733 | \$5,137,586 | \$208,733 | \$5,375,530 | \$208,733 | \$5,723,930 | \$208,733 | \$5,367,248 | \$208,733 |
|  <br> Transportation (Contract) |  | \$85,915 |  | \$85,915 |  | \$85,915 |  | \$85,915 |  | \$85,915 |

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.

SPS is a member of, and its entire transmission system is located within, the Southwest Power Pool (SPP). The SPP is an organization that meets the requirements of PURA Section 39.151 as an independent system operator. The SPP has determined that there is a need and has recommended that SPS construct the proposed transmission line.

## Refer to Attachment 5, page 2.

The proposed 230 kV transmission circuits (initially operated at 115 kV ) from Dallam County Substation to Channing Substation and Channing Substation to Tascosa Substation to Northwest Substation are needed to provide and sustain reliable service to the growing load-base of Channing, Texas and the surrounding rural areas between Channing, Texas and the communities of Dalhart and Dumas, Texas. The Dallam County Substation to Channing Substation transmission circuit will provide a new alternate source to both Channing and Tascosa substations for the elimination of a "Lights-Out" condition. These substations, along with the Cliffside Substation, are presently served from 69 kV Circuit Y66 which is a radial line. In the event this line is out of service, these substations are left without an electrical source, thus a "LightsOut" condition is present. This new transmission line will also provide for a more reliable system and additional transmission capacity to the counties of Dallam, Hartley, and Moore necessary to serve the agricultural, gas, and oil industries, while improving system intact voltage conditions during periods of peak load. Finally, it will improve the service to the Bureau of Land Management's (BLM) Helium Plant served from the Cliffside Substation in Amarillo, Texas by eliminating their exposure to line outages from the existing 69 kV Circuit Y66 that presently serves Channing and Tascosa substations.

Although this circuit is primarily being proposed to serve and improve electrical service to the existing load-base in Dallam, Hartley, and Oldham counties, other benefits will be realized. The new circuit will also provide additional load-serving options to RBEC as the need for new delivery points to serve their customer load-base develop. Also, customers in and around the proposed transmission corridor have verbally indicated the need for the fruition of these new circuits as a result of renewable energy they are interested in connecting. Finally, these new transmission circuits, as part of the Texas North System upgrades, provide additional transmission capacity to the western corridor of the Texas Panhandle and will improve the transmission reliability of the Texas Panhandle area.

## Existing Transmission System

The existing radial 69 kV transmission circuit proposed for upgrade in this application serves three substations: Channing Substation, Tascosa Substation, and Cliffside Substation. The Channing Substation serves the community of Channing, Texas and rural distribution load outside of Channing, Texas towards Dalhart and Dumas, Texas. The Tascosa Substation serves radial distribution load with the largest load being the Cal Farley's Boys Ranch, while the Cliffside Substation serves the BLM's Helium Plant northwest of Amarillo, Texas. Figure 13.1 shows a geographic map illustrating the project area, the Channing, Tascosa and Cliffside substations, and the existing 69 kV transmission circuit proposed for upgrade in this application.

At the present time, only one 69 kV transmission source serves both the Channing and Tascosa substations out of the Amarillo, Texas area. In the event this transmission circuit is out of service the local and rural load-base in the communities of Channing, Texas and Tascosa, Texas are left without electricity until repairs are made. That is to say, no alternative transmission source presently exists to serve the Channing and Tascosa substations when the source out of the Amarillo, Texas area is unavailable.

Figure 13.1: Project Area and Existing Transmission System Serving Channing and Tascosa substations


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Additionally, the existing 69 kV transmission circuit Y66 was built in 1939 and historically has been the second worst performing circuit on the SPS system with a recorded 52 line events which included 15 outages totaling approximately 43 hours of "Lights-Out" in the last five years. Presently, under a normal system configuration, the existing 69 kV transmission circuit does not provide the necessary requirements to sustain reliable transmission service to the growing residential, industrial, and agricultural load-base in the Channing, Texas area. A study performed to determine loading limitations at the Channing Substation required that the load served out of this substation be limited to 6.8 MW . This was done in order to maintain acceptable voltage levels in accordance with SPP criteria, on the 69 kV bus at the Channing Substation. As a result of this limitation, approximately 2 MW of load requests that should be served out of the Channing Substation are presently being served out of the Dalhart Substation 25 miles north of Channing. This has been accomplished via the relocation of the normal open point on the distribution lines that tie the Channing and Dalhart substations together. While this has allowed for service to this load, the exposure placed on the customers at Dalhart has significantly increased which will trigger more loss of load during an outage event and places additional voltage stress as the load continues to increase.

Finally, with the removal of the existing 69 kV circuit Y66, electrical service to the Cliffside Substation, serving the BLM Helium Plant northwest of Amarillo, Texas, will also improve. Since this transmission circuit is the second worst performing circuit in the company, the BLM has also been subjected to the poor electrical service rendered by this line. The improvement in electrical service to this customer is a direct result in the reduction of approximately 34 miles of line exposure that will be removed from the Cliffside Substation. By removing this portion of the 69 kV line from Cliffside towards Channing, the Cliffside Substation will no longer be susceptible to disturbances previously seen on this section of line.

## Load History

In the area north of Amarillo, Texas, SPS serves a mixture of customer types from agricultural-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 is due to the continued electrification of irrigation wells to sustain the growing agricultural-related industries such as local dairies, which in turn provide the raw material for the cheese plant in Dalhart, Texas. The oil and gas industries have also contributed to the area load growth and have requested load additions in areas presently served by RBEC. It is expected that the load in this area will continue to grow. 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 13.1 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 13.1: 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

## Project Description

As part of the project to improve reliability and sustain acceptable electric service on the entire load presently served out of the Dalhart, Channing, Tascosa, Cliffside, and Dumas 19th Street substations, the following transmission system improvements are needed. This consists of upgrading the existing radial 69 kV transmission line presently serving the Channing and Tascosa substations, with a new 230 kV transmission line (initially operated at 115 kV ) beginning at the Channing Substation and ending at the Northwest Substation in Amarillo, Texas. This will require upgrading both the Tascosa and Channing substations for 115 kV service since the new line and substations will initially be operated at 115 kV . This will remove the limitation placed on the Channing Substation and allow for a better redistribution of load served between the Channing and Dalhart substations, thus reducing the exposure presently added to the load-base out of the Dalhart Substation.

Second, in order to provide a much needed backup source to eliminate the potential for extended outages to these substations, it is required that a second 230 kV transmission line (initially operated at 115 kV ) be built from the Dallam County Substation to the Channing Substation. This will provide for a new 115 kV source to the Channing Substation in the event the 115 kV circuit originating at the Northwest Substation is unavailable. Figure 13.3 below shows the two 230 kV transmission lines (initially operated at 115 kV ) originating at Channing Substation and leading to the Dallam and Northwest substations.

Figure 13.3: Project Area with Proposed Transmission System Improvements


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## Planning Criteria / Philosophy

SPS is a member of the SPP, which has recommended this project. SPS does not operate in the Electric Reliability Council of Texas (ERCOT) region and 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 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.
- 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.


## Refer to Attachment 5, page 2.

## Powerflow Studies

Power flow studies to determine a suitable solution that would encompass both the load-serving obligations to the SPS customers served from the Channing, Tascosa, and Cliffside substations and improve the reliability of the electrical service were performed. The study considered options that would improve the present load-serving capability of the existing transmission system during system-intact conditions, during a "Lights-Out" condition, and provide additional transmission capacity to the western corridor of the Texas Panhandle.

The first issue addressed in the study was the system-intact voltage problems experienced at the Channing Substation during peak loading periods. SPP-adopted planning criteria states that during system intact conditions bus voltages must be maintained at or above $95 \%$ of the nominal voltage. Loading conditions on the 69 kV transmission bus during peak load resulted in voltage values falling below the $95 \%$ requirement needed for acceptable voltage. During the onset of this voltage problem, a determination was made to shift load from the Channing Substation, via the distribution system, to the Dalhart Substation. This provided an immediate temporary solution, which resulted in the operation of the distribution system in a manner that was abnormal and placed additional load-serving burden on the Dalhart Substation. Moving of the normal open point on the distribution system shifted load from one substation to another; however, the system-intact violation that triggered the load shift was only temporarily corrected to allow time to determine a more permanent solution.

Using the latest SPP planning models, a P-V (Power vs. Voltage) analysis was performed to determine the maximum power that could be served at the Channing Substation and still sustain the $95 \%$ voltage on the 69 kV bus required to meet SPP criteria. Figure 13.4 shows a P-V graph indicating how the system-intact

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voltage will improve when the upgrade to the existing 69 kV transmission line is completed. The first line (Existing 69 kV ) illustrates the present voltage condition on the 69 kV and how increases in load deteriorate the voltage at the Channing Substation and shows that when the voltage reaches $95 \%$ of nominal, only 6.8 MW can be served. Once the load exceeds the 6.8 MW value, the voltage at the Channing Substation falls below acceptable SPP planning criteria. The remaining two lines illustrate how the system-intact bus voltage significantly improves as the proposed 230 kV constructed transmission line initially operated at 115 kV line from Dallam County Substation to Channing Substation (Dallam-Channing 115 kV ONLY) is placed in operation and how it further improves once all the proposed upgrades (Dallam-Channing-Northwest 115 kV ) are completed.

Figure 13.4: Channing Substation P-V Graph


During contingency analysis, for the loss of a single transmission element, only one contingency presently exists on the transmission circuit serving the Channing, Tascosa, and Cliffside substations. Since the electrical service to these substations is provided via a single radial 69 kV transmission circuit, the outage of this circuit yields the loss of the entire load at all three substations. Table 13.2 below is provided to illustrate the total load that is without electric service when an outage occurs on the existing 69 kV transmission circuit serving these three substations, if the proposed lines are not built.

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Table 13.2: Load Loss Pre-Project

| Loss of Load (MVA) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Contingency <br> (Outaged Transmission Element) | 2010 | 2011 | 2014 | 2019 |
| 69 kV line from North Amarillo <br> Substation to Channing Substation | 11.8 | 12.5 | 13.6 | 15.9 |

Re-evaluation using the same planning models with the new 115 kV transmission lines ( 230 kV constructed) from Dallam County Substation to Channing Substation and from Channing Substation to Northwest Substation, finds that the proposed transmission lines provide reliable service without "LightsOut" conditions. Table 13.3 shows that there is no loss of load following the construction of the proposed lines.

Table 13.3: Load Loss Post-Project

| Loss of Load (MVA) |  |  |  |
| :---: | :---: | :---: | :---: |
| 115 kV Contingency <br> (Outaged Transmission Element) | 2011 | 2014 | 2019 |
| Northwest Substation - Tascosa Substation 115 kV Line | - | - | - |
| Tascosa Substation - Channing Substation 115 kV Line | - | - | - |
| Channing Substation <br> Line | - Dallam County Substation 115 kV | - | - |

The "Lights-Out" condition that existed prior to the construction of the proposed lines is completely removed and the entire load at both the Channing and Tascosa substations is served during single contingency analysis.

Additionally, all previous low bus voltage conditions are corrected and voltage levels are sustained well above the SPP criteria for both system-intact conditions and during single contingency events. The SPP criterion states that for a single contingency, bus voltages must be maintained above $90 \%$ of nominal value. Following the post-project construction of the proposed lines, the nominal voltage will be 115 kV . Table 13.4 and Table 13.5 illustrate the post-project bus voltage values at both the Channing and Tascosa substations for the noted contingencies in each table.

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Table 13.4: Post Project, Channing Substation Bus Voltage

| Channing Substation Voltage (\%) |  |  |  |
| :---: | :---: | :---: | :---: |
| (Outaged Transmission Element) | 2011 | 2014 | 2019 |
| Northwest Substation - Tascosa Substation Line | $98.5 \%$ | $100.3 \%$ | $97.8 \%$ |
| Tascosa Substation - Channing Substation Line | $98.7 \%$ | $100.7 \%$ | $98.2 \%$ |
| Channing Substation - Dallam County Substation Line | $99.5 \%$ | $99.0 \%$ | $98.0 \%$ |

Table 13.5: Post Project, Tascosa Substation Bus Voltage

| Tascosa Substation Voltage (\%) |  |  |  |
| :---: | :---: | :---: | :---: |
| (Outaged Transmission Element) | 2011 | 2014 | 2019 |
| Northwest Substation - Tascosa Substation Line | $98.4 \%$ | $100.2 \%$ | $97.7 \%$ |
| Tascosa Substation - Channing Substation Line | $99.8 \%$ | $99.3 \%$ | $98.5 \%$ |
| Channing Substation - Dallam County Substation Line | $99.6 \%$ | $99.1 \%$ | $98.1 \%$ |

Finally, the study performed by SPS to determine the problems with the present 69 kV transmission system serving Channing and Tascosa substations were also identified by the SPP through their internal planning processes. As such, the SPP has approved and directed Network Upgrades to be constructed by issuing a Notification to Construct for the construction of the transmission lines applied for in this application.

## Refer to Attachment 5, page 2.

## 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.

The following projects are the alternatives considered for service to the Channing and Tascosa substations and the determination of why none of these alternatives were considered as viable projects to resolve the transmission issue SPS was trying to correct.

Project Alternative 1: Re-conductor Existing 69 kV Circuit Y66
This project alternative proposes that the existing 69 kV Circuit Y66 be re-conductored with larger size

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conductor ( 397.5 kcMIL ACSR). This re-conductoring of the existing 69 kV line would reduce the reactance of the line by $17 \%$ and increase the rating of this new line from 41 MVA to 103 MVA. However, the existing transmission structures were never designed to withstand the weight and wind loading with the larger size conductor. Additionally, it is not possible to change out the conductor on the line while it is energized since the line cannot be taken out of service because the line is radial and is the only source to the Channing and Tascosa substations. SPS did not pursue this option since this is not a viable alternative and does not solve the "Lights-Out" situation that exists during the loss of the existing 69 kV transmission circuit.

Project Alternative 2: 69 kV to 115 kV Transmission Voltage Upgrade
This alternative would only upgrade the existing 69 kV Circuit Y66 from 69 kV to 115 kV with 397.5 kcMIL ACSR conductor. However, other than the voltage increase, this alternative is similar to Alternative 1 in that structural restrictions prevent the upgrade of this existing 69 kV circuit to 115 kV . Similarly, the work cannot be done while the circuit is energized and the new higher-voltage circuit alone does not resolve the "Lights-Out" situation.

## Project Alternative 3: Distributed Generation

This project alternative would use 200 kW micro-turbine generators grouped together at appropriate locations to mitigate low-voltage conditions and "Lights-Out" conditions at Channing and Tascosa substations. This alternative would also require sufficient resources to provide the necessary backup service to Dalhart and Dumas $19^{\text {th }}$ Street substations. The Channing Substation serves as the backup electrical distribution source to the entire load between Channing and the Dalhart and Dumas $19^{\text {th }}$ Street substations served along the distribution feeder ties; therefore, the installation of these micro-turbines would require that sufficient units be installed to serve the entire Channing Substation load and the load between the Dalhart and Dumas $19^{\text {th }}$ Street substations.
The estimated cost ${ }^{1}$ for a 200 kW gas turbine generator is $\$ 150,000$. Therefore, the cost for enough 200 kW gas turbine generators to serve the present load requirements is estimated as follows.

$$
\text { Generator Cost }=\frac{k W \text { Required }}{\text { Unit Rating } k W} \times \text { Unit Cost }=\frac{10,000}{200} \times \$ 150,000=\$ 7,500,000
$$

This cost does not include the fuel supply system to each turbine group, sales tax, shipping, maintenance, or the costs to interconnect to the system. Additionally, the cost does not take into account the large amounts of load that could be added if the economic downturn currently being experienced in the United States

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

improves, and the additional distribution generation (additional micro-turbine units) that will be required. As a result, this project alternative was rejected by SPS because of its poor adaptability to large increments in load relative to SPS's proposed project.

## Project Alternative 4: Distribution

No distribution alternative exists for the distribution system to serve additional load. All possible remedial measures have been taken. The maximum load is already being served from the Dalhart Substation 25 miles away and customers in the area have been discouraged from adding additional load until a solution is found. The distribution system would be unable to serve all Channing Substation and Tascosa Substation loads from such a distance because of low voltage, undesirable operating characteristics, and degradation of reliability.

## 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 6.

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

## 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 these projects were produced by PBS\&J with input from SPS Siting and Land Rights personnel and are included as Attachment 1 and Attachment 2 to the Application.

## Segment I (Dallam County Substation to Channing Substation)

The study area was delineated to encompass the project termination points, which are the existing Dallam County Substation and the existing Channing Substation. The study area for the proposed 230 kV transmission line for Segment I (Dallam County Substation - Channing Substation) is approximately 36 miles east to west and 39 miles north to south located in Dallam and Hartley Counties of the Texas Panhandle.

The next step in the process was to identify routing constraints within the study area. These consisted of habitable structures, out buildings and barns, irrigation wells, traveling irrigation systems, cemeteries, historic sites, archaeological sites, wetlands, parks, churches, schools, and endangered or threatened species habitat, electrical distribution lines, as well as underground utilities and above ground communication towers. Additionally, where possible, existing compatible right-of-ways (ROW) and property lines where identified.

The data used by PBS\&J and SPS in the delineation of alternative routes included published literature (documents, reports, maps, aerial photography, etc.) and information obtained from local, state, and federal agencies including information obtained from county appraisal district maps and records. 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 refinement and evaluation of alternative routes.

After careful consideration and study of all possible routes within the approximate 1,404 square mile area, along with possible constraints and landowner input, PBS\&J and SPS Siting and Land Rights personnel selected a preferred route and two (2) alternate routes for this project. Each route includes secondary links that may be considered. The potential routes were evaluated comparing all routes from a strictly

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

environmental viewpoint, based upon the measurement of 34 separate environmental criteria and the consensus opinion of PBS\&J's group of evaluators.

PBS\&J's group of evaluators selected Route 3 as the preferred route. Route 3 parallels and/or is adjacent to the most existing transmission line corridors, is parallel and adjacent to the second most existing public road/highways, and has 15 habitable structures (one more than the route with the least) with 300 feet of the proposed centerline.

## Refer to Attachment 1, Table 6-2.

## Segment II (Channing Substation to Northwest Substation)

The study area was delineated to encompass the project termination points which are the existing Channing Substation and the existing Northwest Substation. The study area for the proposed 230 kV transmission line for Segment II (Channing Substation - Northwest Substation) is approximately 41 miles east to west and 40 miles north to south located in Hartley, Oldham, and Potter Counties of the Texas Panhandle.

The next step in the process was to identify routing constraints within the study area. These consisted of habitable structures, out buildings and barns, irrigation wells, traveling irrigation systems, cemeteries, historic sites, archaeological sites, wetlands, parks, churches, schools, and endangered or threatened species habitat, electrical distribution lines, as well as underground utilities and above ground communication towers. Additionally, where possible, existing compatible right-of-ways (ROW) and property lines where identified.

The data used by PBS\&J and SPS in the delineation of alternative routes included published literature (documents, reports, maps, aerial photography, etc.) and information obtained from local, state, and federal agencies including information obtained from county appraisal district maps and records. 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 refinement and evaluation of alternative routes.
After careful consideration and study of all possible routes within the approximate 1,640 square mile area, along with possible constraints and landowner input, PBS\&J and SPS Siting and Land Rights personnel selected a preferred route and eleven alternate routes for this project. Each route includes secondary links that may be considered. The potential routes were evaluated comparing all routes from a strictly environmental viewpoint, based upon the measurement of 34 separate environmental criteria and the consensus opinion of PBS\&J's group of evaluators.

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

PBS\&J's group of evaluators selected Route 1 as the preferred route. Route 1 parallels and/or is adjacent to existing corridors (transmission lines, roads/highways, and apparent property lines) for its entire length, has 61 habitable structures but no newly affected habitable structures within 300 feet of the proposed centerline, has the least amount of riparian woodlands, and the least amount of recorded cultural resource sites within $1,000 \mathrm{ft}$ of the proposed centerline.

## Refer to Attachment 2, Table 6-2.

## 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.

PBS\&J and SPS conducted two public open-house meetings in conjunction with the proposed line. The first meeting dealt with the Segment I Dallam County Substation to Channing Substation portion of the proposed line and was held on June 23, 2008 at the Hartley School located at $9^{\text {th }}$ Street and Johnson in Hartley, Texas from 5:00 to 8:00 pm. The second meeting dealt with the Segment II Channing Substation to Northwest Substation portion of the proposed line and was held on July 10, 2008 at Boys Ranch in the Dobkins Fine Arts/Ned O. Miller Auditorium located at 11 Julian Bivins in Boys Ranch, Texas from 4:30 to 7:00 pm.

## Segment I Dallam County Substation to Channing Substation

Of the 222 directly affected landowners invited to the landowner meeting, 55 attended. 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 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/PBS\&J staff encouraged more interaction from those citizens who might be hesitant to participate in a speaker-audience format.

SPS and 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

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at the open house. At the completion of the meeting, landowner attendees were asked to complete a routing questionnaire. SPS received 25 completed questionnaires at the meeting.

## Refer to Attachment 1, Appendix B.

## Segment II - Channing Substation to Northwest Substation

Of the 230 directly affected landowners invited to the landowner meeting, 18 attended. 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 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/PBS\&J staff encouraged more interaction from those citizens who might be hesitant to participate in a speaker-audience format.

SPS and 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. At the completion of the meeting, landowner attendees were asked to complete a routing questionnaire. SPS received 5 completed questionnaires at the meeting.

## Refer to Attachment 2, Appendix B.

## 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.

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

Refer to Figures 2-2 and 6-1 from Attachment 1 and Figures 2-2 and 6-1 from Attachment 2 for the Route Maps.

Refer to Attachment 7 for the Highway Maps. Pages 1-4 detail the Segment I Dallam County Substation to Channing Substation portion while pages 5-7 detail the Segment II Channing Substation to Northwest Substation portion.

## 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.
For Segments I and II, permits will be obtained from the Texas Department of Transportation (TxDOT) for any crossing of a state maintained roadway prior to construction. Crossing permits will be obtained from the BNSF and Union Pacific railroads prior to construction. The appropriate permits will be obtained after the CCN is approved and 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.

## Segment I Dallam County Substation to Channing Substation

Tables 6-1, 6-3, 6-4, and 6-5 in PBS\&J's EA report (Attachment 1) provides the number and location of habitable structures within 300 feet of the three primary alternative routes from Dallam County Substation to Channing Substation. There are 14 habitable structures located within 300 feet of the proposed centerline of alternate Route 1, 33 for Route 2, and 15 for Route 3. Habitable structures located within 300 feet of the primary alternative routes consist of homes, shops, barns, mobile homes, and businesses.

## Segment II Channing Substation to Northwest Substation

Tables 6-1, 6-3, 6-4, 6-5, 6-6, and 6-7, in PBS\&J's EA report (Attachment 2) provides the number and location of habitable structures within 300 feet of the five primary alternative routes from Channing Substation to Northwest Substation. There are 61 habitable structures within 300 feet of the proposed centerline of Route 1, 62 for Route 2, 34 for Route 3, 17 for Route 4, and 42 for Route 5. None of the 61

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habitable structures within 300 feet of the proposed centerline of Route 1 are newly affected. Habitable structures located within 300 feet of the primary alternative routes consist of Single-Family Dwellings, Mobile Homes, Businesses, Church Buildings, Post Office, and Fire House.

## 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.

## Segment I Dallam County Substation to Channing Substation

All three primary alternative routes are within 10,000 feet of one AM radio transmitter (KXIT). Route 2 is within 2,000 feet of two communication towers while there are three towers located within 2,000 feet of Route 1 and Route 3.

## Refer to Attachment 1, Figure-6-1.

## Segment II Channing Substation to Northwest Substation

There are no AM radio transmitters within 10,000 feet of any of the five alternative routes and one communication tower within 2,000 feet of Routes 1,2 , and 5 . Routes 3 and 4 are within 2,000 feet of two communication towers.

## Refer to Attachment 2, Figure-6-1.

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

## 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 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.

## Segment I - Dallam County Substation to Channing Substation

There is one FAA registered airport, Dalhart Municipal Airport, located within 20,000 feet of the existing Dallam County Substation and all three routes. The closest link to the runway is Link QQ at a distance of approximately 4,744 feet. Link QQ would not exceed a 100:1 horizontal slope from the closest point of the closest runway.

There are no known heliports within 5,000 feet of any of the routes and no known private airstrips within 10,000 feet of any of the routes.

## Refer to Attachment 1, Figure 6-1.

## Segment II - Channing Substation to Northwest Substation

There are no known FAA registered airports within 20,000 feet of any of the primary alternative routes.

There are no known heliports within 5,000 feet of any of the primary alternative routes.

One private landing strip is shown on U.S. Geological Survey (USGS) topographic maps, but appears to no longer be in use. The centerline of Link $O$ is approximately 1,114 feet from what appears on aerial photography to be the remnants of a runway.

## Refer to Attachment 2, Figure 6-1.

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

## 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.

## Segment I - Dallam County Substation to Channing Substation

A portion of each primary alternative route crosses cropland irrigated by circle-pivot or other above-ground mechanical means. The sprinklers range in radius from less than one-eighth mile to one-half mile in length. The routes selected will not interfere with any of the existing center pivot sprinkler systems and no rolling type irrigation systems exist near the 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.

## Refer to Attachment 1, Figure 6-1.

## Segment II - Channing Substation to Northwest Substation

No cropland irrigated by circle-pivot or other above-ground mechanical means will be crossed by any of the alternative routes.

## Refer to Attachment 2, Figure 6-1.

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 8.

B. Provide a copy of the written notice to utilities that are located within five miles of the proposed transmission line.

## Refer to Attachment 9.

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

## Refer to Attachment 10.

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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 11.

A copy of the EA was sent to TPWD on the date the application was filed.

## 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.

## Segment I - Dallam County Substation to Channing Substation

Route 2 crosses Rita Blanca Lake State Park. According to Texas Parks and Wildlife Department, Lake Rita Blanca and its associated public land, formerly managed by Texas Parks and Wildlife Department as the state's northernmost state park is now owned by the City of Dalhart. This site provides more than 2,000 acres of public land for hiking, riding, fishing, and birding with trails, picnic areas, playgrounds, rockclimbing walls, and barn facilities.

## Refer to Attachment 1, Figure 6-1.

## Segment II - Channing Substation to Northwest Substation

There are no parks or recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

## Refer to Attachment 2, Figure 6-1.

## 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.

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## Segment I - Dallam County Substation to Channing Substation

SPS contracted with PBS\&J to identify any possible historical or archeological sites within 1,000 feet of the centerline of the proposed project. Based on PBS\&J's investigation, Route 1 has no recorded archeological sites and Route 2 is within 1,000 feet of one previously recorded archeological site.

PBS\&J conducted a survey on the preferred route, Route 3. The survey revealed two newly recorded sites within 1,000 feet of the centerline of the proposed project. It is the opinion of PBS\&J archeologists that these sites do not meet the criteria for National Register of Historic Places listing or State Archaeological Landmark designation. The Texas Historic Commission has not had the opportunity to review the survey report so the eligibility status of the sites has not been determined.

## Refer to Attachment 1, Appendix C.

## Segment II - Channing Substation to Northwest Substation

PBS\&J conducted a survey on the preferred route, Route 1. The total of high probability area ("HPA") identified along Route 1 is approximately 43 miles. This route crosses two previously recorded sites (41PT487 and 41PT488) and is within 1,000 feet of five additional cultural resources, two archeological sites (41PT190 and 41OL317, the Muncy Cemetery), one OTHM (Oldham County), and two NRHP listed properties (XIT Ranch Headquarters and the Hartley County Courthouse and Jail) both located in the town of Channing.

Route 2 has about 42 miles of HPA and crosses the same two sites as Route 1 (41PT487 and 41PT488) plus site 41OL260, the Boot Hill Cemetery. Seven previously recorded cultural resources are located within 1,000 feet of this alternative, including both of the above-mentioned NRHP listed properties, the Oldham County OTHM and the Boot Hill Cemetery OTHM, 41OL317 (the Muncy Cemetery), and archeological sites 41PT190 and 41OL248.

Route 3 contains approximately 42.5 miles of HPA and crosses sites 41PT487, 41PT488, and 41OL260. Five previously recorded cultural resources sites are located within 1,000 feet of the alignment, 41PT190, 41OL317, 41OL248 and the two NRHP eligible OTHMs.

HPAs within Route 4 total about 46 miles. Sites 41PT138, 41PT284, 41PT487, 41PT488, and 41OL260 have been located within the ROW. A total of eight additional recorded archeological sites and historic resources appear within 1,000 feet of the ROW; these include archeological sites 41PT137, 41PT139, 41PT190, 41PT286, 41OL317, and 41OL248 and the two NRHP eligible OTHMs.

Route 5 has approximately 45.2 of HPA. Sites 41PT401 and 41PT488 have been located within 1,000 feet

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

of the centerline. Two additional archeological sites, 41PT487 and 41OL317 are recorded within 1,000 feet of the centerline, as are the two NRHP listed properties and the Oldham County OTHM.

## Refer to Attachment 2, Appendix C.

## 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. $\$ 501.3(b)$ impacted by any part of the proposed facilities.

The proposed route 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 Alternative Route Analysis for the Dallam County Substation to Channing Substation $230-\mathrm{kV}$ Transmission Line Project Dallam to Hartley Counties, Texas," and "Environmental Assessment and Alternative Route Analysis for the Channing Substation to Northwest Substation 230-kV (initially operated at 115 kV ) Transmission Line Project Hartley, Oldham, and Potter Counties, Texas," labeled as "Attachments 1 and 2", respectively, to the Application.

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


#### Abstract

AFFIDAVIT

\section*{STATE OF TEXAS}

\section*{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 December 2009.

SEAL

## Notary Public

My Commission Expires: $\qquad$


[^0]:    ${ }^{1}$ "Overview of Distributed Resources" Dan Rastler, Area Manager Distributed Resource, Electric Power Research Institute (EPRI) solutions.

