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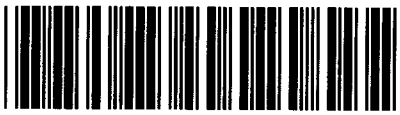


Item Number: 454

Addendum StartPage: 0

SOAH DOCKET NO. 473-11-5978
DOCKET NO. 38877

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED TRANSMISSION LINE WITHIN HALE, FLOYD, MOTLEY, COTTLE, BRISCOE, HALL, CHILDRESS, DONLEY, COLLINGSWORTH, AND WHEELER COUNTIES, TEXAS	§	STATE OFFICE OF ADMINISTRATIVE HEARINGS

REBUTTAL TESTIMONY
of
HOWARD C. HIGGINS

on behalf of
SOUTHWESTERN PUBLIC SERVICE COMPANY

(*Filename:* HigginsRebuttal.doc)

Table of Contents

454

GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
Commission	Public Utility Commission of Texas
EA	Routing Study and Environmental Assessment
FAA	Federal Aviation Administration
Proposed Project	SPS's proposed 345 kV transmission line between the TUCO Substation and the Texas-Oklahoma Interconnect
ROW	Right-of-way
SPS	Southwestern Public Service Company
Staff	Commission Staff

LIST OF ATTACHMENTS

Attachment	Description
HCH-R1	Residences versus Barn/Shed/Garage Spreadsheet
HCH-R2	Segment Removal Criteria

REBUTTAL TESTIMONY OF
HOWARD C. HIGGINS

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

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

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

A. I am employed by TRC Environmental Corporation as a Vice President and Principal Consultant.

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

A. I am filing testimony on behalf of Southwestern Public Service Company ("SPS"), an electric utility subsidiary of Xcel Energy Inc.

Q. Are you the same Howard C. Higgins who filed direct testimony on behalf of SPS in this docket?

A. Yes.

II. ASSIGNMENT AND RECOMMENDATIONS

Q. What is your assignment for this rebuttal testimony?

A. The purpose of my rebuttal testimony is to address issues raised by intervenors related to the routing of SPS's proposed 345 kV transmission line between the TUCO Substation and the Texas-Oklahoma Interconnect ("Proposed Project"). Specifically I will discuss concerns raised regarding:

- the impacts on farms and habitable structures;
- paralleling property lines and fragmentation of land;
- limitations of routing analysis; and
- the effects of the proposed line on recreational and community areas.

III. THE IMPACTS ON FARMS AND HABITABLE STRUCTURES

Q. Have you reviewed the testimony of Tom Van Zandt, Vancal and Carolyn Wilson, Mark Turnbough (on behalf of Connie Cogdell and others), and James Chanslor (on behalf of Delores Patterson) regarding the impact on farms and habitable structures?

A. Yes, I have.

Q. And what are your conclusions regarding their statements?

A. First, I wish to respond to statements by Tom Van Zandt regarding a bias favoring routing through rangeland in order to avoid mechanized irrigation systems (page 30 line 11), and Mark Turnbough's statements that "neither SPS nor TRC have any concern about cutting across privately owned land that has been historically used for ranching." (Turnbough's Direct Testimony page 58 line 12). In attempting to identify viable route alternatives for the Proposed Project, TRC and SPS followed the guidance of P.U.C. SUBST. R. 25.101(b)(3)(B), and also the compatibility of land use. Routing of a transmission line across rangeland does not hinder the use of the land for ranching. The construction of a transmission line across mechanized irrigation systems (specifically center pivot irrigation systems) is an incompatible land use practice. That is, transmission line structures cannot be placed in the footprint of a center pivot irrigation system without disrupting or completely preventing the use of the irrigation system. On ranch land, grazing livestock and wildlife species are generally unaffected by the presence of transmission lines once construction is completed. In terms of land use impacts, crossing rangeland has the least impact, followed by non-irrigated cropland, and the greatest land use impact is on irrigated

cropland. Because of these differences, routing away from mechanized irrigation systems imposes the least overall burden on land use and is a rational routing consideration. In addition, I agree with Mr. Van Zandt's observation that ranching can be a community value (Van Zandt Direct, page 31, line 22), but ranching will be able to continue on all the ranches (including the Mill Iron Ranch) on which the Proposed Project is constructed.

The importance of agricultural land uses is expressly recognized by the Public Utility Commission of Texas ("Commission") by the inclusion of question 23 on the CCN application form. As noted in the Routing Study and Environmental Assessment ("EA") and by Harold L. Hughes Jr., P.E.'s Direct Testimony on behalf of the Samann Watkins and Vee Bar Ltd. (page 24, line 25) "...agriculture is an important part of the economy within the Study Area." Because of this consideration, as listed in Table 5-1 Revised and as Mr. Harold Hughes also noted, the Preferred Route (Route 20) crosses only 7.06 miles of pasture or cropland with mobile irrigation systems of which 5.24 miles was along property of field edges. During the routing of the alternatives, minimization of the effects upon such an incompatible land use as mobile irrigation systems and the concomitant negative effects upon the local economy was recognized and considered an important factor for routing decisions.

The routing across undeveloped rangeland, because of its compatibility with the current land use, was viewed as unlikely to have a similar negative effect upon the local economy.

Q. Have you reviewed the testimony of Mr. Turnbough and Vancal and Carolyn Wilson expressing their concerns that the construction of the transmission line would lead to a loss of hunting revenue?

A. Yes. There is no indication that the increase in margin habitat, that might result from the construction of a transmission line, would lead to a decrease in deer, turkey, quail and dove populations. In this case, I am using "margin habitat" to refer to what is called an ecotone, a transition between two different patches of the landscape, such as those vegetated with "cover" (trees and shrubs) and the grass vegetated right-of-way ("ROW"). In the case of a transmission corridor, such a transition area contains two edges and is relatively narrow (being restricted to the width of the cleared right-of-way. Such shifts in the vegetative community are very significant for mobile animals, such as game species, as these species can exploit more than a single habitat within a very short distance. In the case of a transmission ROW, the edge between the ROW and the neighboring environmental communities can be expected to be vegetated with species common to plant communities on both sides of the line and highly adaptable species colonizing such transitional areas. As a result, there is, in such cases, an edge, or margin, effect with the area containing a great diversity of species. Such plant species are often preferred and highly sought after by game species. Furthermore, Ms. Cogdell's concern that the interest of her hunters in the area would decrease if the Proposed Project were built on her land is purely speculative and cannot be evaluated objectively. Deer hunters sometimes use cleared ROW as locations for hunting blinds because of the unobstructed line of sight and the increases in game sightings the ROW provides.

Q. Have you reviewed the Direct Testimony by Mr. James W. Chanslor (page 2 of 10) and others, with regard to habitable structures and the effect the proposed alternative corridors would have upon such structures?

A. Yes. I agree with the conclusion of Mr. Michael J. Lee, testifying on behalf of the Commission Staff ("Staff"), that the proposed alternative routes minimized, to the extent reasonable, the number of habitable structures located in close proximity to the routes. However, because of the importance of the issue and because page 6.1 of the the EA said that along Route 20 (the Preferred Route) there were 33 habitable structures while Table 5-1 stated there were 57, the Routing Team has re-counted the habitable structures along each of the proposed alternatives. SPS has filed a revised Table 5-1 as an errata. Furthermore, Mr. Hughes points out that approximately half of the structures in the EA are listed as barns and sheds. The revised counts show that actually, of the structures along all routes in aggregate, 78% are barns, sheds, and garages. Attachment HCH-R1 shows the breakdown for each route between residences and barns/sheds/garages. The Routing Team has worked diligently to minimize proximity to habitable structures and believes that alternative routing such as that proposed by Tom Van Zandt (parallel I-27 from Lubbock to Amarillo and thence east along I-40 to Oklahoma) would affect far more habitable structures and have a much longer length and higher cost than the alternatives presented in the EA.

Q. Have you reviewed the Direct Testimony by Ms. Watkins (pages 13-15 and 18-19) with regard to structures on the Vee Bar Ranch?

A. I have. I would offer the following observations. None of the structures or features identified is a habitable structure. Some are roads, fence lines, and water facilities

discussed elsewhere in my rebuttal. Three are listed by Ms. Watkins as Commercial or Business Habitable Structures (page 14). However, of the three, two are hunting blinds located 300-700 feet from the proposed alignment and the third is a livestock working facility located 150 feet away from the proposed line. Once built, the transmission line should not have any appreciable effect upon these uses and none of these are habitable as the Routing Team and the Commission use the term.

Q. Have you reviewed the Direct Testimony by Ms. Bradley (page 4) with regard to corrals on her ranch that would be in close proximity to the proposed line?

A. I have. Through review of the aerial imagery completed for the project, we have identified three sets of corrals north of County Road M. The closest one to the proposed segment is 2,450 feet away. The other two sets of corrals are even farther away from the proposed line. Given this distance, there should be no effect from a transmission line constructed along Segment AY precluding or limiting further use of these corrals.

Q. Have you reviewed the Direct Testimony by Plains Baptist Assembly (page 7) with regard to habitable structures at their Convention Center that would be in close proximity to the proposed line?

A. I have. Through review of the aerial imagery completed for the project, the Routing Team has calculated the distance from the proposed Segment H. The closest approach of this line that TRC can locate is slightly over 655 feet from the structures. If a route containing Segment H were approved, SPS witness Sean Frederiksen has indicated SPS will work with Plains Baptist Assembly to site the line, within the

minor route modifications limits allowed by the Commission in its order approving this CCN to minimize any affect on these structures.

Q. What is your response to Cross Rebuttal testimony from several intervenors (Baccus, Bramlett, Doucette, Henderson, Price Estate Farm, and Yeary) stating that "Route 6 does not reasonably avoid the habitable structures of the Doucettes, Hendersons and Price Estate Farms?"

A. These witnesses misconstrue the requirement to reasonably avoid habitable structures. The requirement does not apply to specific habitable structures, but to habitable structures as a whole. One must examine the entire route to determine if habitable structures have been reasonably avoided rather than asking, as these witnesses do, whether the specific habitable structures in which they are most interested have been avoided. Route 6 is almost 187 miles long and only 12 residences are within 500 feet of the centerline (the 44 other habitable structures are barns and sheds). Moreover, according to the direct testimony of Mr. Doucette, Mr. Henderson and Ms. Kjellstrom, the residences on the Doucette, Henderson, and Price Estate Farm properties are more than 500 feet from the centerline of any route segment. Since 500 feet is the standard set by the Commission, I believe SPS has reasonably avoided habitable structures generally and these residences in particular.

Q. Have you reviewed the testimony from Mr. Allred concerning two airstrips located on his ranch that could be affected by the proposed transmission line?

A. I have.

Q. What are your observations about this testimony?

A. In his testimony (Allred Direct testimony page 10 line 4), Mr. Allred states that two

airstrips were submitted for approval to the Federal Aviation Administration ("FAA") in November 2010. It is noteworthy that at the time of the Routing Team's study, neither was an approved airport and thus neither was listed by the FAA as an airport that might be an issue for the project. One of these grass airstrips is in Section 27, Block 11. The closest point to any of the proposed segments is in Section 27, one mile due west of the northern terminal point of Segment BF. Close inspection of the aerial photos indicates a field on the eastern edge of Section 27 that could be this airstrip. At that terminal point, Segment CI begins and runs northeast. South of that terminal point, Segment BF runs north-south in a straight line for seven miles before turning west. If the runway has the north/south orientation as it appears on the aerial to have, then the transmission line shouldn't have any impact on this airstrip.

According to Mr. Allred's testimony, the second airstrip is in Section 79, block 11. The northern end of Segment CI crosses the northwest portion of Section 79. Depending upon where the airstrip is, if a route containing Segment CI were to be approved by the Commission, then it is possible the transmission line could be near this airstrip. More precise information on the location of this second airstrip and its orientation is required for the Routing Team to determine any potential conflicts between the transmission line and the airstrip.

IV. ALLEGED LIMITATIONS OF THE ROUTING ANALYSIS PROCESS

Q. Have you reviewed the testimony of Tom Van Zandt and Mark Turnbough (on behalf of Connie Cogdell and others) regarding the alleged limitations of the routing analysis process?

A. Yes, I have.

Q. What are your conclusions regarding these statements?

A. First, I wish to respond to statements by Mr. Van Zandt regarding informal "guidance factors" (page 10, line 5) and the need for "additional routes" (pages 34-36). Mr. Van Zandt suggests that an iterative process should be followed to initially screen out less suitable alternatives (page 12 line 4), and that impacts should be "presented in comparative form" (page 11 line 28). This is exactly the process followed by TRC and the Routing Team. Certain segments were discarded during the routing process in favor of better alternatives.

This also pertains to Mr. Van Zandt's allegations that certain alternative segments were eliminated unwarrantedly; and that this led to what he called the "Collingsworth County Chokepoint". TRC and the Routing Team followed the process outlined above, which even Mr. Van Zandt suggested as the appropriate procedure. As he indicated in his testimony, the reasons for elimination of segments in the early stage of the process are many and various. However, these reasons can be put in four categories: 1) some segments were substantially longer than others and thus were eliminated due to their impact on cost; 2) some segments contain a large number of effects (for example nine habitable structures); 3) some segments are not forward progressing (that is they go backwards or away from the connection point);

4) some segments lack connection with other segments, thus precluding their use in the construction of a viable route.

The "Collingsworth County Chokepoint" is the result of two primary factors. These include the limitations on good crossings points for certain environmental constraints (such as the Prairie Dog Town Fork of the Red River), and the inevitable narrowing of the area traversed by the routes once a proximal location to the end points is reached. See Attachment HCH-R2 for a breakdown on a segment by segment basis of the reasons for removal of the segments in question.

Furthermore, TRC and the Routing Team's evaluation in this regard is supported by the testimony of Michael J. Lee, testifying on behalf of Staff, in his conclusions that the Application is adequate (page 31, line 22), and contained an adequate number of reasonably differentiated alternative routes (page 11, line 15). The conclusion that the analytical process was appropriate is also supported by Mr. Turnbough's statement that "Inspection of the values assigned to the 40 criteria in the table for all of the segments in each route provides a good point of departure for further analysis. The TRC study focused on a realistic number of alternative routes for the study area." (Turnbough Direct, page 11, line 14). Mr. Turnbough also agreed that the set of criteria used "capture the intent of the P.U.C. statutory and regulatory requirements" (page 12, line 20), and that in fact he helped in the original development of such a set of criteria (page 12, line 8).

Q. Did Mr. Van Zandt make additional claims regarding the elimination of segments in his Cross Rebuttal testimony?

A. Yes. Mr. Van Zandt claimed that the elimination of segments and the resulting constriction in the northern part of the study area exposed the landowners in this area to an increased risk of damage to property and quality of life. As I have previously stated, SPS and TRC had several legitimate justifications for the elimination of the segments. Additionally, Mr. Van Zandt has not performed a complete analysis of the affect of the removal of the segments. Removing the segments that affected longer distances across properties, more habitable structures, or more environmentally sensitive areas actually reduced the impact to the northern part of the study area and lessened the risk of damage to property and quality of life.

Q. Have you reviewed Mr. Van Zandt's testimony that the comparative data does not support Route 20?

A. Yes.

Q. What is your response to these allegations?

A. The decision to select Route 20 as the Preferred Route was based upon the factors outlined in Section 6.0 of the EA. These include the following:

- Route 20 minimizes distance across 100-year flood plains;
- While the study area contains numerous creeks and rivers, Route 20 only crosses six rivers and 179 streams, all at locations sited for constructibility with narrow (spannable) crossings and stable banks;
- Route 20 minimizes effects to habitable structures and maximizes alignment along property lines;

- Route 20 minimizes impacts to mechanically irrigated pasture and cropland; and
- No schools, cemeteries, hospitals, churches, or known threatened and endangered species habitat will be affected by Route 20.

Mr. Van Zandt bases much of his argument on an inconsistence between Table 5-1 and the text on page 6.1 with regard to the number of habitable structures. Neither number is correct. As discussed in my rebuttal testimony above, the numbers of structures which would be affected by each alternative have been re-counted. While all analysis of Route 20 was based upon 57, the correct count for Route 20 is 51. Thus this alternative is even better than originally thought with regard to the number of habitable structures along the route. Based upon the correct counts, it is tied with Route 7 for the fourth least structures to be affected if Route 20 is approved by the Commission. With regard to how such a discrepancy in count could occur, as Cross Rebuttal testimony of Mr. Hughes indicated, in a document as extensive as the document in question, minor errors are not uncommon. (Intervener Cross Rebuttal Testimony of Harold L. Hughes, page 2). Mr. Hughes supports the Routing Team's contention that a minor error such as that referred to does not invalidate the study. Furthermore, Mr. Van Zandt places great weight upon the criteria of parallel or adjacent. This is only one of the varieties of types of criteria considered by the Commission and examined and documented in Table 5-1. In fact, Table 5-1 breaks this large scale criterion into more detail. Only once the effects of the proposed alternatives upon all of the criteria were examined and explicated was the Preferred Alternative identified. Following this evaluation and comparison of all of the

alternative routes, vis-à-vis all of the criteria, the Routing Team proposed Route 20 as the Preferred Route. Finally, it is important to note that the Routing Team considered and still considers all of the alternatives as viable for the Proposed Project.

Q. Have you reviewed Mr. Van Zandt's contention that additional route alternatives are required?

A. In this regard, I would note that the Routing Team presented 20 alternatives spanning the Study Area. With the 117 segments considered, approximately 6,500 forward progressing routes could be constructed. The Routing Team selected the top 20 of these for consideration by the Commission. With such a large and diverse range of alternatives, SPS met the requirement to present a number of reasonably differentiated alternative routes sufficient to conduct a proper evaluation. This conclusion is supported by the Direct Testimony of Michael J. Lee, speaking on behalf of Staff (Direct Testimony of Michael J. Lee; page 11) and in Staff's statement on Adequacy of Routes (August 8, 2011).

Q. Have you reviewed Mr. Turnbough's testimony stating that what is missing is the development of a consistent hierarchy within the criteria for their relative level of significance?

A. Yes, I have.

Q. What are your conclusions regarding the development of such a hierarchy?

A. While not stated, the Routing Team clearly used a hierarchical approach in its evaluation. The first level was a land use determination that compatible uses were preferred. That is, avoidance of effect on center pivot irrigation was considered of a

higher value than the crossing of range land where stock and wildlife could be affected either positively or negatively by construction of a transmission line. The second order was the need to avoid habitable structures. The third order was to site for constructible crossings of waterways or other sensitive environmental zones. The fourth was to stress shorter routings over longer ones with a concomitant financial effect on the rate payers. Tied with this criteria was to de-emphasize those criteria with little supporting scientific data in favor of the more general, but scientifically supportable criteria. The best example of this last was the number of archaeological sites versus archaeological sensitivity rating. As Ms. Santos has pointed out in her rebuttal testimony, most of the area lacks survey by archaeologists. Counts of archaeological sites based in part upon anecdotal information and maps such as the one in testimony which they gave as dated to {sic} 188?, is not as scientifically compelling as the evaluation of areas defined as of high, medium, or low archaeological potential. These later characterizations are based upon physiographic setting and other variables, which in surrounding areas have been shown to be indicative of site frequency, and thus were considered by the Routing Team to be of more validity than sheer numeric, but non-statistically meaningful, site counts.

Beyond this level however, I do not believe it would have been appropriate for the Routing Team to prescribe a hierarchy of criteria beyond that provided in the EA. As to land usage, the Routing Team clearly elaborated that it considered routing that would be incompatible with current land usage to be less desirable than routing that was compatible with current land use. For example, routing across center pivot irrigation systems is incompatible where it would severely hinder or prevent

continued operation of the irrigation system. On the other hand, routing over range land would not preclude continued use of the land for ranching, hunting, and similar recreational uses.

All alternatives have effects. The aim of the EA was to present the effects of each alternative route with regard to each criterion. The goal was to provide the public and the decision makers with factual information regarding the impacts of each alternative on each criterion so they could make their own determinations of the relative weight to be given particular criteria.

Q. Did you consider Mr. Turnbough's further testimony that an analysis of effects of the Proposed Project should have been performed on a segment by segment basis as opposed to route by route?

A. Yes.

Q. What is your response in this regard?

A. While segment by segment effects for each criterion are a consideration, the Commission must consider the routes as a whole. Segments with no connecting segments, and which could therefore not form viable routes, were dropped from the study regardless of their effects or lack thereof on any of the criteria. Furthermore, a single segment might have what appears to be a large level of effects, but the resulting route including this segment might actually have a lower level of overall effects than the other alternatives. An entire route with relatively low overall impacts should not necessarily be discarded simply because a few segments have relatively high impacts on a few criteria.

Therefore, the appropriate level for comparison was the route by route comparison provided in Table 5-1 of the EA. Of course, the Commission can combine the segments into a new alternative route. Such an alternative would have effects differing from any of the alternatives presented; however, the effects of the route would be a combination of the effects of each segment and would not be based solely on the effects of a single segment or subset of the route.

Q. What then is your evaluation of Mr. Turnbough's assertion that the approach followed has the potential to "pit important land use criteria against each other"?

A. That assertion is precisely the point and an inevitable result of the analysis process. Avoiding one criterion, for example, avoiding the crossing of rangeland, inevitably will lead to increased effects for another criterion. An obvious example is paralleling roadways, which invariably leads to additional effects due to close proximity to habitable structures. It is unfortunate but true that the land use criteria are not in harmony with each other. However, that does not mean we cannot route transmission lines so that they minimize the overall land use impacts. Siting and routing of a project, such as an important transmission line like this one, invariably results in a trade-off where certain criteria are affected more than others. The process followed was designed so that the Administrative Law Judges and the Commission can make an informed decision as to the best overall route for the transmission line.

Q. What observations do you have with regard to Ms. Watkins' statements that Segment AR would threaten their trophy deer hunts in that area due to its effect on the grass field food plot where the deer eat and water?

A. Segment AR would cross an area vegetated largely with grasses. However, once the line is constructed, there should be no conflict between deer using the area for forage and the existence of the transmission line. After construction, SPS will re-vegetate disturbed areas with native grasses in consultation with land owners. Thus, Ms. Watkins will have an opportunity to ensure that grasses similar to those now growing are seeded again in this area.

Ms. Watkins further indicates there would be limitation of use due to the existence of the line near water troughs and windmills. If the Commission were to certificate this segment and approve minor modifications of the routing, the location of the line could be adjusted so as to minimize such effect. Furthermore, Ms. Watkins states there would be a negative effect due to the crossing by the line of ranch roads and fence lines. Due to the height of the line, with careful placement of the structures, there should be no effect upon these roads or fence lines and their use. Minimizing the effects on water pumps, windmills, gates, ranch roads, and fences are routinely addressed successfully during transmission line construction.

Q. What observations do you have with regard to Mr. Hughes' comments regarding the use of Segment AR?

A. Mr. Hughes relies heavily on the testimony of others concerning Segment AR. The comments regarding the effects on hunting on the land are speculative and not supported by my experience in the construction of transmission lines. Mr. Hughes

presents no scientific evidence that shows a negative effect upon deer behavior and the hunting opportunities due to the presence of a transmission line. He also indicates there would be constructibility and reliability concerns from construction of the line. During the visit to the area with an engineer associated with the project, no such constructibility concerns were identified.

V. THE IMPACT ON LAND FRAGMENTATION

Q. Have you reviewed the testimony of Howard Head, Inelda Baccus, Al Allred, and Joe John Henard regarding impacts on land fragmentation?

A. Yes, I have.

Q. What is your response regarding these statements?

A. When "fragmentation" is discussed it usually implies a total, impermeable barrier. This is not the case for a transmission line, where free flow of livestock, faunal species, and people is still possible following construction. Transmission lines do not actually divide the property in the sense that use of a term like "fragmentation" would imply. While there is an incremental cost associated with the longer build required by following property lines, should a line affecting their property be approved by the Commission, as indicated in the testimony of Sean Frederiksen, SPS has agreed to work closely with landowners to site the lines in such a fashion as to minimize effects upon their ranch activities and (wherever feasible and approved by the Commission) along property lines. I also note that fragmentation from a transmission line is much less of an issue on ranch land than on farm land because livestock will graze around support structures and under transmission lines. The transmission line across a pasture does not prevent that pasture from being used for ranching in the same manner it was before the line was constructed. This is not always the case where a transmission line crosses mechanically irrigated farmland.

Q. In his Cross Rebuttal testimony, Mr. Van Zandt claims that the diagonal crossing of property disproportionately impacts landowners in Collingsworth County. Is this accurate?

A. Based on my review of the segments, it appears that in each of the counties affected by the Proposed Project, some portion of the segments cut diagonally across properties. However, it was not possible for SPS to route the transmission line diagonally across property where it encountered center pivot irrigation systems, and the land use in the southern part of the study area is more heavily cultivated than the land use in Collingsworth County which tends to have more rangeland. While it may be true that the segments that traverse across Collingsworth County more often cut diagonally across property, the use of the property that is crossed diagonally is not hindered by the routing of the transmission line. Further, SPS has agreed to work with landowners to the extent it is authorized by the Commission to make minor modifications to the routes in order to follow property boundaries or otherwise address property features.

Q. Have you reviewed the testimony from Al Allred concerning how all routes impact the Allred properties?

A. Yes, I have.

Q. What is your response concerning this testimony?

A. The Allred properties comprise approximately 30,000 acres, and thus are both extensive and highly dispersed throughout the portion of Collingsworth County that the transmission line must traverse to reach the point of interconnection in nearby Oklahoma. Because of this, all alternatives crossed one or more parcels of their

property. The Routing Team did not consider specific landowners during the routing process, as this would have been inappropriate and could have led to a bias either for or against a specific landowner. As indicated in the testimony of Sean Frederiksen, SPS has committed to working with any landowner crossed by the approved route where feasible and to the extent allowed by the Commission in its order approving SPS's application in this case, to use the transmission line corridor that would have the least affect on the landowner's use of his property. To date, however, the Allreds have been unwilling to indicate what segments or routes have the least impact or how minor re-routing could reduce the impact of a line on their property. Should a route across one of the Allred properties be approved, SPS would work with them to build the line in such a manner as to minimize the effects on their operations.

Q. Have you reviewed the testimony of Gary Lee stating that the Routing Team failed to correctly identify the property lines of the Southport Ranch, and thus cross cut the ranch?

A. Yes, I have.

Q. How did the Routing Team identify property boundaries?

A. We used the data available from the tax records of each respective county to identify both the parcel boundaries and the respective owners. Maps showing these parcel boundaries were available at the public Open Houses for this project and on the Power for the Plains website (www.powerfortheplains.com). Wherever inaccuracies were identified by the land owners, the Routing Team conducted further investigation and made the appropriate corrections. Mr. Lee neither pointed out this error prior to filing his testimony, nor at the Open Houses. Had he done so, the Routing Team

might have been able to adjust the proposed segment location to avoid traversing his property.

Q. Did the Routing Team assume section lines defined property boundaries, as alleged by Mr. Lee?

A. No. The Routing Team made no assumptions as to the congruence between section lines and property lines and made a good faith effort to correctly identify all property lines during the routing process.

Q. Can you elaborate on the priority put on paralleling property boundaries?

A. The Routing Team considered it important to follow property boundaries where possible, and where doing so didn't cause other adverse effects or lead to unreasonable increases in the length of a segment or route. Unfortunately, following property boundaries often does have negative effects, such as decreased distance from habitable structures. In some cases, properties such as large ranches, are so large that following property boundaries would add considerable mileage and lead to non-forward progressing routes. In such cases, it isn't practical to parallel the property line. Unfortunately, in such cases there also are rarely other linear features that can be followed. In these cases, it may be determined that a linear, straight line across the property would result in both the lowest environmental effect and the least miles of the line on the property. In short, while following property lines is considered important, it was always evaluated in conjunction with the other criteria and the aggregate effects from construction of a segment and route under consideration.

Q. Have you reviewed the statements made by Ms. Patterson that routing should have been directly in to Oklahoma?

A. Yes.

Q. Why wasn't this done?

A. An adequate protocol for routing lines of this type is to define a study area, identify the opportunities and constraints within this area, and then define possible routes. This protocol was followed in this project. To have headed due east in to Oklahoma and then north would not have met with the professional requirements to adequately define and study possible constructible routes. Furthermore, such a routing would have been well outside of any reasonable study area. Such a route also would be much longer, and thus would likely have greater environmental and land use impacts, as well as be more costly than the routes proposed within the Study Area. The only rationale for this suggestion is that it avoids the property of particular landowners, which is not a valid routing criterion.

VI. THE EFFECTS OF THE PROPOSED LINE ON COMMUNITY VALUES AND RECREATIONAL AREAS

Q. Have you reviewed the testimony of Fred Westfall, Joe John Henard, and Dr. Katz regarding the impact on Community Values and Recreational Areas?

A. Yes, I have.

Q. What are your conclusions regarding their statements?

A. It is difficult to respond to a general statement regarding the "community values." Mr. Westfall uses the term "community" in such a fashion as to conjoin the residents of the area and those coming to the ranch to participate in retreats, hunting, and other unspecified activities. From a purely pragmatic point of view, it is not easy to see how these individuals form a single community. Mr. Westfall states that the area is being used "for company retreats and family gatherings" and that the proposed line would cause a decrease in the aesthetic value of the property.

Q. Do you see any incompatibility between the Proposed Project and the company retreats and family gatherings described by Mr. Westfall and recreational use of property in general?

A. No. Aesthetics are impacted by transmission lines, but no more so on Mr. Westfall's property than many others along the transmission line. The property can still be used for company retreats, family gatherings, hunting, and similar recreational uses.

Q. Do you have any additional comments regarding the recreational area as specified by Mr. Westfall?

A. Yes, as Mr. Westfall uses the term, it applies largely to the gatherings addressed above as well as hunting. The hunting activities would primarily be affected only by

a new visual element. The fauna he refers to would largely be unaffected by the line. This is further addressed in Ms. Santos' testimony. The area has not been opened up to use by the larger community, and as such, is not a community recreational area accessible to the residents of the general area or persons traveling from afar into this portion of Texas. As it is only accessible to the family and invited guests, the J&B Ranch is not a "recreational area" as that term has been used by the Commission in assessing impacts on such areas.

VII. CONCLUSION

Q. Does this conclude your pre-filed rebuttal testimony?

A. Yes.

AFFIDAVIT

STATE OF NEW MEXICO)

COUNTY OF BERNALILLO)

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

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

Howard C. Higgins

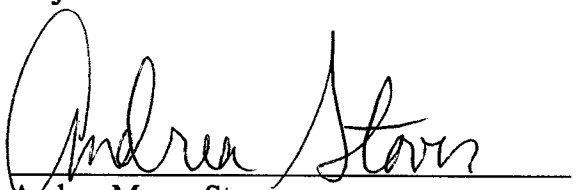
Subscribed and sworn to before me this 28 day of November, 2011 by Howard C. Higgins.

Notary Public, State of New Mexico
My Commission Expires: 7-22-2012

OFFICIAL SEAL
Mirinda R. Gerber
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 7-22-2012

CERTIFICATE OF SERVICE

I certify that on the 2nd day of December 2011, a true and correct copy of the foregoing instrument was served pursuant to SOAH Order No. 2, no other parties will be served except by the electronic filing of these objections in the docket.



Andrea Moore Stover

Habitable Structure Counts
Houses vs. Barns, Sheds, and Garages by Route

Route No.	# Habitable Structures	# Houses	# Barns, Sheds, & Garages	% Barns, Sheds, & Garages
1	60	14	46	76.7%
2	61	14	47	77.0%
3	61	14	47	77.0%
4	58	14	44	75.9%
5	51	10	41	80.4%
6	54	12	42	77.8%
7	51	12	39	76.5%
8	58	14	44	75.9%
9	54	12	42	77.8%
10	58	13	45	77.6%
11	55	12	43	78.2%
12	53	11	42	79.2%
13	55	11	44	80.0%
14	61	14	47	77.0%
15	61	13	48	78.7%
16	43	9	34	79.1%
17	59	14	45	76.3%
18	49	11	38	77.6%
19	46	11	35	76.1%
20	51	12	39	76.5%

Habitable Structure Counts
Houses vs. Barns, Sheds, and Garages by Habitable Structure

Route No.	# Habitable Structures	# Houses	# Barns, Sheds, & Garages	% Barns, Sheds, & Garages
16	43	9	34	79.1%
19	46	11	35	76.1%
18	49	11	38	77.6%
5	51	10	41	80.4%
7	51	12	39	76.5%
20	51	12	39	76.5%
12	53	11	42	79.2%
6	54	12	42	77.8%
9	54	12	42	77.8%
11	55	12	43	78.2%
13	55	11	44	80.0%
4	58	14	44	75.9%
8	58	14	44	75.9%
10	58	13	45	77.6%
17	59	14	45	76.3%
1	60	14	46	76.7%
2	61	14	47	77.0%
3	61	14	47	77.0%
14	61	14	47	77.0%
15	61	13	48	78.7%

Segment Name	Reason for Removing from Consideration
A	The original plan was to overbuild the existing 230kV line. However discussions with the planning department decided that this was not possible in terms of reliability. There is not additional space to build this segment parallel due to the existing agriculture fields and pivot irrigations as well as areas of potential wetlands and playa lakes.
AC	There are many constraints including areas within 20,000 feet of an FAA airport, dryland crops, areas of high and medium archaeological/historic potential, areas of upland woodland/brushland, waterbodies, three habitable structures and areas of potential wetlands.
AE	There are many constraints including dryland crops, and areas of high historic/archaeological potential.
AF	There are many constraints including dryland crops, areas of medium and high historic/archaeological potential, waterbodies, areas of upland woodland/brushland and potential wetlands.
AG	There are many constraints including areas of bottomland/riparian woodland, one habitable structure, irrigated cropland and areas of potential wetlands. Segment AG becomes unusable if EB is not selected. Segment EB had many constraints as well.
AH	There are many constraints including three habitable structures, dryland crops, areas within foreground visual zone of a state highway, crossing of SH86, areas of medium and high archaeological/historic potential, area that crossed the Caprock Canyons Trailway, areas within 1,000 ft of park, waterbodies and areas of upland woodland/brushland.
AN	There are many constraints including dryland crops, areas of high and medium historic/archaeological potential, highway crossing of US 287 and area within foreground visual zone of highway and a 69 Kv transmission line crossing.
AV	There are many constraints including dryland crops, areas of medium and high archaeological/historic potential, crossing of SH256, areas within foreground visual zone of state highway, three mechanical irrigation systems, one irrigated cropland, six water wells, areas of upland woodland/brushland, and areas of potential wetlands.
AX	There are many constraints including one habitable structure, areas of high and medium archaeological/historic potential, areas of potential wetlands and the route does not follow section lines.
BI	There are many constraints including two habitable structures, areas of high and medium archaeological/historic potential and areas of upland woodland/brushland.
BK	There are many constraints including dryland crops, six habitable structures, areas of high and medium archaeological/historic potential, one mechanical irrigation system, areas of potential habitat for Texas horned lizard, water wells, areas of upland woodland/brushland, waterbodies, areas of potential wetlands, crossing of US 287 and, areas within foreground visual zone of U.S. highway.
BL	There are constraints, including dryland crops. This segment is a connector segment between Segments BI and BO. Because Segment BI is removed from consideration, it affects the need for including Segment BL.
BM	There are many constraints including dryland crops, areas within 20,000 of an FAA airport, two habitable structures, areas of high and medium archaeological/historic potential and areas of potential habitat for Texas horned lizard.
BN	This segment crosses grass/range land and is a connector segment between Segments BI, BP and BQ. Because Segment BI is removed from consideration, it affects the need for including Segment BN.
BP	There are many constraints, including dryland crops, areas of high and medium archeological/historic potential areas of upland woodland and brushland. This segment is a connector segment between Segments BN and BO. Because Segment BI is removed from consideration, it affects the need for including Segment BP.
BQ	There are many constraints, including areas of high archaeological/historic potential and grass/range land. This segment is a connector segment between Segments BU and BX. Because Segment BI is removed from consideration, it affects the need for including Segment BQ.
BS	There are many constraints including dryland crops, five habitable structures, areas of high and medium archaeological/historic potential, areas with 20,000 ft of FAA airport, one mechanical irrigation system, areas of upland woodland/brushland, areas within foreground visual zone of state highway, crossing of SH 203 and areas of potential wetlands.
BT	There are many constraints including areas of potential wetlands, areas of upland woodland/brushland, areas of high and medium archaeological/historic potential and water wells.

Segment Name	Reason for Removing from Consideration
BU	There are many constraints, including areas of medium archaeological/historic potential. BU is a forwarding segment for Segments BQ and BT. Because Segments BK, BM and BI are removed from consideration, it affects the need for including Segments BU.
BV	There are many constraints including areas of high and medium archaeological/historic potential areas, areas of potential wetlands, areas of upland woodland/brushland, and dryland crops. BV is a forwarding segment of Segment BU. Because Segments BK, BM and BI are removed from consideration, it affects the need to include Segment BV.
BW	There are many constraints, including areas of high and medium historic/archaeological potential. Because Segments BK, BM and BI are removed from consideration, it affects the need for including Segment BW.
BX	There are many constraints, including areas of medium archaeological/historic potential. Because Segments BK, BM and BI are removed from consideration, it affects the need for including Segment BX.
BY	There are many constraints, including dryland crops, one habitable structure, areas of medium archaeological/historic potential, one mechanical irrigation system, areas within foreground visual zone of U.S. highway, and a crossing of SH 203. Because Segments BK, BM and BI are removed from consideration, it affects the need for including Segment BY.
C	There are many constraints including crossing a pivot irrigation system twice, water wells and habitable structures within 500 feet. The combination of segment C and D was not as advantageous due to the fact of having to cross the 345kV line twice within one mile.
CA	There are many constraints including areas of upland woodland/brushland, areas of potential wetlands, and areas of high and medium archaeological/historic potential.
CF	There are many constraints including areas within foreground visual zone of state highway and a crossing of SH 203.
CG	There are many constraints, including dryland crops, thirteen habitable structures, areas of high and medium archaeological/historic potential, two mechanical irrigation systems, areas within foreground visual zone of a park or recreational area, areas of upland woodland/brushland, and areas of potential wetlands.
CK	There are many constraints, including dryland crops , two habitable structures, areas within foreground visual zone of State highway, a crossing of SH 203, areas of high and medium archaeological/historic potential, one mechanical irrigation system, one waterbody, and areas of potential habitat for Texas horned lizard.
CL	There are many constraints, including dryland crops, one habitable structure, areas of high and medium archaeological/historic potential, and areas of upland woodland/brushland.
CQ	There are many constraints including areas of high and archaeological/historic potential.
CS	There are many constraints including three habitable structures, five water wells, potential wetland areas, playa lakes, high and medium archaeological/historic potential, one mechanical irrigation system, one irrigated cropland, dryland cropland and within 20,000 feet of an FAA airport. Segment CS becomes unusable if EB is not selected. Segment EB had many constraints as well.
CV	There are many constraints, including areas of high and medium archaeological/historic potential, and areas of potential wetlands. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment CV.
CW	There are many constraints, including areas of high and medium archaeological/historic potential, and areas of potential wetlands. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment CW.
CY	There are many constraints, including dryland crops, and areas of high and medium archaeological/historic potential. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment CY.
D	There are many constraints including three habitable structures within 500 feet, areas of high and archaeological/historic potential. The combination of segment C and D was not as advantageous due to the fact of having to cross the 345kV line twice within one mile.
DC	There are many constraints, including nine habitable structures, areas within foreground visual zone of U.S. highway and a crossing of US 83, and areas of high and medium archaeological/historic potential. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment DC.

Segment Name	Reason for Removing from Consideration
DE	There are many constraints, including areas of high and medium archaeological/historic potential, and areas of potential wetlands. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment DE.
DK	There are many constraints including areas of potential wetlands, areas of high and medium archaeological/historic potential, areas within foreground visual zone of U.S. highway, dryland crops, and waterbodies.
DN	There are many constraints, including dryland crops, one habitable structure, and areas of high and medium archaeological/historic potential. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment DN.
DP	There are many constraints including areas of bottomland/riparian woodland, waterbodies, areas of potential wetlands and areas of high and medium archaeological/historic potential.
DS	There are many constraints including areas of high and medium archaeological/historic potential, areas of potential wetlands and waterbodies. In addition, Segment DH was more advantageous than Segment DS.
DT	There are many constraints, including dryland crops, four habitable structures, areas of high and medium archaeological/historic potential, areas of potential wetlands, and waterbodies. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment DT.
DU	Segment DU is only needed if Segment DP is used.
DV	There are many constraints including one habitable structure, dryland crops, areas of high and medium archaeological/historic potential, a crossing of US 83, areas within foreground visual zone of U.S. highway and areas of potential wetlands.
DW	There are many constraints, including dryland crops, seven habitable structures, areas of high and medium archaeological/historic potential, areas of potential wetlands, and areas of upland woodland/brushland. Because Segments BK, BM and BI are removed from consideration, it affects the need for Segment DW.
DY	There are many constraints including dryland crops and the segment does not follow section lines.
EB	There are many constraints including potential wetlands, playa lakes, areas of bottomland/riparian woodland, areas with floodplain, five habitable structures, high and medium archaeological/historic potential, two irrigated croplands, five water wells and one mechanical irrigation system.
EC	There are many constraints including areas of potential wetlands, dryland crops, areas of archaeological/historic potential and areas within foreground visual zone of U.S. highway.
ED	There are constraints, including dryland crops.
EF	There are constraints, including dryland crops.
EI	There are many constraints including areas of potential wetland, dryland crops, areas of high and medium archaeological/historic potential, areas within foreground visual zone of U.S. highway and water wells.
EJ	This segment has areas of medium archaeological/historic potential.
EK	There are many constraints, including areas within foreground visual zone of U.S. highway and a crossing of US 83, dryland crops, two habitable structures, areas of high and medium archaeological/historic potential, areas of upland woodland/brushland, and one water well
EM	There are constraints, including dryland crops. Additionally, this segment is not on section lines
EO	This segment is not on section lines
EP	There are constraints, including dryland crops. Additionally this segment is not on section lines
KK	There are many constraints including potential wetlands, areas of non-irrigated cropland, highway crossing of SH70, areas of bottomland/riparian woodland, areas of medium and high archaeological/historic potential, multiple stream crossings, area within foreground visual zone of US and state highway.
N	There are many constraints including areas of non-irrigated cropland, areas within floodplain, two pivot irrigation systems, eight habitable structures, areas of high and medium archaeological/historic potential playa lakes and areas of potential wetlands.
SS	There are many constraints including dryland crop, areas of high and medium archaeological potential and areas of upland woodland/brushland. In addition, Segment SS did not follow as many section lines as Segment TT does.

Segment Name	Reason for Removing from Consideration
V	This segment follows an abandoned rail grade. There are many constraints including 19 habitable structures, areas of high and medium archaeological/historic potential one pivot irrigation system, areas of non-irrigated cropland, areas within floodplain, and one water well.
VV	There are many constraints including non-irrigated cropland, within 20,000 of an FAA airport, one habitable structure, areas of potential habitat for the Palo duro mouse, irrigated cropland, high and medium archaeological/historic potential, highway crossing of SH207, potential wetlands and playa lakes.
Y	There are many constraints including areas of bottomland/riparian woodland, non-irrigated cropland, irrigated cropland, areas within floodplain, areas of potential wetlands, areas of high and medium archaeological/historic potential and playa lakes.
ZZ	There are many constraints including bottomland/riparian woodland, dryland cropland, four habitable structures, two highway crossings (SH86 and SH256), high and medium archaeological/historic potential, playa lakes, potential wetlands, water wells and areas of potential habitat for Palo duro mouse.