Southwestern Public Service Company

10 Year Transmission Plan

and

20 Year Transmission Vision

December 5, 2010

This report contains transmission planning data which is conceptual in nature and is subject to change. The transmission projects listed may change scope, in-service dates, or may not be constructed.

Executive Summary

This report documents the Southwestern Public Service Company (SPS) transmission plans for a 10 year planning horizon and a scenario assessment for a 20 year planning horizon.

10 Year Plan Summary

The development efforts for this plan are a combination of internal SPS transmission planning efforts and Southwest Power Pool (SPP) Transmission Expansion Plan (STEP) activities. STEP looks at a 10 year planning horizon and documents needed system improvements to meet NERC reliability standards TPL-001 and TPL-002. The 10 Year Plan is primarily a reliability-based plan to assure compliance with NERC planning standards and maintain load-serving capabilities.

Long-term firm transmission service that has been sold under the SPP OATT or the Xcel Energy Joint OATT has been included in the studies.

Speculative new generation projects are not included in this transmission plan. Only new generation, that have a signed interconnection agreement and have demonstrated a commitment to construct, are included.

20 Year Scenario Assessment

The 20 Year Assessment is more conceptual in nature, not a rigid plan. The Assessment does not consider different wind penetration levels or different resource alternatives. It concentrates primarily on future transmission development to support development of renewable energy in the SPS footprint. The focus is to provide an overview of current discussions occurring in the region related to long term transmission development.

The difficulty with such long-term transmission assessments is defining the resource commitments that will occur. If that can be done with certainty, then that previously unknown factor has been quantified and multiple transmission plans can be created with considerable confidence.

Independent transmission projects are discussed in the report. No discussion has been provided of perceived transmission – market interactions.

Introduction

This transmission plan is a summary of the transmission capital construction needs for the Southwestern Public Service (SPS) transmission system over a 10 year period starting with 2010 and going through 2021. It is based on the study work done by Southwest Power Pool (SPP) through their Transmission Expansion Planning (STEP) process, the SPS Transmission Reliability Assessment group, and the results of processing new load and delivery point interconnections, transmission service requests, and generation interconnection requests.

The certainty of needed projects decreases in the later years due to the uncertainty of new load projects, new generation requests, and new resource additions.

I. Methodology & Assumptions

A. Scope & Purpose

The purpose of this study is to document the transmission additions needed on the SPS transmission system 10 years into the future. The study is based on the most recent set of powerflow models and includes all firm loads, firm transactions, but no non-firm or economy energy transactions in the planning studies.

B. Transmission Grid Description

SPS's service territory is primarily agricultural, containing large areas of oil and gas production. SPS serves electric consumers in most of the towns within the service territory. Many areas outside those towns are served by rural electric cooperatives.

Oil and natural gas production is a major industrial activity within SPS's service region. The agricultural areas are mostly irrigated by pumping water from natural underground sources. Crops include cotton, corn, grain sorghum, soybeans, and peanuts. There is also a large investment in cattle feeding, and more recently, dairy operations, in the service territory.

As of December 31, 2009 the breakdown of total SPS sales by revenue class was 12.3 percent residential, 49.2 percent commercial and industrial, 36.4 percent wholesale, and 2.1 percent for public authorities, street lighting, and area lighting.

SPS has an installed net generation capability of 4,146 megawatts (MW), with 50 percent of this capacity in coal-fired plants and 50percent in plants utilizing other fuels (primarily natural gas). SPS purchases 221 MW of firm power and energy from Borger Energy Associates, L.L.P. (BEA-Blackhawk), a qualifying facility (QF), whose purchased power contract was certified in Case No. 2770. SPS also purchases firm power and energy from Exelon Generation L.L.C. (Exelon) (150 MW), Engineered Carbons QF (12 MW), Sid Richardson QF (9 MW), and Lubbock Power and Light (LP&L) (219 MW). SPS also purchases energy from approximately 653 MW of wind generation facilities connected to SPS's New Mexico and Texas system. In September 2008, SPS began purchasing power from the Lea Power Partners', LLC (LPP) Hobbs Generating Station, near Hobbs, New Mexico (502 MW).

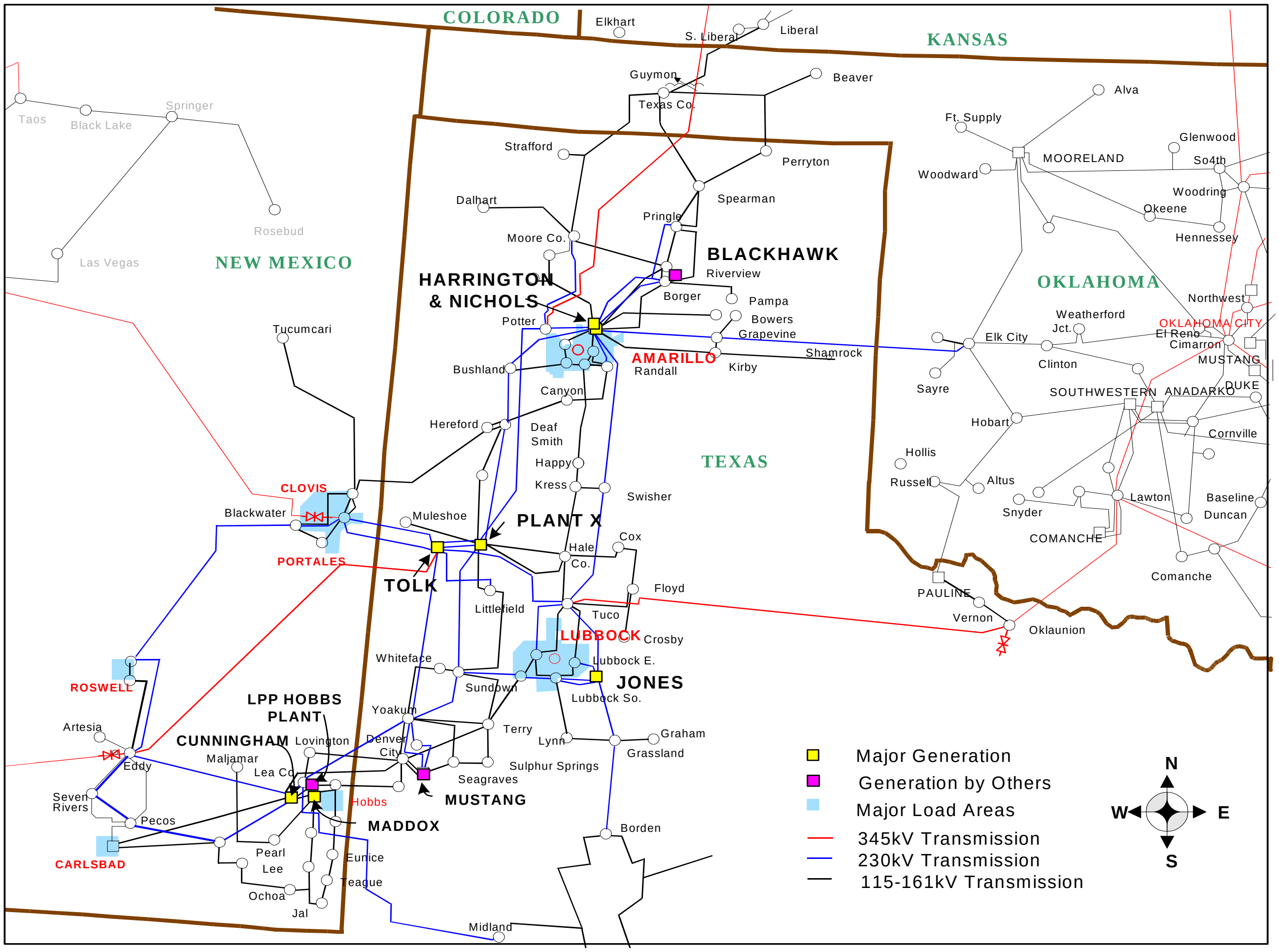

Figure 1 – SPS Service Territory

Figure 1 is a map of SPS's service territory showing the locations of SPS's generating facilities and its major transmission lines. SPS's transmission system contains 345 kV, 230 kV, 115 kV, and 69 kV transmission lines. The interconnections from SPS to eastern utilities are primarily at 345 kV and 230 kV, but there are also some 115 kV interconnections. Retail and wholesale load is served at all voltages except 345 kV. Generation is located on the SPS system in five main complexes – the Nichols/Harrington Plants near Amarillo, Texas; the Cunningham/Maddox/Hobbs Generating Station complex, near Hobbs, New Mexico; the Jones Plant and LP&L generation facilities in Lubbock, Texas; the Tolk Plant/Plant X complex near Earth, Texas; and the Golden Spread Mustang Plant facility near Denver City, Texas. There are smaller plant locations such as Moore County Plant, near Dumas, Texas and Blackhawk Plant, near Borger, Texas.

SPS is interconnected with the Western Electricity Coordinating Council (WECC) and the SPP. SPS's location and tie lines are shown in the attached Figure 2. SPS's has three interconnections with utilities in the WECC. The first interconnection is the 200 MW HVDC tie with Public Service Company of New Mexico (PNM) and El Paso Electric Company (EPE) near Artesia, New Mexico (Eddy County HVDC Converter) and that converter is owned by EPE and PNM. SPS operates Eddy County HVDC for EPE and PNM and the facility is shown by Line H on Figure 2. The second interconnection with WECC is the 200 MW (nominal rating) Blackwater HVDC Tie, which is owned and operated by PNM near Clovis, New Mexico. It is shown by Line E in Figure 2. The third interconnection with WECC is the Lamar HVDC (210 MW nominal rating) that is owned and operated by PSCo. The Lamar facility is shown by Line A in Figure 2 (Finney – Lamar HVDC).

Additionally, SPS has three primary interconnection facilities with the SPP, a 230 kV transmission line and two 345 kV transmission lines. The first interconnection is a 230 kV transmission line that interconnects SPS's Grapevine Interchange to Public Service Company of Oklahoma's (PSO) Elk City Interchange, (shown as Line D on Figure 2). The second interconnection with PSO is a 345 kV transmission line from SPS's TUCO Interchange to PSO's Oklaunion Interchange near Oklaunion, Texas (shown as Line I on Figure 2). The third interconnection is a 345 kV transmission line that interconnects Potter County Interchange near Amarillo, Texas, to the Finney Interchange to Holcomb Station near Garden City, Kansas. Sunflower Electric Power Corporation (Sunflower) owns Holcomb Station. This line was placed in service in September 2001 and is shown as Line B on Figure 2.

SPS's interconnection with West Texas Utilities (WTU), an American Electric Power operating company (shown as Line G on Figure 2). There is a 115 transmission kV line from the Nichols Station to WTU's 115 kV interchange at Shamrock, Texas. At this interchange, there is a voltage transformation from 115 kV to 69 kV and from 69 kV to 138 kV. This is necessary because SPS's system is designed for 115 kV, but WTU's system is designed for 138 kV, as is most of western and southern Oklahoma. Additionally, SPS has another 115 kV interconnect with WTU (shown as Line F on Figure 2). At Jericho, WTU has a 115/69 kV transformer and 69 kV transmission line to connect to their 69 kV transmission system in the Clarendon, Texas area.

SPS also has a 115 kV interconnection with Sunflower from SPS's Texas County Interchange near Guymon, Oklahoma, to Sunflower's Liberal Interchange at Liberal, Kansas. This interconnection has a phase shifter located at SPS's Texas County Interchange, which prevents loop flow problems in western Kansas (shown as Line C on Figure 2, below).

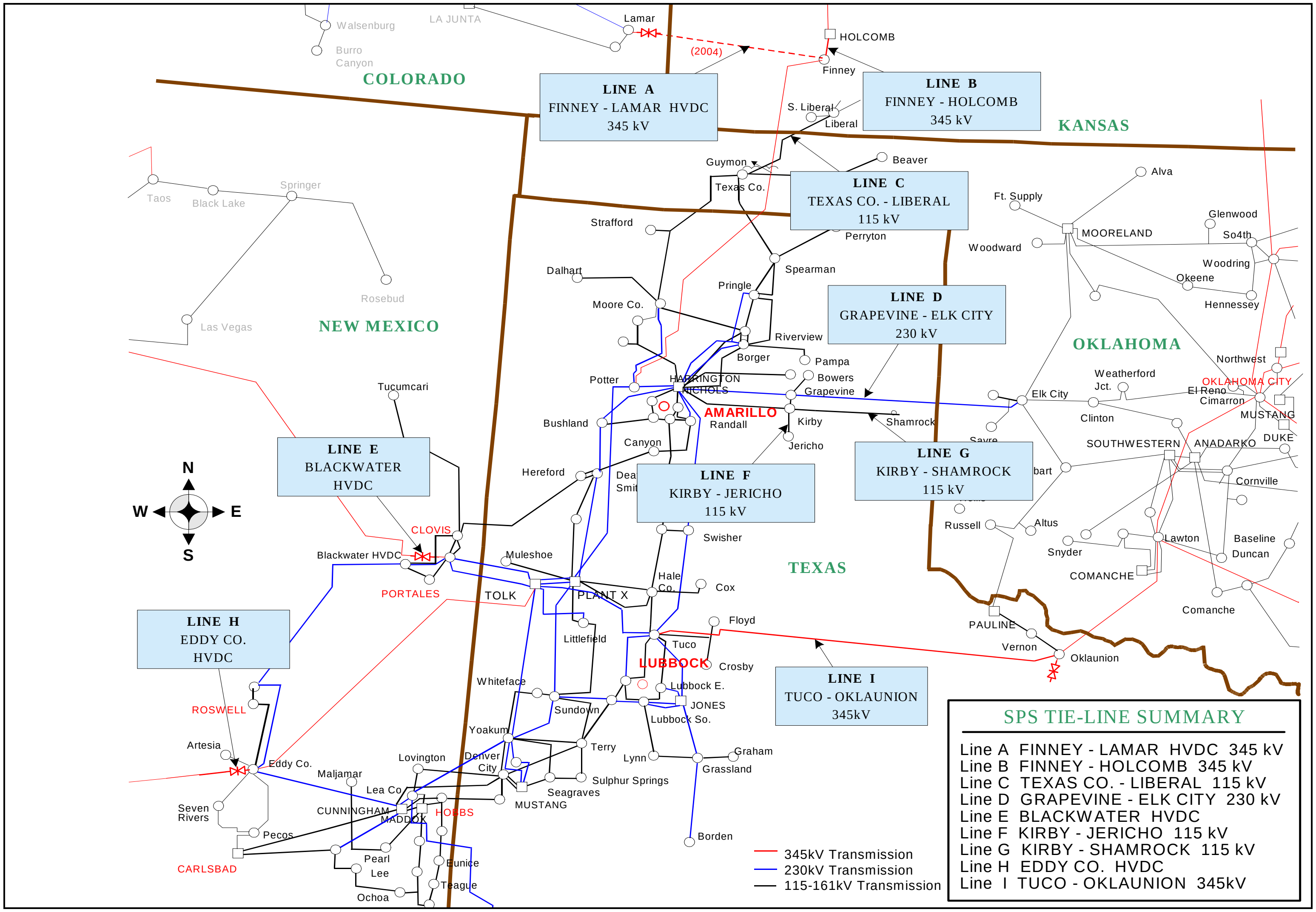

Figure 2 – SPS Transmission Interconnections

C. Planning Process

1. FERC 890 – Subregional/Others

The SPP Regional Transmission Organization (RTO) has functional control over the high voltage (60kV and above) transmission systems of SPS under Attachment AI of the SPP Open Access Transmission Tariff (OATT). As an RTO, SPP performs coordinated and transparent regional planning for all transmission facilities in the multistate SPP footprint through the annual SPP STEP process. Attachment O of the SPP OATT describes the STEP process. It is through this process that most transmission planning for the SPS system complies with FERC's Order No. 890 planning principles. SPP also functions as the Regional Entity (RE) for the SPP region and is responsible for reliability oversight (including transmission planning and reliability standards compliance) for the SPP region pursuant to a Delegation Agreement between SPP and the North American Electric Reliability Corporation (NERC). SPS is also a member of the SPP Reserve Sharing group.

In addition to the STEP regional planning process, SPS also conducts local planning to identify transmission improvements. These necessary improvements are to ensure the adequacy and reliability of the SPS system for the benefit of interconnected entities and transmission customers that utilize SPS system transmission facilities to receive transmission service. This local planning process is described in this Attachment R – SPS to the Joint OATT. Attachment R – SPS should be reviewed in coordination with Attachment O to the SPP OATT, since the SPS local planning process is coordinated with and supplements the SPP regional planning process.

The SPS transmission planning region is limited to the boundary of SPS's electrical system.

SPS's internal transmission planning process is responsive to direct transmission requests by wholesale NITS customers and native loads for new load interconnections.

SPS meets the nine principles in the following manner:

- Coordination – periodic meetings, study coordination, new project submission to SPP through their modeling efforts.
- Openness – works through SPP STEP process, but also coordinates directly when working on 115 and 69 kV systems, studies are posted on SPS OASIS, open coordination and planning meetings.
- Transparency – posted planning criteria (including study methodology), posted guidelines for interconnections.
- Information exchange – SPS uses NITS load forecasts from customer, if provided, for input to SPP modeling.
- Comparability – SPP currently does studies of long term firm transmission service requests under XE OATT using parallel method to SPS's Aggregate Transmission Service Study methodology. SPS clusters studies together for new

retail and wholesale load requests when it will be beneficial and more efficient. SPS typically considers impacts on neighboring systems. SPS is implementing a load and delivery point request queue to provide additional comparability.

- Dispute resolution – any issues for customers of SPP OATT are resolved under the procedures of that OATT and any issues for customers of the XE Joint OATT are resolved under the procedures of that OATT.
- Regional participation – SPS provides the modeling data for itself and its customers, if provided, to SPP for their modeling processes. SPS is active in SPP reviews, working groups, committees
- Economic planning studies – SPP has a regional economic planning process and SPS participates in that process. Any customer requesting economic studies may do so under SPP's processes.
- Cost allocation – SPP OATT addresses cost allocation (Attachment J) and SPS subscribes to this approach. SPS has its own policy for cost allocation related to new load interconnections.

SPS is located in Sub-region 1 of the SPP. Subregion 1 includes SPS, Sunflower Electric Power Corp., and MidWest Electric. SPP has held this year one annual sub-regional meeting to review transmission projects in the sub-regions and get input for the STEP from those sub-region members. However, SPP is revising this process to gather input from sub-regional participants at the Planning Summits rather than host separate SPP sub-regional meetings.

2. SPP Transmission Expansion Plan

The SPP STEP is a reliability centered region wide transmission planning process that covers a 10 year planning horizon. SPP specifically creates the powerflow models from the data submitted by its members and customers. SPP then considers all sold firm transmission service and then models the region for the next 10 years. Powerflow contingency studies are done and some stability studies to evaluate the regions performance over the planning horizon. Should improvements be necessary, the SPP will provide Notices To Construct (NTC) for facilities to meet the planning criteria.

SPS submits most, if not all, of its future transmission projects through this process for validation by SPP.

The results of the SPP STEP plan are incorporated in to the SPS Transmission Plan along with any new load serving projects developed by SPS.

The study scope of the 2010 SPP STEP is included in Appendix A.

Starting in 2011, the STEP process will be replaced with the Integrated Transmission Plan (ITP) process. The process includes a Year 20 economic plan with limited reliability work, a Year 10 reliability study with input from the 20 Year study, and a Near Term reliability assessment (Years1-7).

3. SPP Balanced Portfolio

The Balanced Portfolio projects were developed by SPP to provide a group of economic upgrades that would benefit the entire SPP region and allocating the costs for those projects over that full region. Savings are realized when transmission upgrades reduce congestion on the SPP transmission system and produce lower production cost for operation of member systems.

Projects were analyzed by SPP and many were proposed to increase flowgate ratings, increase import or export capability, reduce congestion, or provide a benefit which leads to greater economy of operation.

Through this effort, SPP is expecting lower overall fuel and customer costs by the implementation of this group of projects. The value of the entire portfolio is $692 million and was approved by the SPP Board of Directors in April 2009. Notifications To Construct were issued in June 2009.

SPS received a Notification To Construct for the Tuco-Woodward 345 kV transmission line. This project will be jointly constructed with Oklahoma Gas and Electric (OGE). SPS will construct and own the transmission line from Tuco to approximately 3 miles inside the Ok/TX state line and OGE will construct and own the transmission line from Woodward to this location. Expected in-service date of this project is spring 2014.

The results of the most recent planning exercise are shown below in Figure 3.

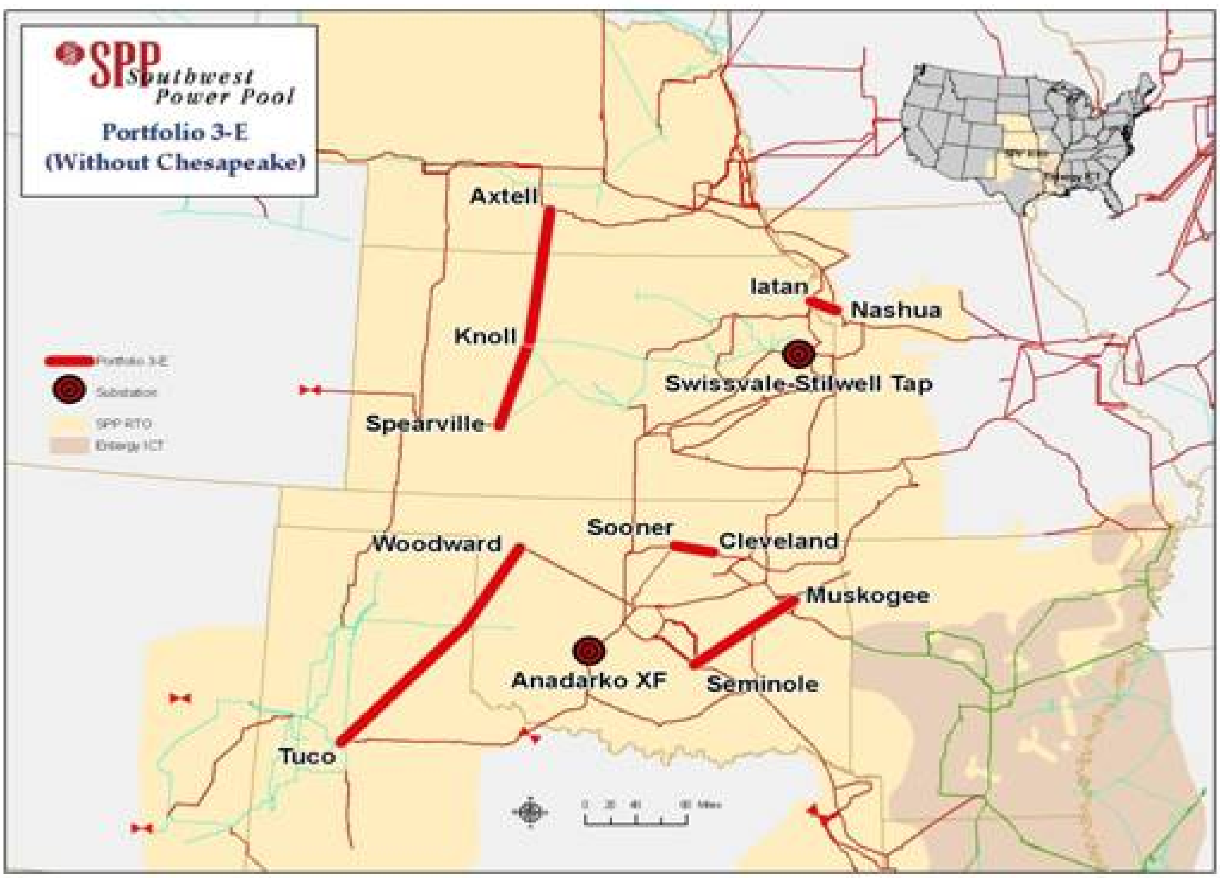

Figure 3 – SPP Balanced Portfolio Projects

SPS has not committed to construct any sections of the current proposed 765 kV plan. These studies are being refined to better reflect more current levels of wind generation export from the SPS area to eastern markets, commitments by other transmission owners for specific segments of the plan, and better knowledge of adjacent regions transmission planning activities.

4. Priority Projects

SPP approved a group of 345 kV expansion projects, called the Priority Projects. A diagram is shown below in Figure 3a. These projects were based on recurrent needs, either transmission service or generation interconnection, for projects to grant service. From that rough list, detailed economic analysis was done to develop the best projects which produce benefits for the whole SPP region.

Figure 3a – SPP Priority Projects

SPS will be constructing approximately 30 miles of the Hitchland – Woodward 345 kV double circuit line. It is planned that the line will have bundled 1590 MCM ACSR conductors at the moment, but further engineering analysis may be done to refine the conductor size. The estimated costs for the Priority Projects are ~ $1.1 billion and the cost recovery will be spread across the SPP footprint.

D. Drivers Impacting Transmission Planning

1. Regulatory / Environmental Considerations

SPS is regulated by the FERC for wholesale customers and by two state regulatory agencies: the Public Utility Commission of Texas (PUCT) and the New Mexico Public Regulation Commission (NMPRC). These bodies are responsible for approving SPS's rate requests and also approving SPS's permits for new transmission line construction and siting of those new transmission lines. Siting approval is done at a state level in both Texas and New Mexico. In Oklahoma, SPS has no retail loads. Oklahoma has their transmission and siting approval only at county levels and no processes at the state levels.

SPS service territory is mostly privately owned land in Texas, and considerable public land in New Mexico. Much of New Mexico land is owned by the State of New Mexico therefore permitting activities frequently require the approvals of the federal Bureau of Land Management, federal Bureau of Reclamation, and the State of New Mexico. Both states have permit issuing processes for cultural and historic resources in addition to requirements for mitigation of archeological sites that are found along rights of way.

2. SPP Generator Interconnection Queue

SPP performs generation interconnection studies for SPS and other members of the SPP region, under the requirements of the SPP OATT. Currently, the queue consists of:

- ~ 3,673 MW wind energy
- ~ 261 MW fossil fuel based energy
- ~ 80 MW solar energy

Interconnection requests are significantly backlogged at SPP and are taking approximately a year or more to go through the study process. Due to the large volume of requests, SPP adopted an approach that would allow the study of multiple interconnection requests within a region to be done in concert to determine interconnection facilities and system improvements necessary to maintain system reliability. If a requester is still sufficiently interested in pursuing the interconnection to the transmission, SPS would then conduct a facility study for that requester, which would state the construction scope and construction methods, addressing the details necessary to put the new facility into service.

One major issue from these requests is that most generation developers are not requesting firm transmission service. Some of these are being constructed and will impact the operation of the SPS transmission system on a non-firm basis. Once these are connected to the SPS transmission system, SPS Transmission Operations must frequently review outputs from these types of generators to see if their output must be curtailed to prevent operating security issues on the transmission system.

Another issue is the revised SPP OATT Tariff which allows generation interconnection studies in groups or clusters. SPP will group 3,000 or 4,000 MW of generation together and determine the network upgrades required to connect them. This frequently requires extensive 345 kV transmission lines just for interconnection. If one developer drops out of the study, the network upgrades must be restudied and this provides confusion as to what final facilities must be built. SPS is continuing to work with SPP to resolve these issues and the results of those cluster studies are not shown in this report.

3. Transmission Service Studies

The SPP Aggregate Transmission Service study is a process where customers that want transmission service can request a study three times per year. All requests are made through an open season process combined into one study effort, with system upgrade costs being determined in the study.

SPS also conducts long-term network transmission service studies for requests within its system boundary if the request is under the XE OATT. The only customer still affected by this study process, is GSEC, who is taking grandfathered service under the XE OATT.

4. Load Interconnection Studies

As of May 2010, the SPS retail load moved from the Xcel Energy OATT to the SPP OATT, which will shift the supervision and coordination of delivery point changes to SPP. SPS will still have the responsibilities of executing study agreements and performing Load Connection Studies (LCS). Meanwhile, SPP will also perform their analysis initiated through the AQ process, and then SPS and SPP will coordinate study results. If there is a customer agreement reached on the load connection upgrades, SPS will notify SPP of this agreement and the delivery point changes will be migrated to the SPP planning models.

5. Texas / New Mexico State Renewable Mandates

New Mexico has implemented the Renewable Energy Act, NMSA 1978 Section 62-16-1, et seq. (NMREA) to bring significant economic development and environmental benefits to New Mexico. SPS will require approximately 435,000 MWH (10% of New Mexico retail sales) of annual renewable energy or renewable energy certificates (RECs) beginning in 2011 in order to comply with the regulation. The above requirement increases to 15% of NM retail sales beginning Jan 2015 and beginning January 2020 to 20% of NM retail sales. Certain technologies have been earmarked with the following minimums:

Wind	>= 20%
Solar	>= 20%
Other	>= 10% (biomass/geothermal)
Distributed Generation	>= 1.5% (increasing to 3% in 2015
Remainder	>= 48.5%

The remaining category can be filled with any of the above four identified energy technologies. SPS is developing plans to meet this requirement.

Texas has implemented a statewide renewable mandate and portfolio standard (RPS). The 2005 Texas Legislature increased the state's total renewable-energy mandate to 5,880 MW by 2015 and a target of 10,000 MW in 2025. Each provider is required to obtain new renewable energy capacity based on their market share of energy sales times the renewable capacity goal.

The RPS mandated that electricity providers (competitive retailers, municipal electric utilities, and electric cooperatives) collectively generate 2,000 MW of additional renewable energy by 2009. The Texas RPS has been so successful that its 10-year goal was met in just over six years. SPS has met its requirements under this mandate.

6. Stakeholder Groups and Their Concerns

a. Cooperatives

The cooperatives served by SPS include Golden Spread Electric Cooperative (GSEC), and their 11 member cooperatives. There are also the New Mexico cooperatives – Lea County Electric Cooperative, Central Valley Electric Cooperative, Farmers Electric, and Roosevelt County Electric Cooperative. Their concerns are primarily resource adequacy, transmission import limitations, and SPP RTO and NERC Compliance processes. GSEC is approximately a 1200 MW load, and the New Mexico cooperatives are approximately 400 MW load.

b. Municipalities

SPS serves the West Texas Municipal Power Authority (WTMPA) as a full requirements customer. This is an association of City of Lubbock, Floydada, Brownfield, and Tulia. Their approximate load is 410 MW, in the studies for this year. Their issues are long-term resource adequacy, transmission import capacity, and SPP RTO and NERC Compliance processes. The City of Lubbock has purchased all SPS distribution facilities that served Lubbock in 2010. This will raise the WTMPA load by approximately 575 MW in the 2011 series of studies.

c. Neighboring Utilities

On July 13, 2010 Sharyland Utilities, L.P. ("Sharyland Utilities") and Hunt Transmission Services, L.L.C. ("HTS") jointly announced that the acquisition of Cap Rock Energy Corporation ("Cap Rock Energy") and its subsidiary NewCorp Resources Electric Cooperative, Inc. ("NewCorp") was complete. Sharyland Utilities now serves as the new electric utility for all customers previously served by Cap Rock Energy on a 138 kV transmission system that overlays the ERCOT system in the Midland, Odessa, and Big Springs area. Their load is in excess of 150 MW, however through a settlement agreement, the Sharyland load will be limited to 150 MW or less with all remaining load transferred back to the ERCOT system. ERCOT is expected to complete a study in 2010 defining how much load and the timetable for moving the load back to ERCOT.

d. Independent Power Producers

There are a number of independent power producers in the SPS area. They are:

- Blackhawk – Borger Energy Associates, L.L.P
- Hobbs Plant – Lea Power Partners, L.L.P.
- Sid Richardson
- Engineered Carbons
- Mustang Plant- Yoakum County Electric Cooperative
- John Deere Wind – numerous facilities
- San Juan Mesa (Padoma) – Mission Wind
- Caprock Wind – Babcock and Brown
- Wildorado – Cielo Wind Power
- White Deer – Shell Wind
- Majestic - NextEra Energy Resources, LLC.
- Noble - Noble Great Plains Windpark, LLC.
- Sunray – Valero
- Mesalands Community College – Tucumcari
- Aeolus – Vestas Wind Systems
- Llano Estacado – Shell Wind Energy
- High Plains Wind Power – John Deere Renewables

The issues each producer faces are different since the fossil fuel units and San Juan, Wildorado, Caprock Wind, and White Deer are designated network resources with firm transmission service. John Deere Wind, Aoelus, High Plains Wind Power and Sunray are Qualifying Facilities are receiving non-firm transmission service. SPS also purchases the output of the Qualifying Facilities.

The developers that are considering marketing their power into the SPP EIS market are very concerned about the transmission deliverability for their plants. SPS is also concerned about how many developers want to build plants to provide energy to this market as long as any transmission upgrades to provide firm service are absent.

e. Industrial Customers

The industrial customers are varied and diverse. SPS has key account representatives that work with these retail customers. For example, SPS has the following major industrial customers:

Apache Corporation	Intrepid
Covenant Health System	Mosaic
Enterprise Products Operating L.P.	Bell Helicopter-Textron
White Energy - Hereford	Pioneer Natural Resources
White Energy - Plainview	Cannon AFB
X-Fab Texas Inc.	Leprino Foods
XTO Energy	National Enrichment Facility
Chevron	Navajo Refining Company
ConocoPhillips	Asarco
Hess	Baptist St Anthony's Hospital
Oxy Permian	BWXT-Pantex
Valero Energy	Panda Energy - Hereford
Cargill Meat Solutions	Sid Richardson
Degussa	Swift and Company - Cactus TX
Northwest Texas Hospital	Tyson
CRMWA (Canadian River Municipal Water Authority)	Owens Corning

These customers are concerned about transmission system development being made, but only the necessary development to provide the required service. They have not been supportive of speculative transmission facilities for future uses that are poorly defined today.

7. Load Forecast

The historic actual and current forecast for the SPS BA, or control area, is plotted below.

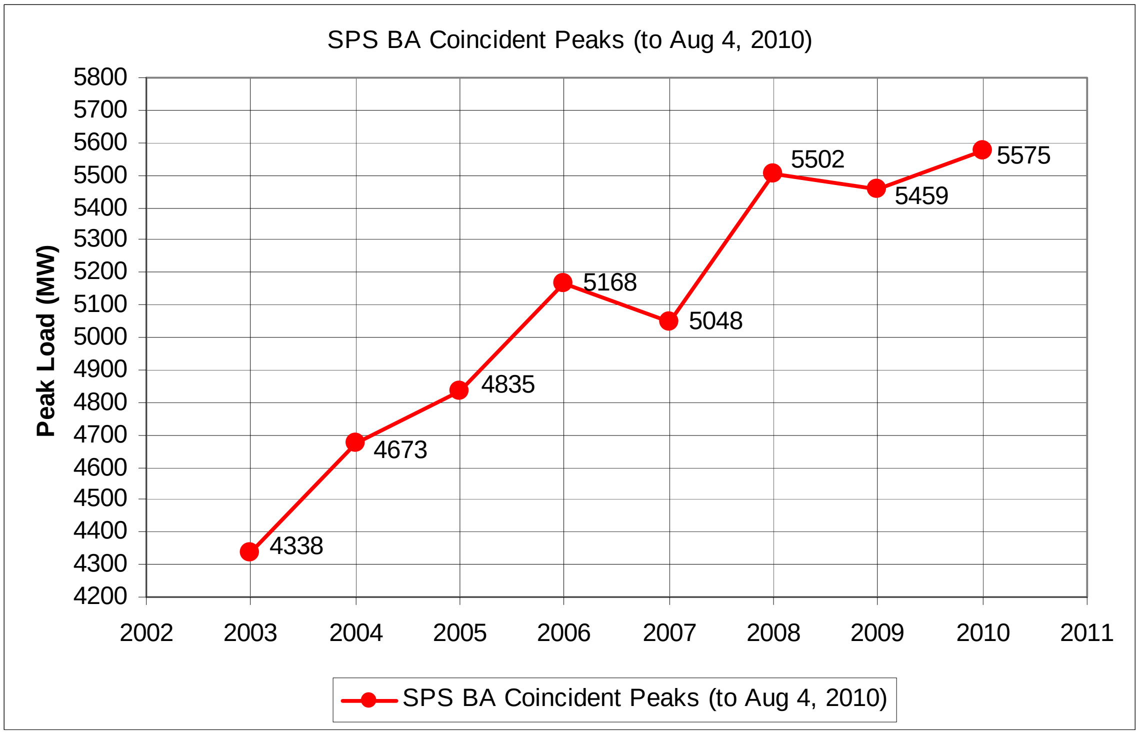

Figure 4 – SPS BA Coincident Peak Loads

The current forecast is shown below.

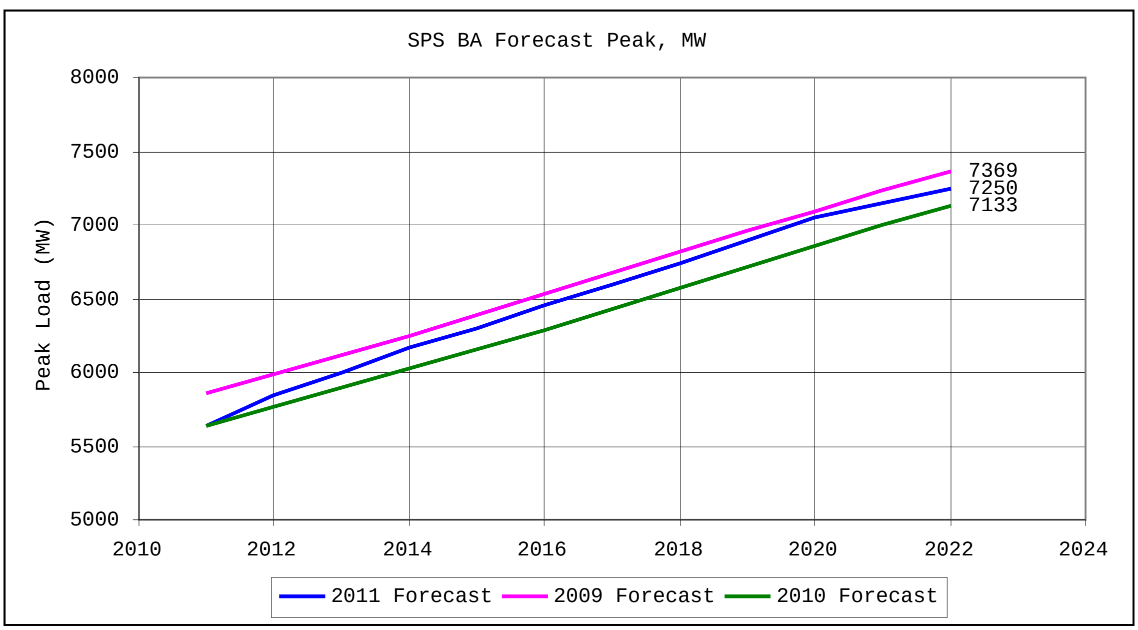

Figure 5 – SPS BA Forecast

8. Existing and New Generation Assumptions

a. Wind generation levels – assumed to be low (10%) in summer peak transmission planning model. The data used to represent the seasonal dispatch levels was taken from wind data obtained from the Alternative Energy Institute at West Texas A&M in Canyon, Texas. The dispatch levels for the non-summer peak models include the April Light (50%), Spring Peak (45%), Fall Peak (29%) and Winter Peak (30%). These values are based on average hourly values as a percent of the wind farm nameplate.

b. New Generation Locations –new generation locations are not modeled in the SPP STEP study unless they have met several criteria such as: a signed interconnection agreement, a power purchase agreement, environmental permits granted and major equipment on order. For the purpose of making the models through the SPP Model Development Working Group process, fictitious generation is shown at Tolk and Jones plant as needed to balance future load and generation requirements. This fictitious generation is removed in the SPP study processes.

c. New Generation Capacity – SPS plans to add a 168 MW gas combustion turbine generator at Jones Plant with a planned in-service date of 6/1/2011. Additionally, SPS Energy Markets has executed a Purchase Power Agreement (PPA) for five distribution-connected solar power plants that have a combined capacity of 50 MW.

d. New Generation Capacity – GSEC plans to add 170 MW of quick start internal combustion generators at Tuco Interchange with a planned in-service date of 6/1/2011.

9. Planning Criteria

SPS subscribes to the Southwest Power Pool ("SPP") Reliability Criteria, which incorporates compliance with the appropriate North American Electric Reliability Corporation ("NERC") Planning Standards, which are enforced by the Regional Entity ("RE") function of SPP.

SPS's own specific criteria are applied in the development of the power flow data and conducting the studies. These should be considered in coordination with Attachment R-SPS to the Xcel Energy Operating Companies Joint OATT. Brief descriptions of those criteria follow.

<u>Voltage Criteria</u>

SPS allows a range of 0.95 per unit (p.u.) to 1.05 p.u. for the system voltage at a specific bus, for system intact conditions. SPS does not limit the maximum allowable voltage change during a contingency (voltage deviation criteria). The maximum allowable voltage change is dependent on the makeup of the customer load in the area of the contingency and the starting point for the voltage before the contingency. The +/- 0.05 p.u. base case voltage range is applied to all voltages, including sub-transmission networks.

During contingency studies SPS allows a range of 0.90 per unit (p.u.) to 1.05 per unit (p.u.) for the system voltage for most buses. The contingency range is dependent on the type of load at the bus under examination, the transmission equipment rating, and any regulating equipment which can be used to regulate the voltage delivered to the customer. Voltage deviations up to 1.10 per unit voltage may be permitted depending on the specific equipment ratings.

When evaluating available transfer capability, the TUCO 230 kV bus voltage is monitored and not allowed to go below 0.92 p.u. to minimize the risk of voltage collapse and system separation from the SPP. This requirement is not present if the TUCO Static Var Controller is in service.

Transmission Element Rating Criteria

SPS has rated its transmission elements in accordance with the Xcel Energy Transmission Facility Rating Methodology, Version 5.0; July 1, 2010. The document requires the use of the most limiting element for each transmission branch and considers all elements of the transmission branch. Normal and emergency ratings are developed for both summer and winter periods and used in the powerflow models.

Transformer Tap Ratios

Transformers with both fixed high side taps and low side tap changers are modeled to reflect the setting of the high side taps. The actual load tap changer adjustment range of the specific transformer is provided in the power flow data.

North-South Flow Criteria

SPS has three 230 kV north-south transmission lines and two 115 kV north-south transmission lines. The 230 kV lines are the Amarillo South Interchange-Swisher County Interchange line, the Bushland Interchange-Deaf Smith Interchange-Plant X line, and the Potter County Interchange-Plant X line. The 115 kV lines are the Randall County Interchange-Palo Duro-Happy Interchange line and Osage Switching Station-Canyon-Hereford Interchange line. The stability limit is 800 MW flow south on these lines for an outage of a Tolk unit.

Interconnected Reliability Criteria

These criteria provide a framework for analyzing SPS's system in transfer analysis with other companies to which SPS is connected.

SPS's AC or synchronous interconnections have historically been built for system reliability. However, due to increases in load, these interconnections are presently required to meet demand during peak loading conditions. Additionally, these interconnections provide for emergency power if one of SPS's generators is suddenly taken off line. The largest SPS generators are the Tolk Plant units, both of which are rated 540 MW net. The existing synchronous interconnections are designed to allow the SPS system to sustain the loss of a Tolk unit without separating from the SPP.

The evaluation of power flows in or out of SPS's system should be based on SPS's reliability criteria to maintain synchronous connection with the SPP at all times. It is SPS's interconnected reliability criteria that any proposed transmission service will not reduce the ability of SPS to remain connected with the SPP in all contingencies under study. Thus, if any import of power is scheduled into the SPS system, this scheduled import cannot be so large that the loss of this import forces SPS to separate from the SPP. Similarly, the evaluation of an export of power from the SPS system should meet the same criteria. With the export or import of power occurring, there should not be cascading loss of interconnections with the SPP due to the single outage of a transmission or generation element.

General Assessment Practices

On an annual basis, SPS prepares power flow model data based on the previous year's annual peak and the current load forecast. Historical actual load point data is used in preparing the new power flow base cases.

SPS performs single contingency outage studies on the summer peak models by examining the loss of each transmission element. The transmission elements are defined to be all transmission lines between 345 kV and 115 kV and transformers with high side connections to these transmission voltage levels. Each single contingency outage case is reviewed to determine if system improvement is required to provide reliable service during this contingency. Single contingency studies may be performed on the winter peak and average load models, to determine the sensitivity of the network to outages with seasonal generation patterns. Studies on the 69 kV sub-transmission network are targeted every two years. SPS's 69 kV network is extensive and is for a large part operated radial. Studies on selected portions of the 69 kV network may be done on a much more frequent basis, depending on load growth in a specific area.

If a network addition is proposed in a specific region of the transmission system, single contingency studies will be made of that area with the proposed addition to determine its ability to provide service. The studies will be made in the model year that the transmission addition is proposed to go into service and also for the model year that is the farthest into the future. For example, if a new 230/115 kV interchange is to go into service in 2010, the addition of this interchange would be studied in 2010 power flow models, and would also be studied in the future models to determine the long-term performance of this network addition.

For SPS' study purposes, power flow simulations are done with area interchange control enabled with tie-lines and load, transformers with load tap changers regulating, and generator voltage regulation enabled. All SPS generators are assumed to be capable of regulating voltage between their minimum and maximum reactive power limits. Small non-utility generators, and wind farms do not provide significant voltage regulation. The HVDC interconnections are block loaded in power flow simulations. Studies can be done with a full Newton solution or a decoupled Newton solution.

Where new generation is needed but not yet known as to its exact location, fictitious generators will be placed on the system as needed to maintain a balance between load and generation. These are normally placed at the Tolk Plant bus first, and if needed the Jones Plant bus. These are internal busses in the powerflow model.

Interconnected Reliability Assessment Practices

It is important that any proposed transfer of power or construction of facilities not degrade SPS's interconnected reliability. SPS does perform contingency studies on the loss of a Tolk unit, the largest generating unit in the control area, with all HVDC tie-lines in service as a baseline case. As stated above SPS conforms to the NERC Planning Standards and produces annual studies in response to specific standards requirements. The standards, which can affect transmission are significant and are not listed in this report.

10. Transmission Congestion

SPS has several flowgates which have caused concern in past years. The primary flowgates are the North-South flowgate and the import flowgate, SPPSPSTIES.

The North-South flowgate limits due to a stability limitation based on loss of south generation. With additional non-firm wind based resources north of the flowgate, it hits its limit much more frequently than in past years.

The other key flowgate is the import flowgate. It is based on the sum of all of SPS AC ties to the SPP. This flowgate, while not a significant limit for operation today, does potentially limit future transactions. However, if future firm transactions are requested, SPP will study the needed service and determine what upgrades are needed to increase the import capability. A map of those constraints is shown in Figure 6.

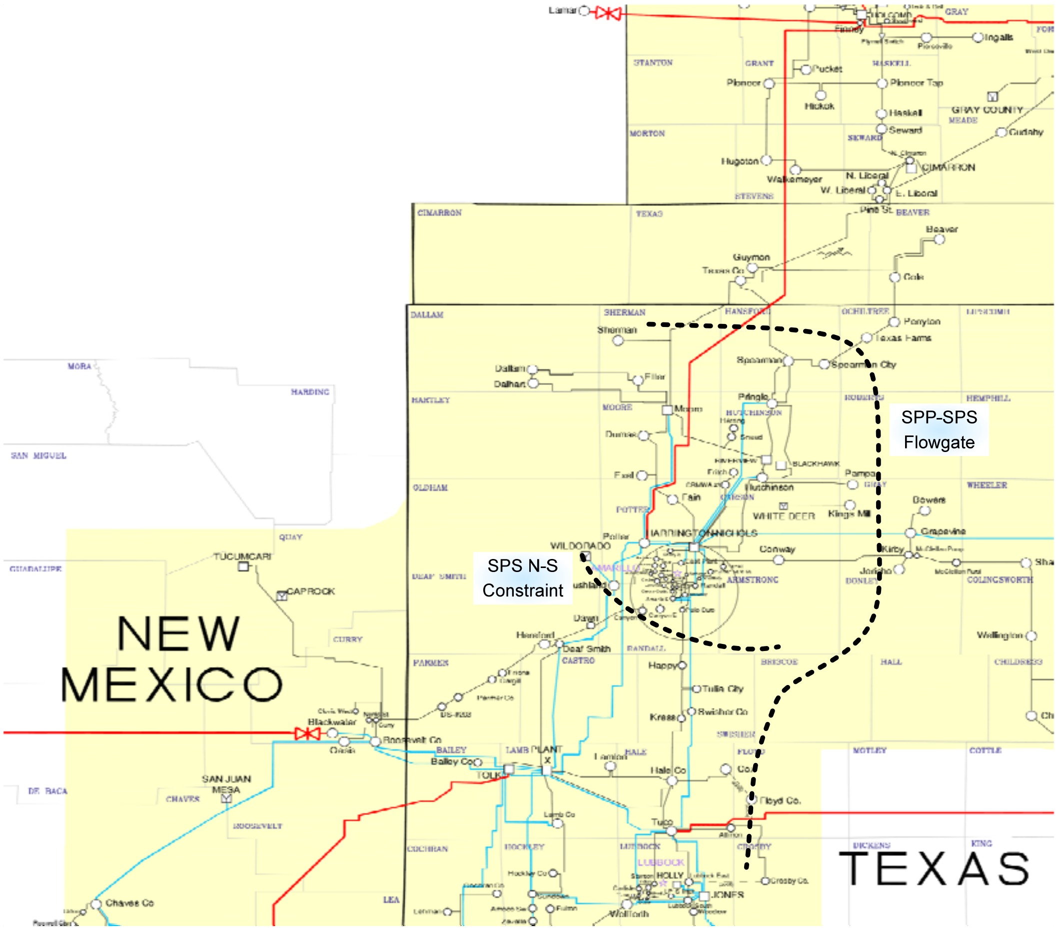

Figure 6 – Transmission Congestion Map

11. Economic Planning

SPS reviews studies by others and is actively involved in various regional economic planning efforts such as:

- Department of Energy (DOE) national transmission congestion studies
- SPP Transmission Expansion Planning (STEP) process
- Eastern Interconnection Planning Collaborative (EIPC)

The economic planning process involves various resource scenario evaluations, economic impact of market congestion on transmission elements, and energy and demand loss evaluation on transmission elements.

The benefits are frequently not large enough to justify stand alone transmission investment. Economic benefits, coupled with other benefits (reliability, local or regional policy, etc.), are factored into the transmission alternative evaluation.

II. System Plans

A. SPS Planning Zones has eight planning zones that it uses in its planning and these are based on operating historical data being available to analyze performance in these regions.

They are:

Zone 1: Western Kansas, Oklahoma Panhandle, & Texas North Areas: Includes Garden City, Guymon, Dumas, Dalhart, Spearman, Borger, Pampa, and Wheeler.
Zone 2: Amarillo Area: Adrian, Vega, Channing, Amarillo, Groom and McLean.
Zone 3: Clovis, Hereford, Canyon Area: Includes Portales, Clovis, Muleshoe, Friona, Hereford, and Canyon.
Zone 4: Central Plains and Lubbock Area: Includes Tulia, Plainview, Littlefield, Levelland, Brownfield, Post, Lubbock, and Floydada.
Zone 5: Yoakum and Gaines Area: Includes Denver City, Seminole, and Seagraves.
Zone 6: Pecos Valley Area: Includes Roswell, Artesia, and Carlsbad.
Zone 7: Southeastern New Mexico Area: Includes Hobbs, Eunice, and Jal.
Zone 8: Caprock Area: Includes Midland and Big Spring.

A map of the zones is shown below.

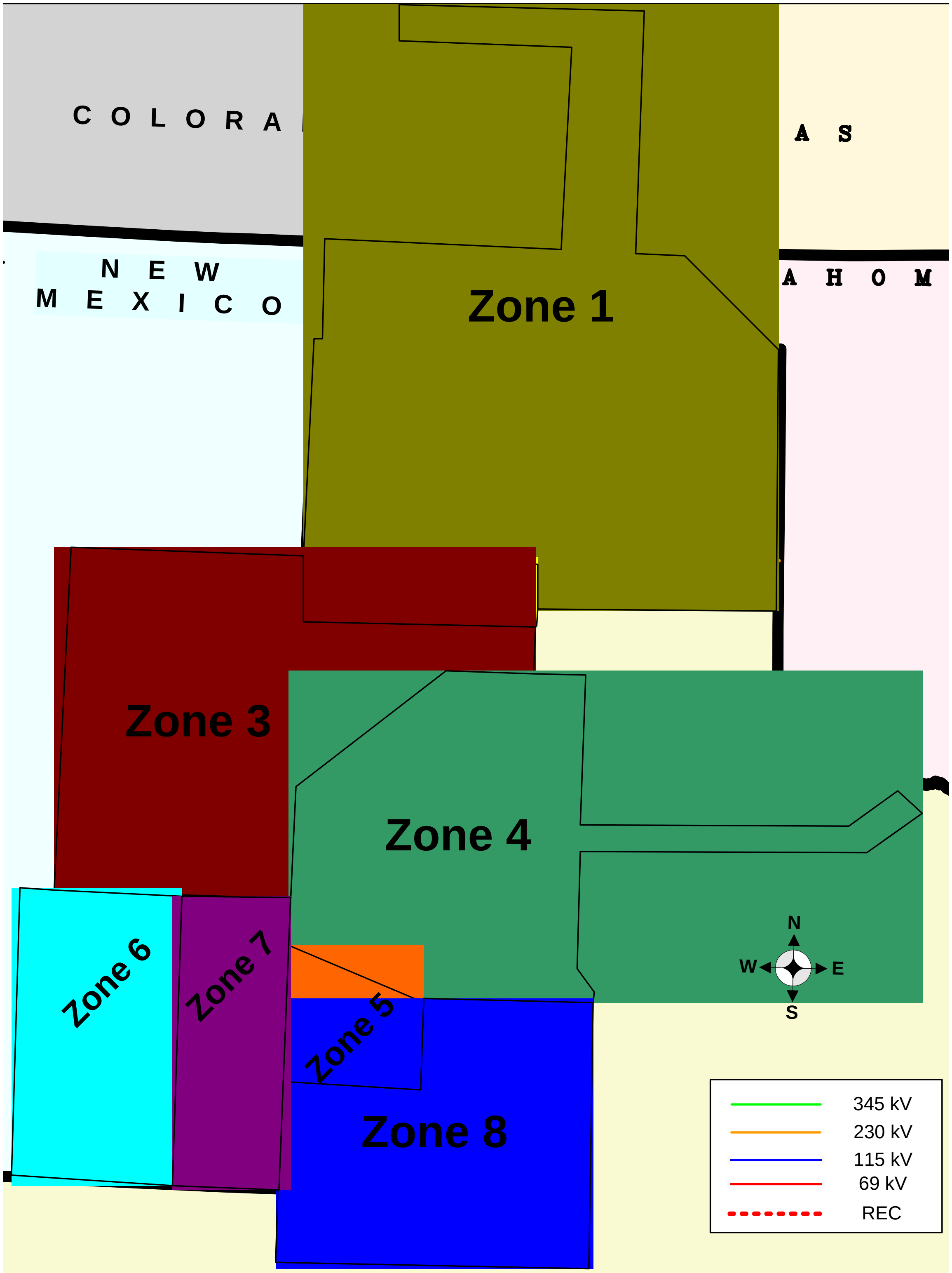

Figure 7 – SPS Planning Zone Map

B. Zone Descriptions

Zone 1 Description: Western Kansas, Oklahoma Panhandle, & Texas North Area

The Zone 1 region is one of the larger territorial regions in the Southwestern Public Service (SPS) system. It encompasses the transmission system from the northern end at Garden City, Kansas to the southeastern end near Shamrock, Texas. The eastern border for this region is on the Texas-Oklahoma state line and extends as far west as Lamar, Colorado but the service area typically extends westward to the New Mexico state line.

The summer peaking loads for this region consist mostly of industrial and agricultural with lesser levels of commercial and residential. The 2011 summer peak load is forecasted to be approximately 850 MW. SPS provides service to four cooperatives in this region, one in Oklahoma and three in Texas.

Most of the transmission lines in this region are operated at 115 and 69 kV, but there are also some 230 and 345 kV lines. There are two 345 kV tie lines and one major internal 345 kV line between Finney and Potter. There is a 230 kV tie line and two additional 115 kV tie lines in this region. One of the 115 kV tie lines is through a 115 kV 150 MVA phase shifting transformer. Most of the 230 and 115 kV lines are operated looped and the 69 kV lines are normally operated in a radial fashion to minimize outage risk. Switching can normally be performed on the 69 kV system to restore service from a different source.

The maximum generation in this region is approximately 580 MW with 210 MW being from wind generation, and the remaining from gas generators and cogen facilities. Much more wind generation is earmarked for this region.

Challenges:

- Huge amounts of additional wind generation are expected to be added to this region and will require significant transmission expansion.
- The 115 kV loop from Moore County to Dalhart and Dallam will continue to be an issue until the Dallam to Sherman 115 kV line is complete.
- Load growth in the north Texas and Oklahoma panhandles is going to require significant transmission expansion, which has been addressed with the Texas North Improvements.
- Currently, the capacity of the Kingsmill 115/69 kV transformer is of concern under certain peak load conditions.
- By 2019 the capacity of the Bowers 115/69 kV Interchange will be exceeded due to load growth.

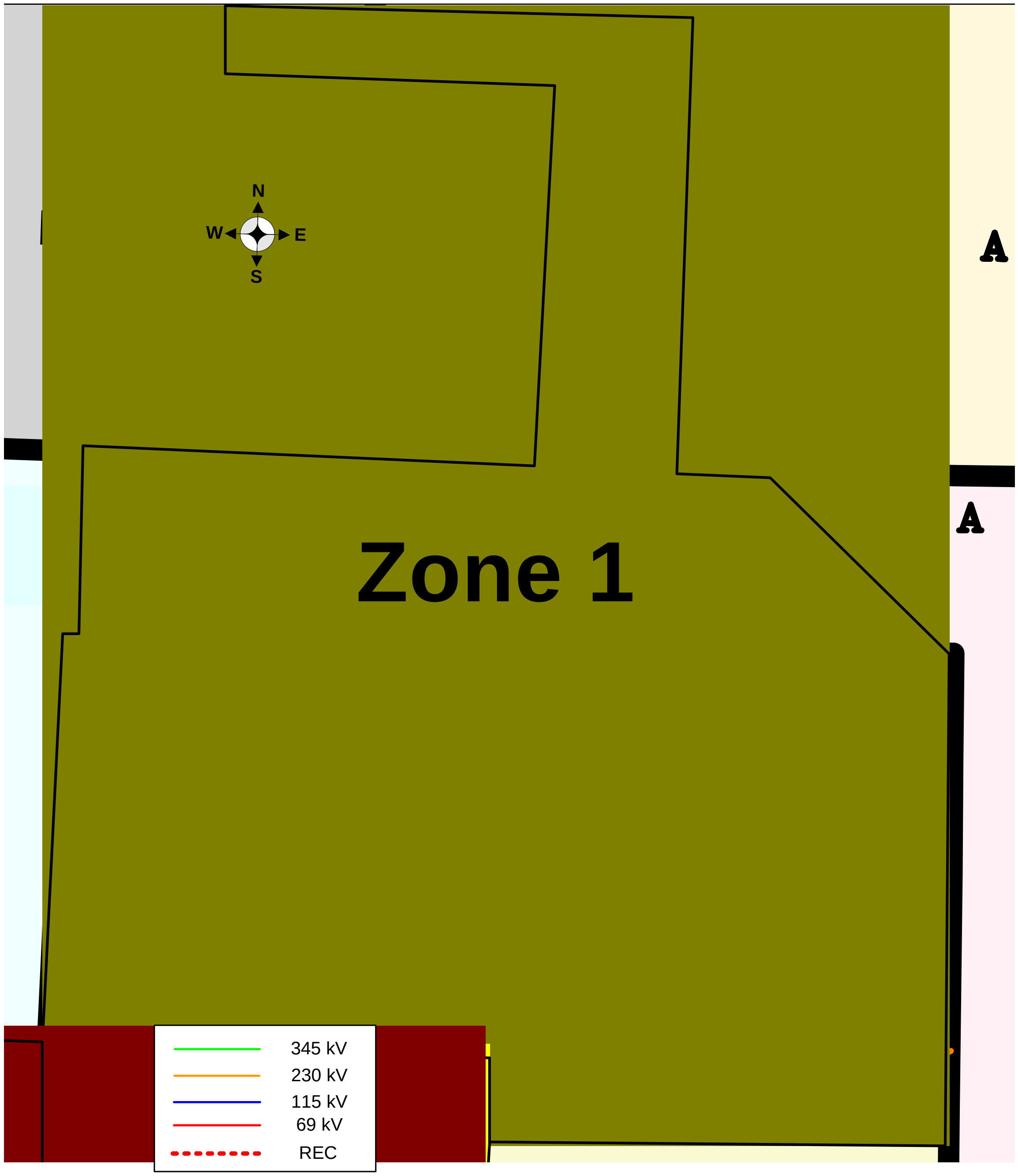

Figure 8 – Planning Zone 1 Map

Zone 2 Description: Amarillo Area: Adrian, Vega, Channing, Amarillo, Groom and McLean.

The Amarillo Metro area covers the entire city of Amarillo as well as areas to the west out to Adrian. The load for this area is a mix of residential, industrial, agricultural, oilfield and commercial loads.

The transmission lines in the Amarillo Area are operated at 345, 230, 115, and 69 kV levels. The 345 kV transmission line out of Hitchland Interchange is connected to the north (WECC) with nominal capacity of 210 MW. The 230 and 115 kV transmission lines out of Nichols Substation are connected to the East (SPP) via Grapevine and Kirby substations respectively.

In the Amarillo Metro area, SPS owns two generating stations at Nichols and Harrington plant with a generating net capacity of approximately 1,500 MW. There are also two independent power wind farm-generating facilities at Bushland and White Deer with a combined nominal capacity of 168 MW.

Challenges:

- Currently the 115 kV line from Osage to Canyon East, the 115 kV line from East Plant to Manhattan, the 230 kV line from Nichols to Amarillo South, the 69 kV line from Northwest Interchange to North Amarillo switching station, the 69 kV underground cable from Georgia to Lawrence Park, and the 230/115 kV transformer at Randall County Interchange lack the capacity for continued reliable service.
- By 2011 the capacity issues on the 115 kV transmission system extends to the transmission line from East Plant to Pierce Street, the line from Manhattan to Osage, and the line from Osage to Georgia. Also by 2011 the capacity of the East Plant 230/115 kV transformer will have been depleted for further reliable service.
- By 2014 the capacity issues on the 115 kV transmission persists and include the line from East Plant to Whitaker, the line from Osage to Pierce Street, and the line from Nichols to Cherry Street. Also by 2014 the 69 kV overloads include the transmission lines from Northwest Interchange to East Plant.
- By 2016 the 69 kV underground cables feeding across town to Lawrence Park Substation will lack the capacity to reliably serve the Lawrence Park Substation and other substations west of Amarillo.
- If there are no system improvements to alter the growing transmission problems in the Amarillo area, by 2019 most of the transmission elements in the area will lack capacity for reliable transmission service including the 115/69 kV transformers at Georgia and Northwest Interchanges, and the 230 kV line from Harrington to East Plant.

Figure 9 – Planning Zone 2 Map

Zone 3 Description: Clovis, Hereford, and Canyon Area

The Clovis, Hereford, and Canyon area covers the cities of Portales, Clovis, Tucumcari, Muleshoe, Friona, Hereford, and Canyon. The load for this area is a mix of residential, agricultural, industrial, and commercial loads.

The transmission lines in this area are operated at 230, 115, and 69 kV levels. SPS provides power to two electric cooperatives in the Hereford and Clovis area.

There are two independent power wind farm-generating facilities at Caprock in Tucumcari and San Juan in Elida both in New Mexico. They have a combined nominal capacity of 200 MW. In the last six months, wind farm generation interconnection request studied totaled approximately 682 MW.

Challenges:

- Currently the 115 kV line from Randall County Interchange to Palo Duro Substation, the 115 kV line from Osage Substation to Canyon East Substation, both 115/69 kV transformers at Bailey County Interchange, and one of the Deaf Smith 230/115 kV transformers lack the capacity for continued reliable service. Furthermore the 115/69 kV transformers at Hereford Interchange lack the capacity to cover the loss of the NE-Hereford Interchange 115/69 kV transformer or the 115 kV line from Deaf Smith Interchange to NE-Hereford Interchange.
- By 2011, the 230/115 kV transformers at Roosevelt County and Oasis Interchanges will no longer have the capacity to cover the loss of the other, the second 230/115 kV transformer at Deaf Smith Interchange will no longer have the capacity to cover the loss of the other, and the 115 kV line from Canyon East to Canyon West will overload.
- By 2014, the 115 kV line from Roosevelt County Interchange to Curry County Interchange, the 115 kV line south of Hereford Interchange, and the 115/69 kV transformers at Portales Interchange will no longer have the capacities for reliable service.
- By 2016 the NE-Hereford 115/69 kV transformer is projected to overload for the system intact condition
- By 2019 the Hereford area is projected to experience low voltages with the loss of the 115 kV line from Deaf Smith Interchange.
- If there are no improvement projects to address the above problems, by 2019 the 115 kV line from Curry County to Hereford Interchange, and both of the Curry County 115/69 kV transformers will no longer have the capacity for reliable service.

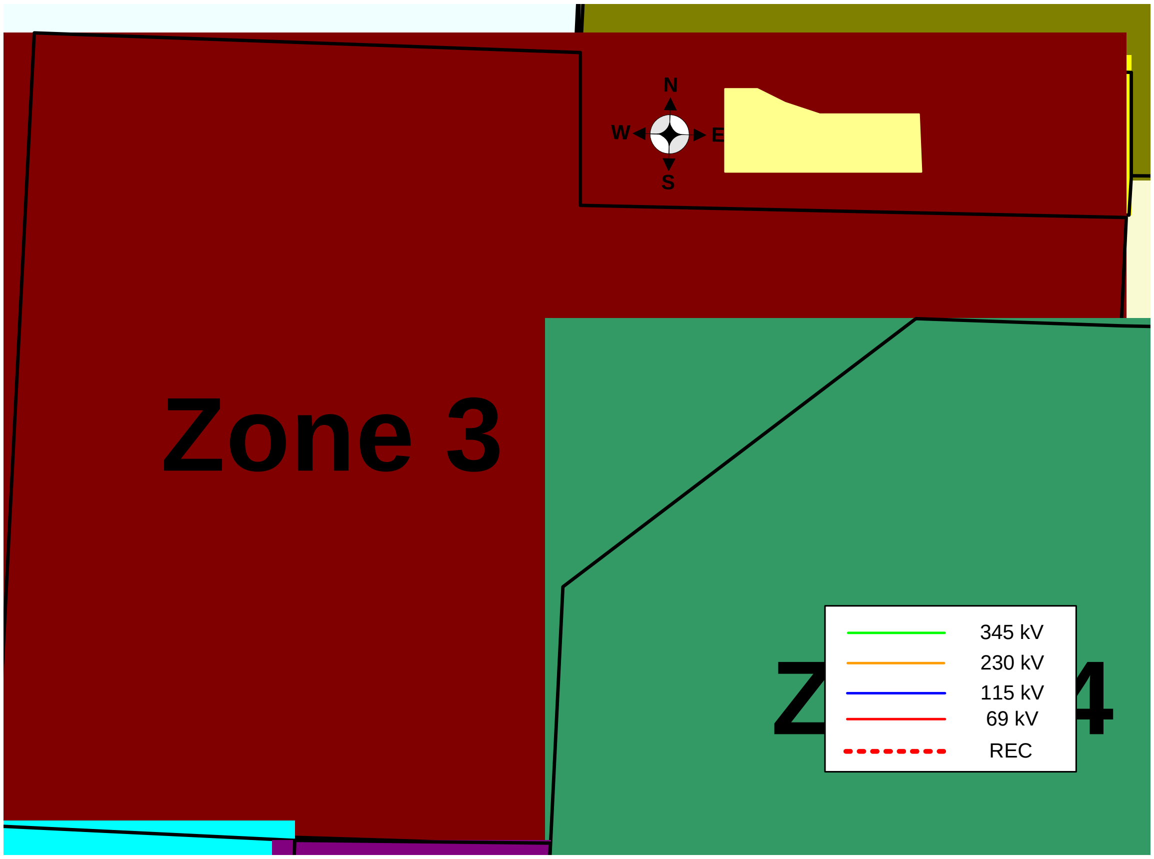

Figure 10 – Planning Zone 3 Map

Zone 4 Description: Central Plains and Lubbock Area

The Central Plains zone is a region in the West Texas Plains from Muleshoe to Brownfield and from Crosbyton to the Texas-New Mexico border. This area has approximately 1,400 MW of summer peaking load that is made up from a mix of residential, industrial, agricultural, and commercial loads. The load growth in this area is due to the increased farm irrigation, irrigation conversions from gas to electric, and the expanding oil and gas industry.

SPS provides power to six electrical cooperatives, all members of Golden Spread Electric Cooperative, that lie within the Central Plains area. SPS also serves Lubbock Power & Light (LP&L) at transmission level voltages, and is in direct competition with the municipal electric utility at the distribution level.
The transmission lines in the Central Plains area are operated at 230, 115, and 69 kV. Most of the 230 and 115 kV lines are operated looped or networked. The 69 kV lines are operated as radial feeders, with normally open line-switches to restore service to loads affected by an outage.

Within the Central Plains zone there is approximately 2,550 MW of Southwestern Public Service (SPS) generation within the Central Plains area from the facilities at Tolk, Plant-X, and Jones plants. Within the city of Lubbock, Texas on LP&L's system there is approximately 256 MW of generation. Figure 11 on the following page illustrates the area covered by Zone 4.

Challenges:

- Currently both of the 115/69 kV transformers at Crosby County Interchange, both of the 115/69 kV transformers at TUCO Interchange, and one of the 115/69 kV transformers at Kress Interchange lack capacity for reliable service. Additionally, under system intact summer peak load conditions the 69 kV voltage in the Plainview area will violate NERC Category A voltage requirements.
- By 2014 the 230 kV line from Jones Plant to Grassland Interchange, the 115 kV line from Lubbock South Interchange to SP-Woodrow Interchange, the 115 kV line from TUCO Interchange to Stanton Substation, the 230/115 kV transformer at Swisher County Interchange, the 115/69 kV transformer at Happy County Interchange, both of the 115/69 kV transformers at Lynn County Interchange, and the 345/230 kV transformer at TUCO Interchange will lack the capacity for reliable service.
- By 2016 the Graham Co 115/69 kV transformer is projected to overload for the system intact condition
- By 2019, if there are no system improvements, the 115 kV lines from Plant-X to Bailey County Interchange, from Grassland Interchange to Lynn County Interchange, from Hale County Interchange to TUCO Interchange, from Hale County Interchange to Lamton Interchange, from Kress Interchange to Swisher County Interchange, and from Lynn County Interchange to SP-Woodrow Interchange will overload.

- Also overloading by 2020 are the 230 kV line from Lubbock South to Jones Plant, the 230/115 kV transformers at Carlisle, Grassland, and TUCO interchanges.
- Additional overloads occurring by 2019 are the overloads of the 115/69 kV transformers at Hockley County Interchange, Lamb County Interchange, and the remaining transformer at Kress Interchange.

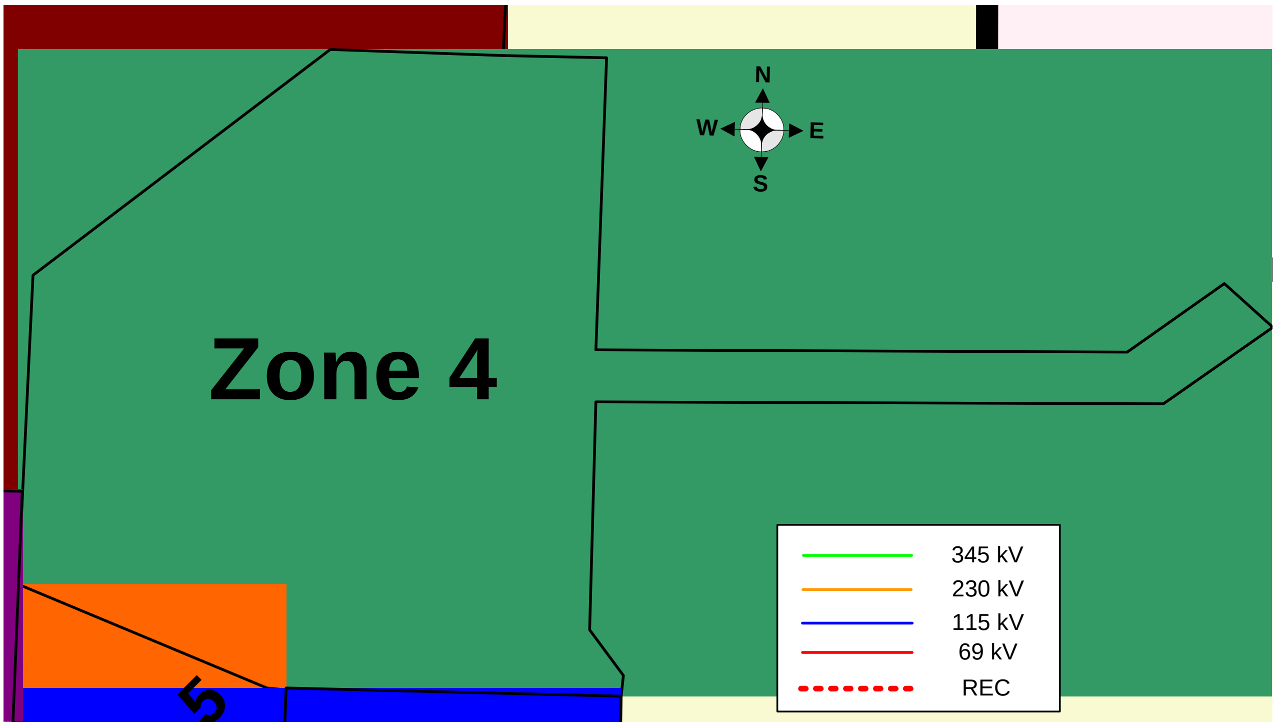

Figure 11 – Planning Zone 4 Map

Zone 5 Description: Yoakum and Gaines Area

The Yoakum and Gaines zone is a region in the West Texas Plains covering the Yoakum and Gaines Counties along the Texas-New Mexico border. This area has approximately 481 MW of summer peaking load that is made up from a mix of residential, industrial, agricultural, and commercial loads. The majority of the load growth in this area is due to the expanding oil and gas production. With sustained oil prices, this area is expected to experience large blocks of load additions. This area also experiences a very high load factor with very little year-round change.

SPS provides power to two electrical cooperatives that lie within the Yoakum and Gaines area. One of these cooperatives is a member of Golden Spread Electric Cooperatives, Inc., while the other cooperative is a total requirements wholesale customer.

The transmission lines in the Yoakum and Gaines area are operated at 230, 115, and 69 kV. Most of the 230 and 115 kV lines are operated looped or networked. The 69 kV lines are operated as radial feeders, with normally open line-switches to restore service to loads affected by an outage.

Within the Yoakum and Gaines zone there is approximately 760 MW of generation capacity from the facilities at Mustang Station. SPS does not own this generation and this generation may not be dispatchable in the off peak seasons. Figure 12 on the following page illustrates the area covered by Zone 5.

Challenges:

- Currently both of the 115/69 kV transformers at Gaines County Interchange lack capacity for reliable service.
- Additionally the 115 kV transmission line from Denver City Interchange through Lea County Electric Cooperative's system terminating at Lea County Interchange is inadequate to carry the connected load from end to end. .
- Lea County Electric Cooperative has requested and agreed to a new service point from the 115 kV transmission near the recently converted Amfrac and Mapco substations.

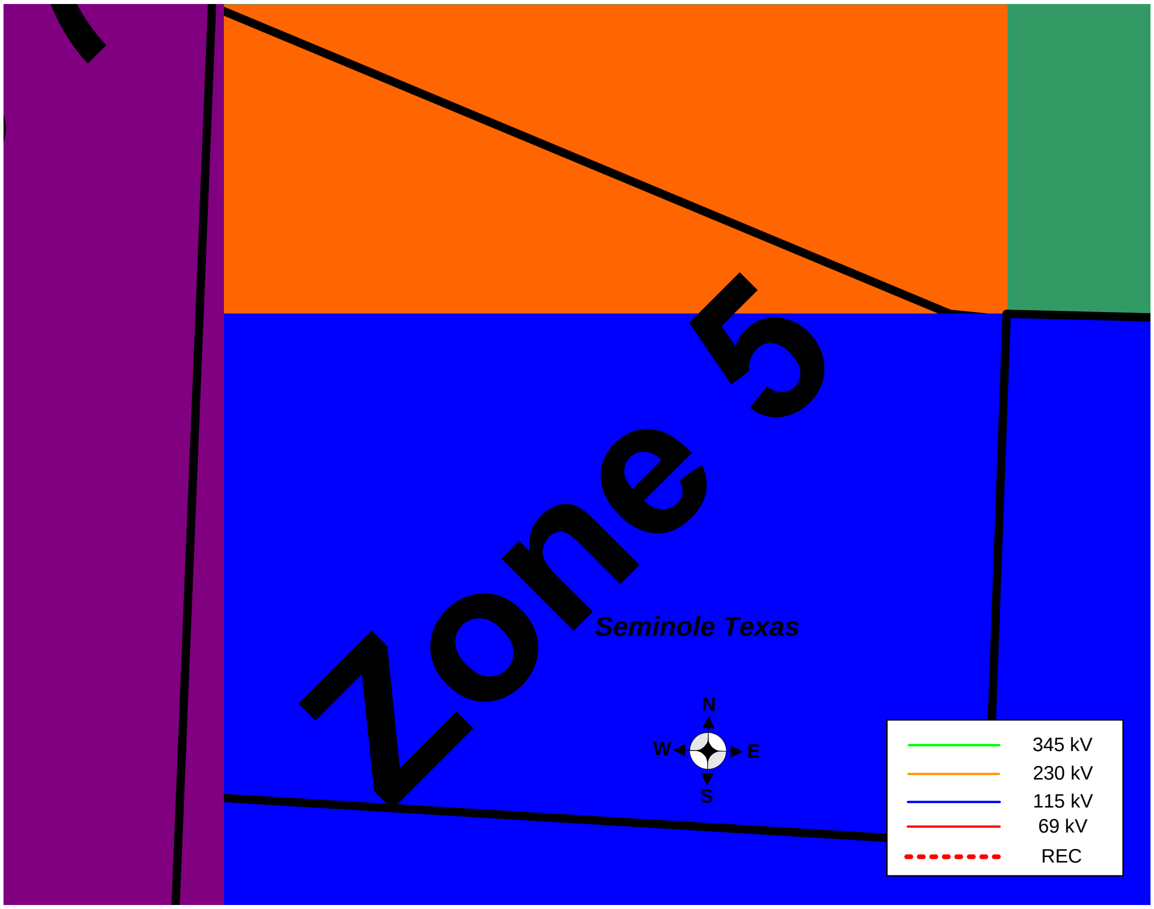

Figure 12 – Planning Zone 5 Map

Zone 6 Description: Pecos Valley

The Pecos Valley zone is a region in the eastern New Mexico from Roswell to White City that includes Chaves and Eddy Counties. This area has approximately 498 MW of summer peaking load that is made up from a mix of residential, industrial, agricultural, and commercial loads. The load growth in this area is due to the increased farm irrigation, irrigation conversions from gas to electric, and the expanding industrial base for the production of ethanol.

SPS provides power to the cities of Roswell, Artesia, and Carlsbad and several other rural communities. SPS also serves an area electrical cooperative that has a total requirements contract with SPS.

The transmission lines in the Pecos Valley area are operated at 230, 115, and 69 kV. Most of the 230 and 115 kV lines are operated looped or networked. The 69 kV lines are operated as radial feeders, with normally open line-switches to restore service to loads affected by an outage.

Within the Pecos Valley zone there is only 18 MW of generation at the Carlsbad Plant with all other resources outside the zone. The Eddy County HVDC interconnect with El Paso Electric (EPE) is at Eddy County Interchange. Figure 13 on the following page illustrates the area covered by Zone 6.

Challenges:

- Currently the 115/69 kV transformers at Roswell, Carlsbad, Artesia, and Chaves County Interchanges lack the capacity for reliable service. The approved Ocotillo conversion project will relieve the capacity issues at Carlsbad Interchange, the Eagle Creek Interchange Project will mitigate the capacity concerns in the Artesia area, and the load conversions in the Roswell area to 115 kV will relieve this capacity concerns at Roswell and Chaves County Interchanges.
- By 2014 the capacity of the 115 kV line from Roswell Interchange to Brasher Substation Tap, and the capacity of the 230/115 kV transformer at Chaves County Interchange will need to be increased to meet the anticipated loading.
- Then by 2019, if there are no system improvements, the 115 kV lines from Chaves County Interchange to Samson Substation, from Chaves County Interchange to Urton Substation, the 69 kV line from Chaves County Interchange to Price Substation, and the 230/115 kV transformers at Eddy County and Seven Rivers Interchanges from will overload.

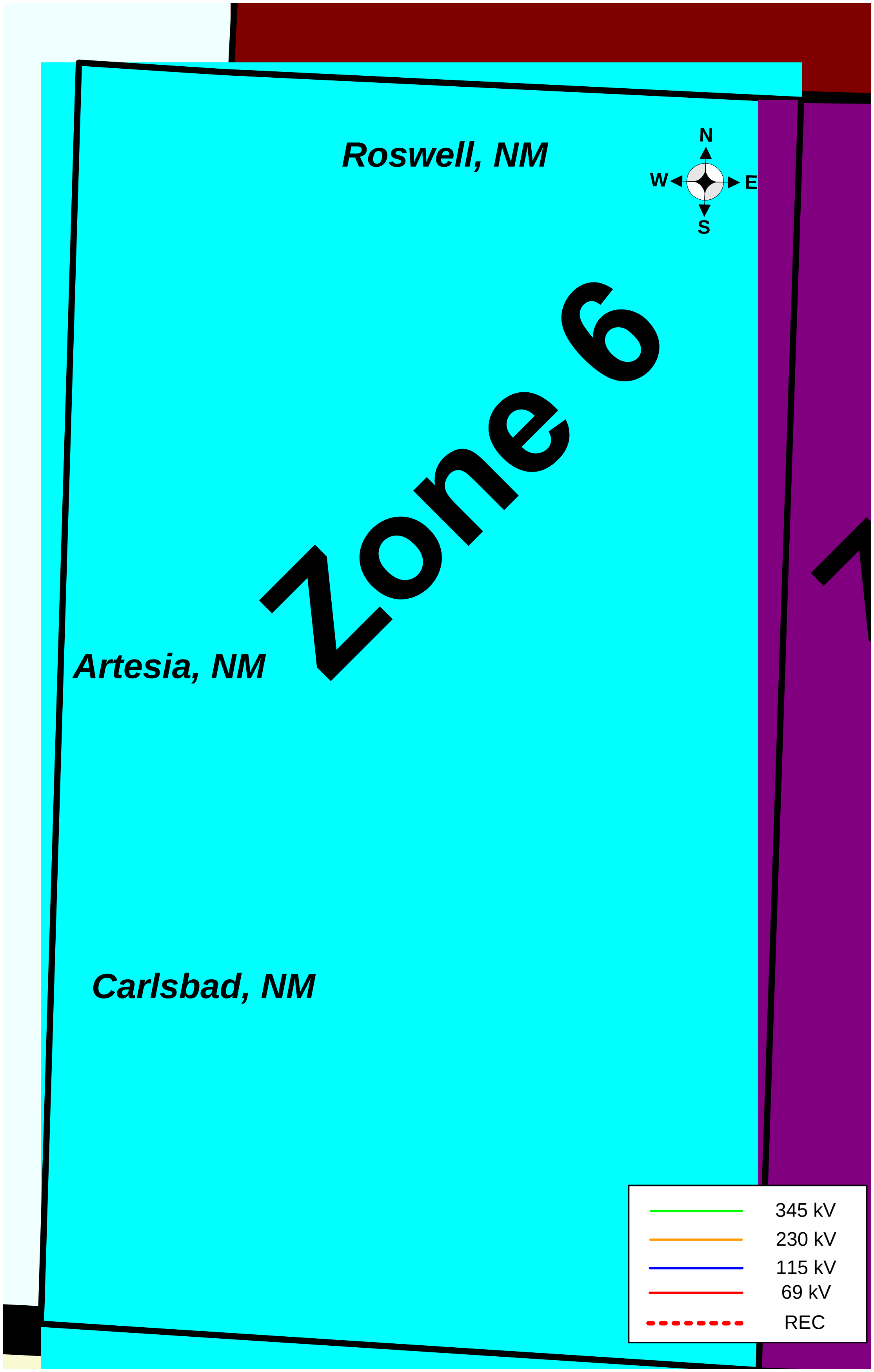

Figure 13 – Planning Zone 6 Map

Zone 7 Description: Hobbs/Jal Area

The Hobbs/Jal zone is a region in southeastern New Mexico covering Lea County along the Texas-New Mexico border. This area has approximately 344 MW of summer peaking load that is made up from a mix of residential, industrial, agricultural, and commercial loads. The majority of the load growth in this area is due to the expanding oil and gas production, and with the high oil prices, this area will experience large blocks of load additions.

SPS serves the communities of Hobbs, Jal, Eunice and several other rural communities. The transmission lines in the Hobbs/Jal area are operated at 230 and 115 kV. Most of the 230 and 115 kV lines are operated looped or networked.

Within the Hobbs/Jal zone there is approximately 1200 MW of generation capacity from the facilities at Cunningham, Maddox, and Hobbs Stations. SPS owns and operates the generation at Cunningham and Maddox, while SPS purchases the generation at the Hobbs Plant through long-term agreements. Figure 14 on the following page illustrates the area covered by Zone 7.

Challenges:

- By 2014 the capacity of the 115 kV lines from Maddox Station to Sanger Switching Station and from Maddox Station to Monument Substation will need to be increased to meet the anticipated loading.
- By 2016 the capacity of the 115 kV lines from Cunningham Station to Lea County Electric's service at LE-San Andres and from Sanger Switch to Oxy Permian Substation will lack the capacities to serve all of the anticipated load under single contingency conditions.

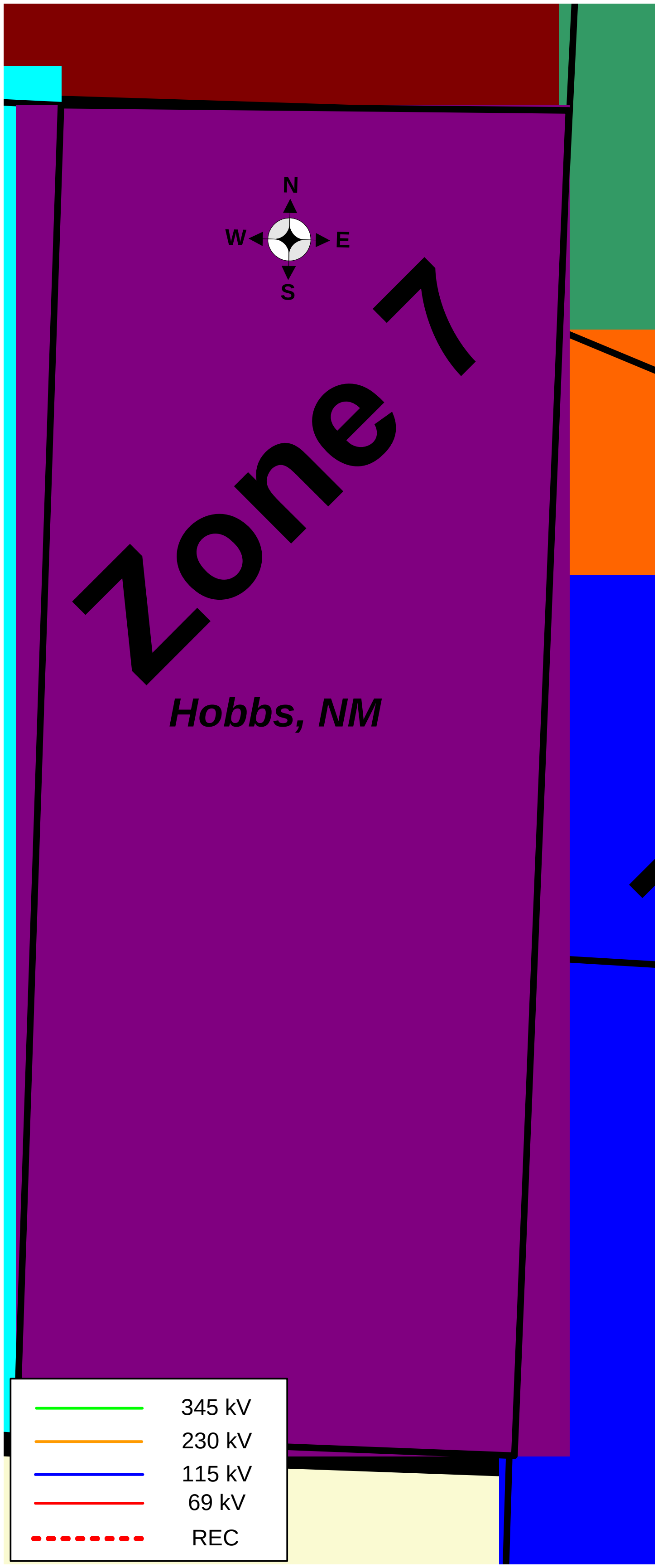

Figure 14 – Planning Zone 7 Map

Zone 8 Description: Caprock Area

The Caprock zone is the southern most region of the SPS service territory, covering an area between Midland, Texas to Big Springs, Texas and as far south as Reagan County, Texas. Sharyland Utilities is receiving service in this zone through two 230 kV transmission lines originating south of Lubbock, Texas, and at the new generating facilities near Hobbs, New Mexico. Currently there is no significant generation connected to the transmission within this zone.

The load in this area is summer peaking with a mix of residential, industrial, agricultural, and commercial loads. The majority of the load growth in this area will be to support the growth of the oil and gas industry. Sharyland Utilities is expected to control the load growth in this area by moving transmission service of some load to be served from the ERCOT[1] area. This action is expected to limit the load in the Caprock area to no more than 150 MVA.

Challenges:

- Currently the 230 kV tie-lines from Hobbs Station to Midland Interchange and from Grassland Interchange to Borden Interchange do not have the capacity to carry the Sharyland Utilities load from end to end when the load exceeds 150 MVA. The Sharyland Utilities system is operated at 138 kV, and is largely uncompensated for the loss of either 230 kV tie-line from SPS. Current load projections for Sharyland Utilities exceed the 150 MW contingency transformer limit. However, Sharyland agrees to limit the total load on the SPP system to 150 MW, by use of interruptible loads, new resources, moving one or more distribution feeders or substations to ERCOT, or other reasonable means to limit load growth in the Caprock area served from the SPP, so that such load shall not exceed the current capacity of the transmission facilities currently serving this area.

[1] ERCOT – Electric Reliability Council of Texas

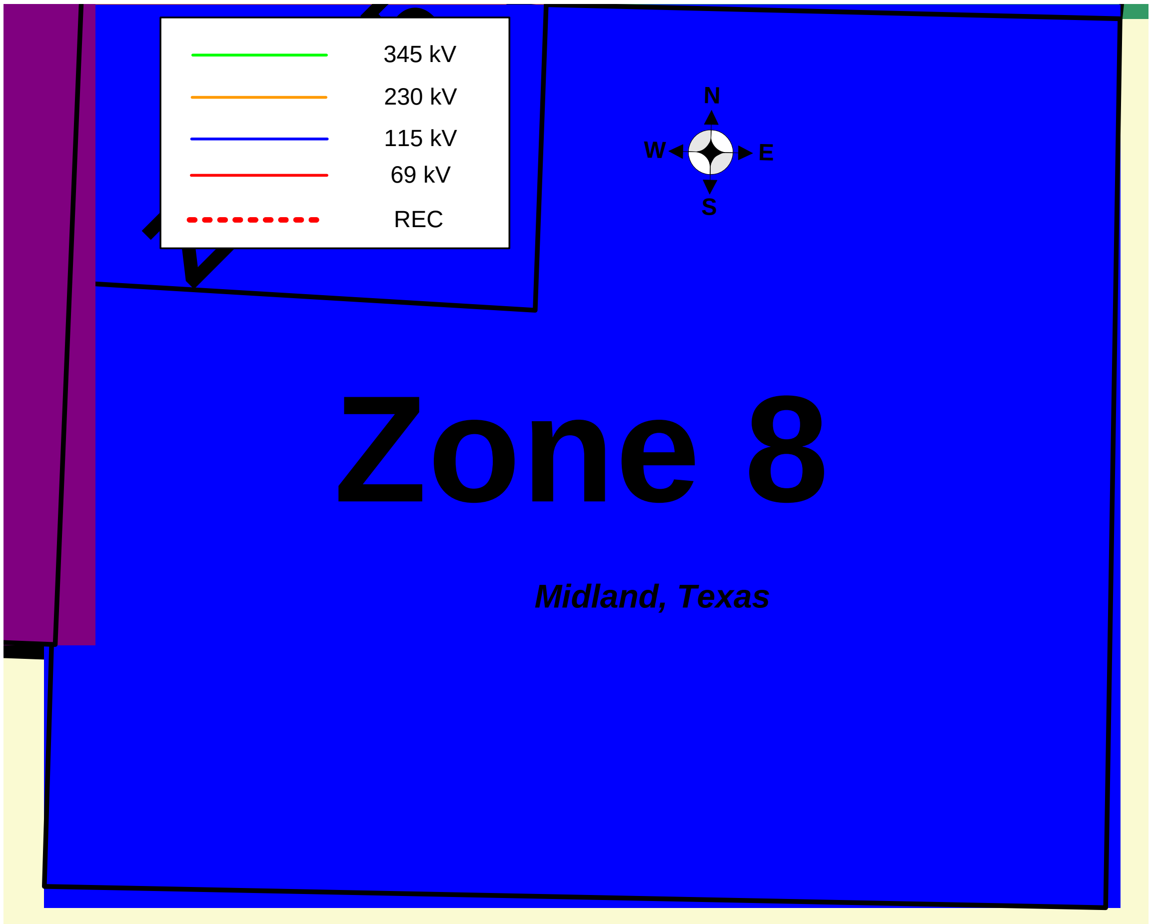

Figure 15 – Planning Zone 8 Map

C. Projects by Zone

Drawings are provided for most of the existing and new projects. SPP STEP drawings are used where applicable. SPP STEP Drawings show a desired in-service date based on the studies performed. Realistic dates are being determined based on completion of project scopes. In Status column of table, Current means project is under construction – Proposed means a new project.

Figure 16 - Zone 1 – Current and Proposed Projects

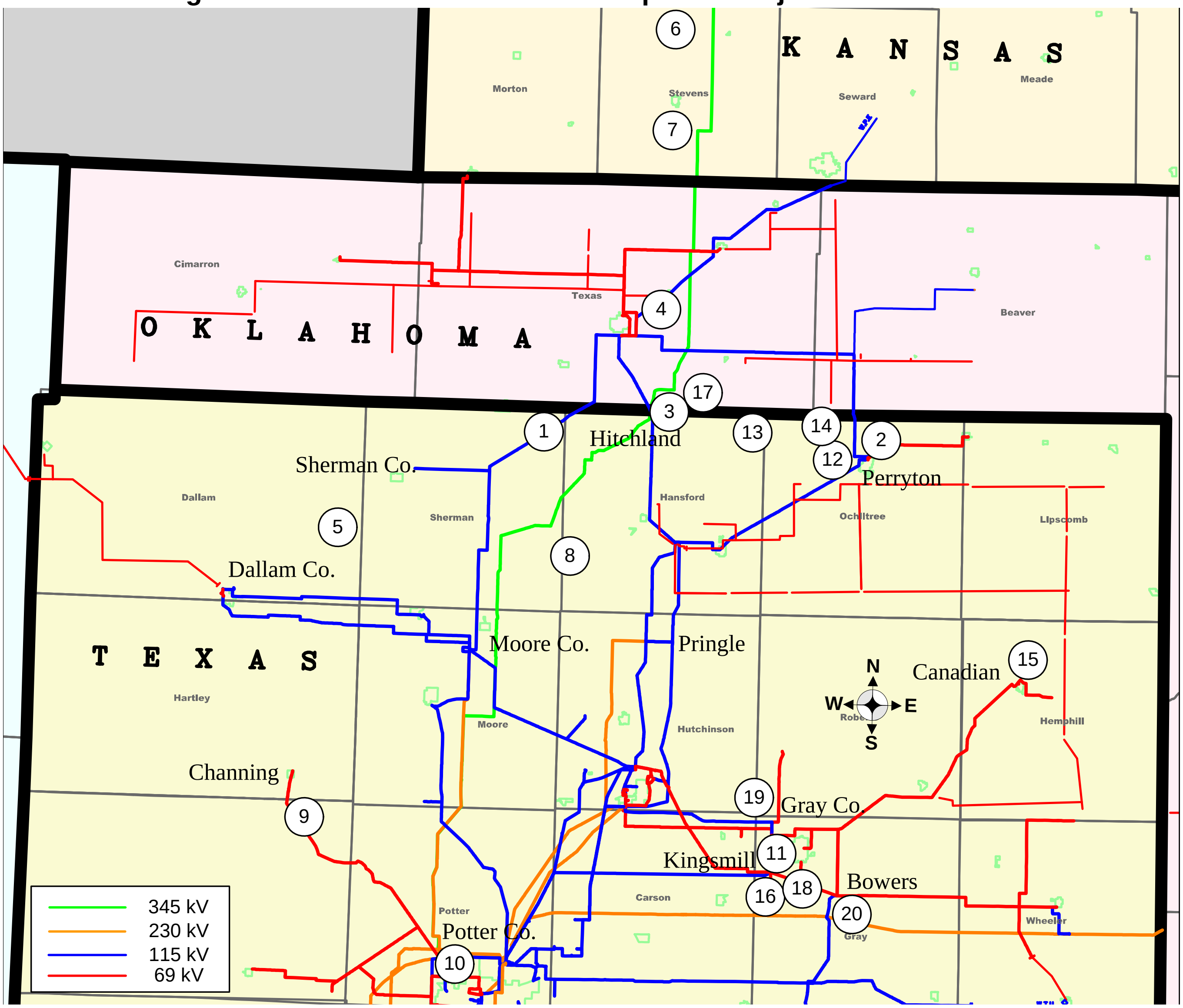

Table 1: Current and Proposed Projects in Zone 1

No.	Project Name	Est. ISD	Status	Drivers
1	DWS Frisco Wind Farm (18.9 MW)	12/2010	Current	IA
2	Perryton Cap Bank	12/2010	Current	Reliability
3	Hitchland 115 kV line terminations	01/2011	Current	Reliability
4	SPS Invenergy (150 MW)	03/2011	Current	IA
5	Dallam to Sherman 115 kV line	3/2011	Current	Reliability
6	Flying Cloud Wind (140 MW)	09/2011	Current	IA
7	Conestoga Wind (400 MW)	11/2011	Current	IA
8	Hitchland to Moore Co. 230 kV line.	12/2011	Current	Reliability
9	Potter Co to Channing to Dallam 115 kV line	12/2011	Current	Reliability
10	230/115 kV 112/128 MVA TF at Potter Co.	12/2011	Current	Reliability
11	Celanese (160 MW Coal)	12/2011	Current	IA
12	Ochiltree Co. 115 kV line terminations	06/2012	Current	Reliability
13	Hitchland to Ochiltree Co. 230 kV line	06/2012	Current	Reliability
14	230/115 kV 172.5 MVA TF at Ochiltree	06/2012	Current	Reliability
15	Device - Canadian 69 kV	12/2012	Current	Reliability
16	XFR - Kingsmill 115/69 kV Ckt 2	06/2013	Current	Reliability
17	Novus II (400 MW)	05/2014	Current	IA
18	McCullough Substation Conversion to 115 kV service	06/2019	Proposed	Reliability
19	XFR - Gray Co. 115/69 kV Ckt 2	12/2021	Proposed	Reliability
20	XFR - Bowers 115/69 kV Ckt 3	12/2021	Proposed	Reliability

Figure 17 - Zone 2 – Current and Proposed Projects

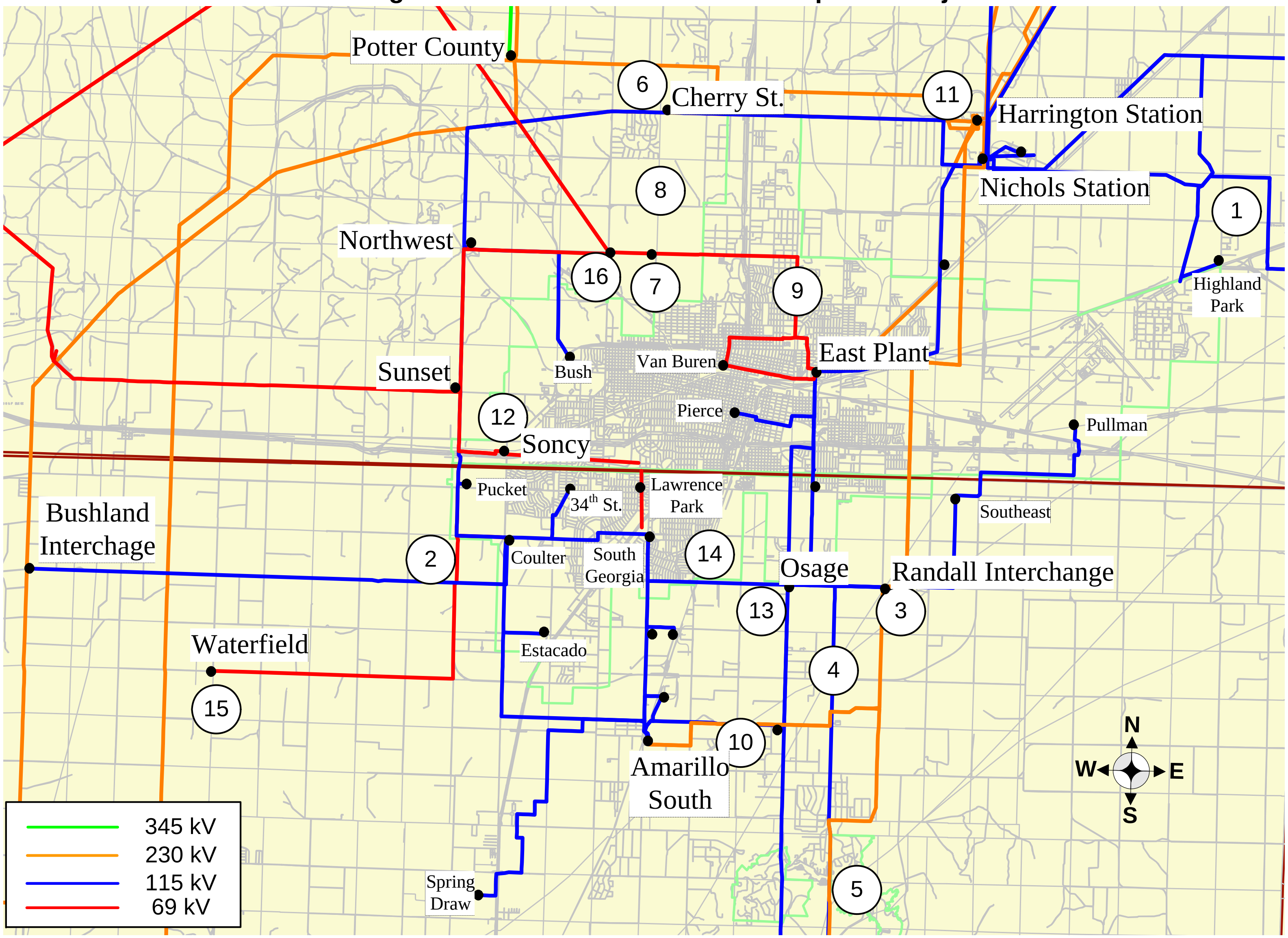

Table 2: Current and Proposed Projects in Zone 2

#	Project Name	Est. ISD	Status	Drivers
1	Tyson Foods (V2 reconstruction)	04/2011	Current	Reliability
2	Hillside Substation	06/2012	Current	Reliability
3	2nd Randall 230/115 kV transformer	04/2013	Current	Reliability
4	Reconductor Randall Co - Palo Duro Sub 115 kV line	04/2013	Current	Zonal
5	Reconductor Palo Duro Sub - Happy Interchange 115 kV Line	04/2013	Current	Zonal
6	230/115 kV 252 MVA TF at Cherry St Interchange	06/2013	Current	Reliability
7	Convert Hastings Sub to 115 kV service	06/2013	Current	Reliability
8	Cherry St. to Hastings 115 kV line	06/2013	NTC Pending	Reliability
9	East Plant to Hastings 115 kV line.	06/2013	Current	Reliability
10	Randall to Amarillo South 230 kV line	04/2014	Current	Reliability
11	Upgrade terminal equipment on the Harrington - Randall County 230 kV line	04/2014	Current	Reliability
12	Convert Soncy Sub to 115 kV	06/2015	NTC Pending	Reliability
13	Osage Station and Line retermintations	06/2016	NTC Pending	Reliability
14	Reconductor Randal Co. (Osage) to South Georgia 115kV Line	06/2017	Proposed	Reliability
15	Convert Waterfield Sub to 115 kV	06/2018	Proposed	Reliability
16	Cherry St to Northwest 115 kV line #2	06/2021	Proposed	Reliability

Figure 18 - Zone 3 – Current and Proposed Projects

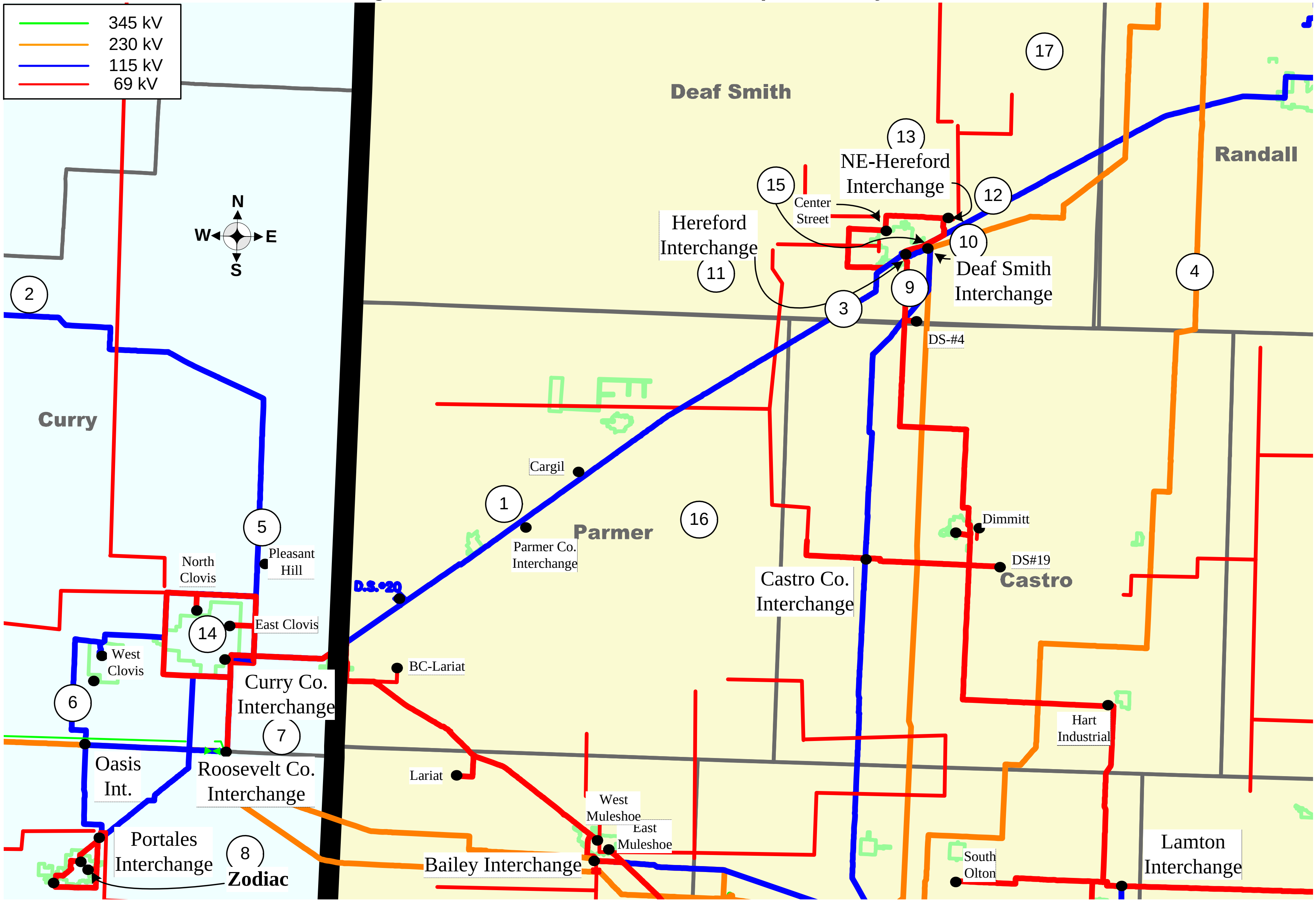

Table 3: Current and Proposed Projects in Zone 3

#	Project Name	Est. ISD	Status	Drivers
1	Parmer Co. Cap Bank	12/2010	Current	Reliability
2	Norton Reactor 115 kV	06/2012	Current	Zonal
3	Deaf Smith 24 GSEC	06/2012	Current	IA
4	Clipper Wind (400 MW)	10/2012	Current	IA
5	Pleasant Hill 230/115 kV interchange	05/2013	Current	Reliability
6	Pleasant Hill to Oasis Intg 230 kV line	05/2013	Current	Reliability
7	Pleasant Hill to Roosevelt Co. 230 kV line	05/2013	Current	Reliability
8	Convert Zodiac Substation to 115 kV	06/2013	Current	Reliability
9	Reconductor 69 kV line from Hereford to NE-Hereford (Z72)	06/2013	Current	Reliability
10	Reterminate T3 in&out of Deaf Smith Interchange (Reconductor from Deaf Smith to Hereford 115 kV line)	06/2013	Current	Reliability
11	Upgrade both Hereford 115/69 kV transformers to 84 MVA	06/2013	Current	Reliability
12	Deaf Smith #1 GSEC	06/2013	Current	IA
13	2nd 115/69 kV 84 MVA TF at NE-Hereford	06/2014	NTC Pending	Reliability
14	Convert East Clovis Sub to 115 kV	06/2014	Current	Reliability
15	115 kV line from Hereford to NE-Herford	06/2019	Proposed	Reliability
16	115 kV line from Castro Co. to Cargill Sub	06/2019	Proposed	Reliability
17	115 kV line from Bushland Interchange to NE-Hereford Interchange	06/2019	Proposed	Reliability

Figure 19 - Zone 4 – Current and Proposed Projects

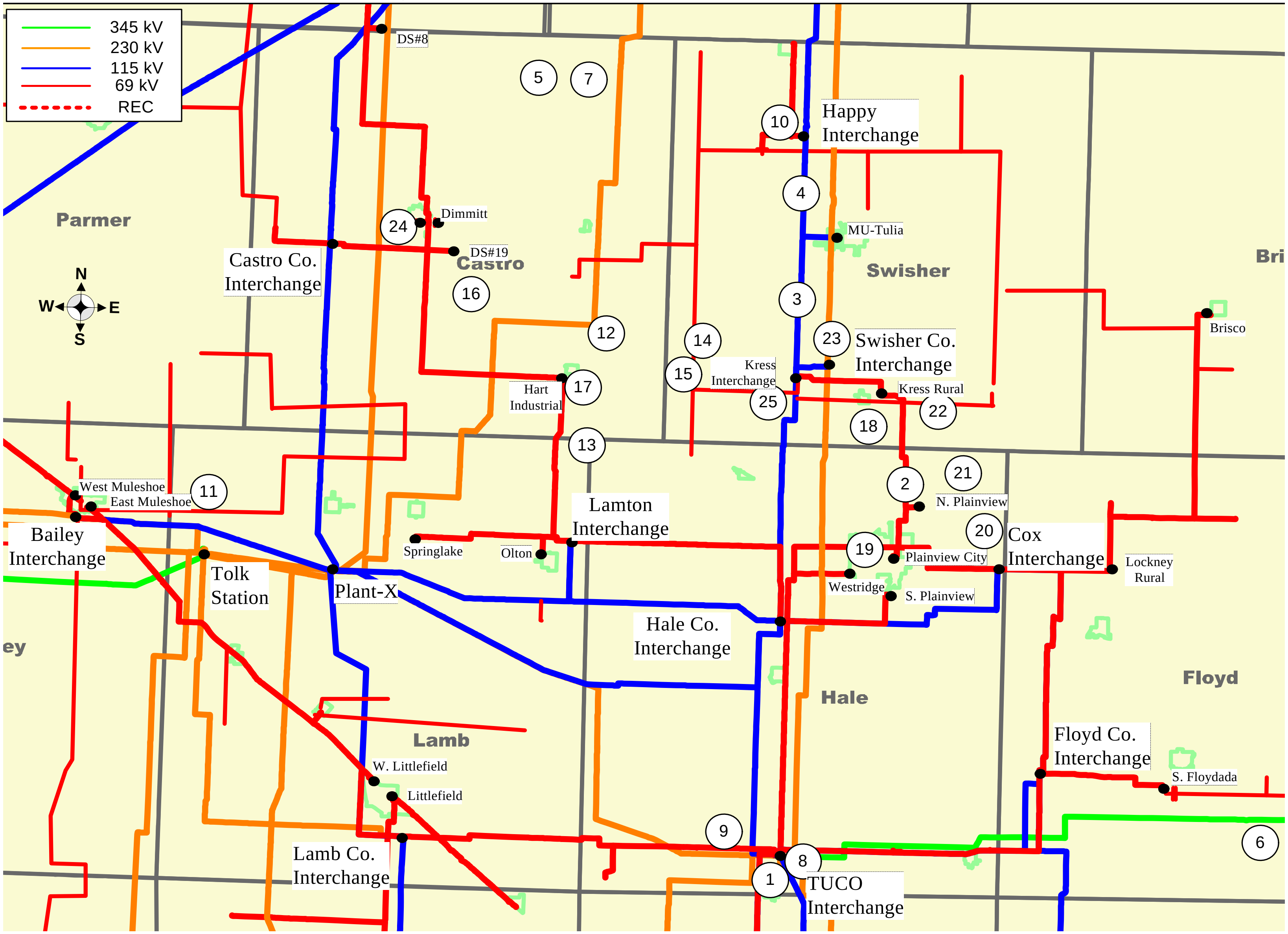

Table 4: Current and Proposed Projects in Zone 4

#	Project Name	Est. ISD	Status	Drivers
1	GSEC-Antelope (170 MW Gas)	12/2010	Current	IA
2	69 kV switch between Plainview North and LH-REC load	06/2011	NTC Pending	Reliability
3	Reconductor 115 kV line from Tulia Tap to Kress Interchange	04/2013	Current	Zonal
4	Reconductor 115 kV line from Happy Interchange to Tulia Tap 115 kV	04/2013	Current	Zonal
5	Happy Whiteface West Wind (240 MW)	09/2013	Current	IA
6	Cedar Cap Wind (150 MW)	09/2013	Current	IA
7	Happy Whiteface Wind (240 MW)	10/2013	Current	IA
8	2nd 345/230 kV 560 MVA TF at TUCO Interchange	05/2014	Current	Balanced Portfolio
9	Convert SP-Abernathy to 115 kV	06/2014	NTC Pending	Reliability
10	Upgrade both Happy County 115/69 kV transformers to 84/96 MVA.	06/2014	NTC Pending	Reliability
11	Muleshoe East 115 kV conversion	06/2014	Current	Reliability
12	230 kV lines in&out of Newhart Interchange	12/2014	Current	Reliability
13	Newhart to Lamton 115 kV line (with Hart Ind. Tap)	12/2014	Current	Reliability
14	Newhart to Swisher Co. 230 kV line	12/2014	Current	Reliability
15	Newhart to Kress 115 kV line	12/2014	Current	Reliability
16	Newhart to Castro Co 115 kV line	12/2014	Current	Reliability
17	Convert Hart Industrial Sub to 115 kV	06/2015	Current	Reliability
18	Kress to Plainview City 115 kV line	06/2015	Current	Reliability
19	Plainview City 115/69 kV Interchange.	06/2015	Current	Reliability
20	Plainview City to Cox Interchange 115 kV line	06/2015	Current	Reliability
21	Convert Plainview North to 115 kV	06/2015	Current	Reliability
22	Convert Kress Rural to 115 kV	06/2015	Current	Reliability
23	Upgrade Swisher Co. 230/115 kV TF to 252 MVA	06/2016	NTC Pending	Reliability
24	Convert Dimmit Substation to 115 kV	06/2016	Proposed	Reliability
25	Upgrade terminal equipment on the 115 kV line from Kress to Swisher Co.	06/2021	Proposed	Reliability

Figure 20 - Zone 4 – Current and Proposed Projects (Cont.)

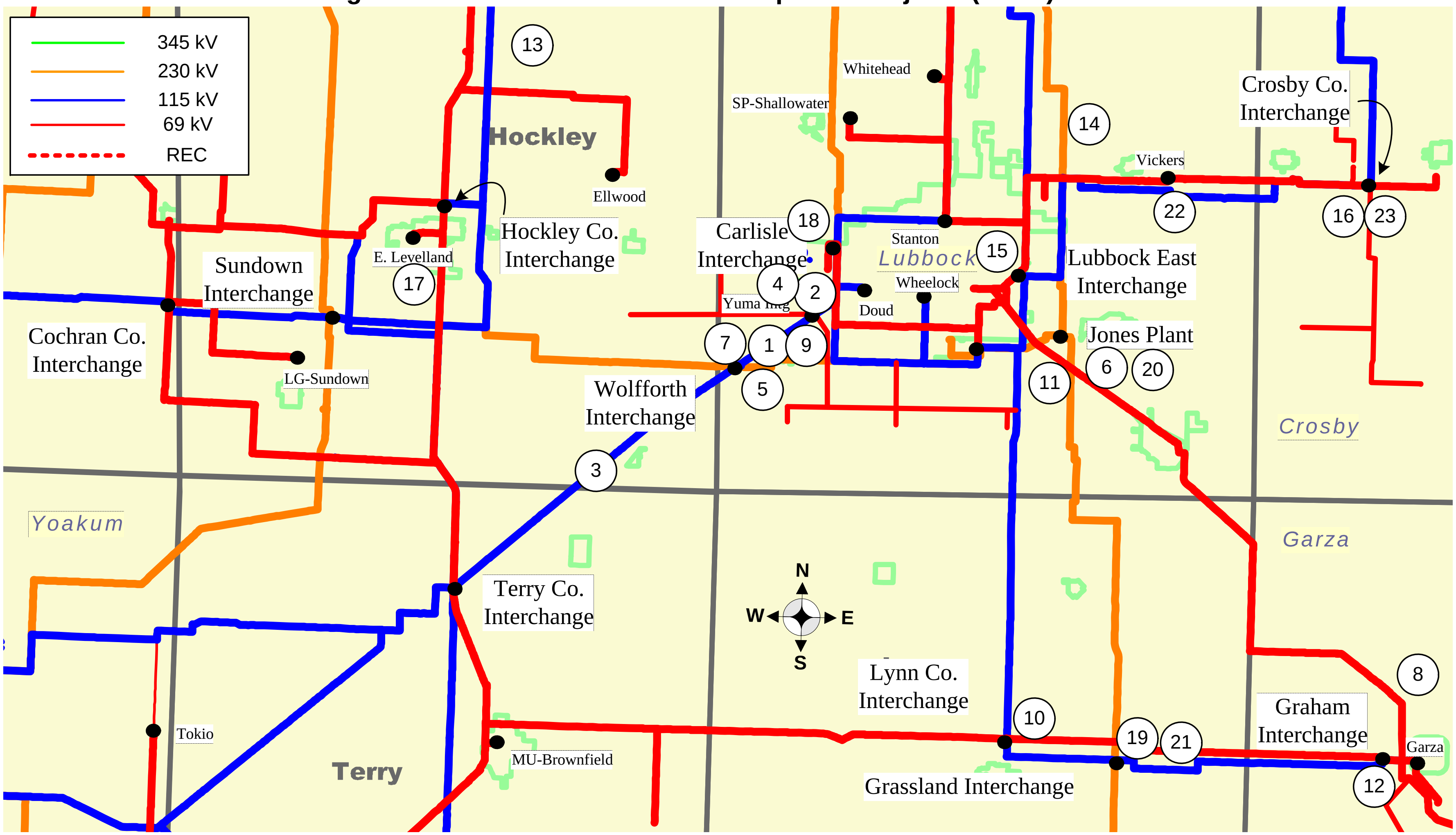

Table 5: Current and Proposed Projects in Zone 4 (Cont.)

#	Project Name	Est. ISD	Status	Drivers
1	SPS T72 Reconductor (Yuma to Wolfforth 115 kV)	12/2010	Current	Reliability
2	SPS T71 Reconductor (Yuma to Carlisle 115 kV)	12/2010	Current	Reliability
3	SPS V24 Reconductor (Wolfforth to Terry Co 115 kV line)	12/2010	Current	Reliability
4	GSEC-SP Alcove Interconnection	06/2011	Current	IA
5	GSEC-SP Wolfforth Interconnection	06/2011	Current	IA
6	Jones Plant Repowering	12/2011	Current	Reliability
7	Upgrade 115 kV line from Wolfforth to Yuma terminal equipment	06/2012	NTC Pending	Reliability
8	Relocate normal open on 69 kV between Graham Co & Lubbock East	06/2012	Proposed	Reliability
9	GSEC-SP Milwaukee Interconnection	03/2013	Current	IA
10	Convert Lynn Co. Substation load to 115 kV	06/2013	NTC Pending	Reliability
11	Jones Plant Bus	06/2013	Current	Reliability
12	Upgrade Graham 115/69 kV transformer to 84/96 MVA	06/2016	Proposed	Reliability
13	LC-Littlefield 115 kV conversion	06/2018	Proposed	Reliability
14	Tuco to Jones Plant 345 kV line with Jones 345/230 kV TF	06/2018	Proposed	Reliability
15	Reconductor 69 kV line from Lubbock East to Planters Sub	06/2019	Proposed	Reliability
16	Upgrade Both Crosby Co 115/69 kV transformers to 84 MVA	06/2019	Proposed	Reliability
17	East Levelland 115 kV conversion	06/2019	Proposed	Reliability
18	Install 2nd 230/115 kV TF at Carlisle Intg. (168 MVA)	06/2020	Proposed	Reliability
19	Upgrade Grassland Interchange 230/115 kV TF to 150 MVA	06/2021	Proposed	Reliability
20	Upgrade terminal equipment on 230 kV Line from Jones Bus #2 to Lubbock South	06/2021	Proposed	Reliability
21	28.8 MVAR Cap Bank at Grassland Interchange	06/2021	Proposed	Reliability
22	Convert Vickers to 115 kV	06/2021	Proposed	Reliability
23	2nd Cap Bank at Crosby Co. Interchange	06/2021	Proposed	Reliability

Figure 21 - Zone 5 – Current and Proposed Projects

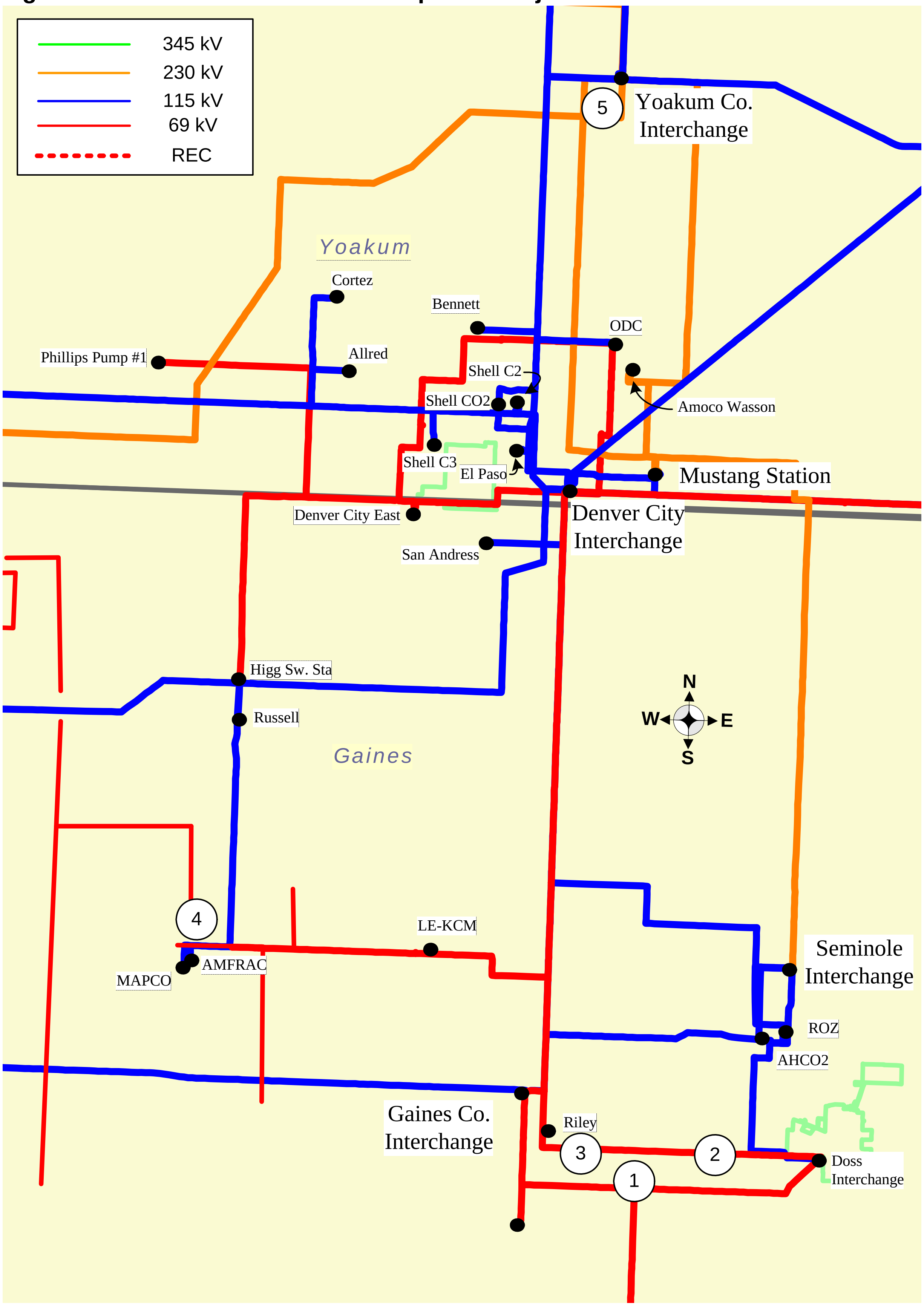

Table 6: Current and Proposed Projects in Zone 5

#	Project Name	Est. ISD	Status	Drivers
1	115/69 kV Legacy Interchange (75 MVA)	06/2011	Current	Reliability
2	115 kV line from Legacy Interchange to Doss Interchange	06/2011	Current	Reliability
3	115 kV line from Legacy Interchange to Gaines Co. Interchange	06/2011	Current	Reliability
4	Johnson Draw Project 115 kV	06/2012	Current	Reliability
5	Yoakum Co. Breaker Failure Relaying	06/2012	Current	Reliability

Figure 22 - Zone 6 – Current and Proposed Projects

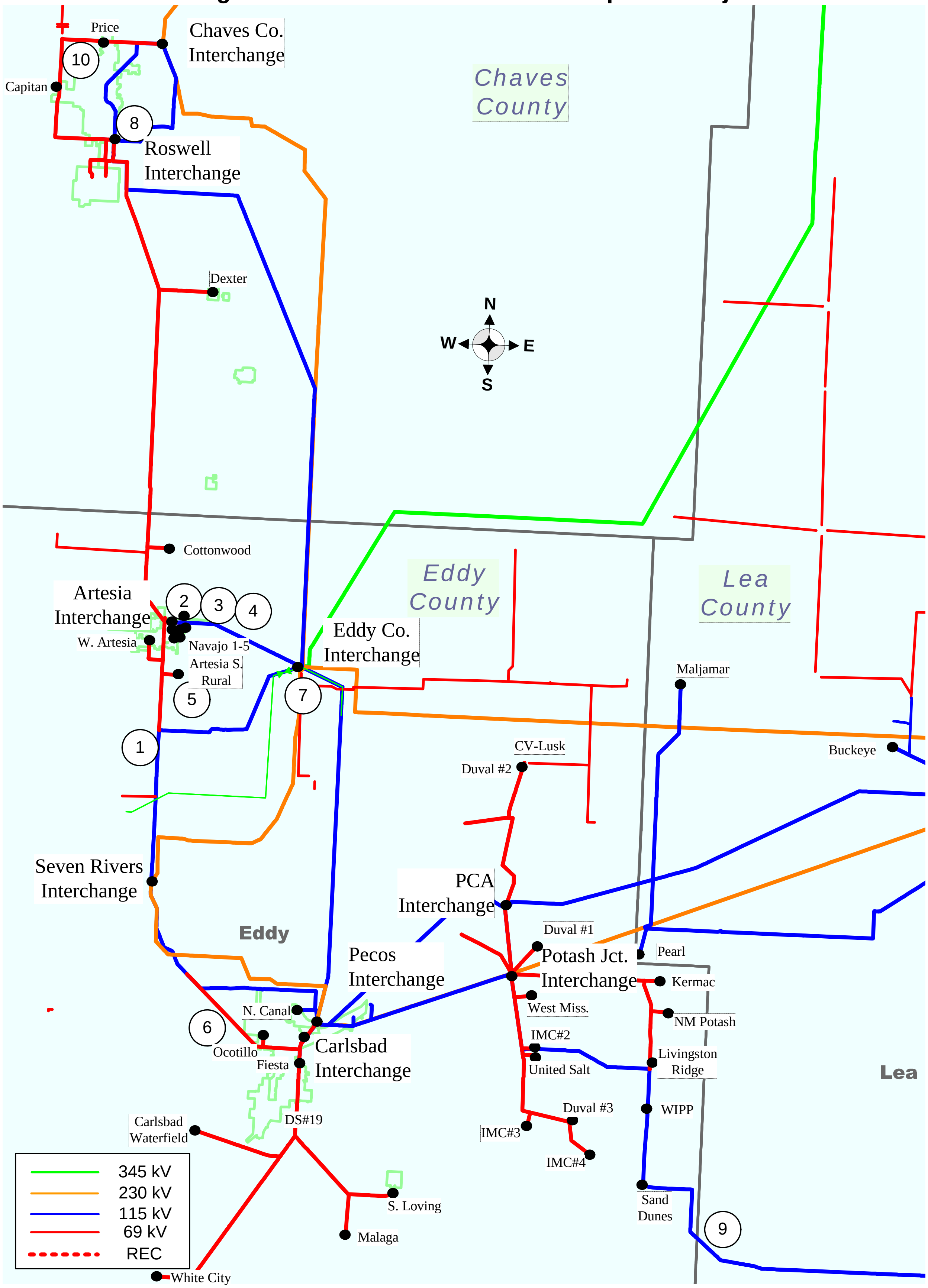

Table 7: Current and Proposed Projects in Zone 6

#	Project Name	Est. ISD	Status	Drivers
1	115 kV line from Eagle Creek to Seven Rivers Interchange	04/2011	Current	Zonal
2	115/69 kV Eagle Creek Project	04/2011	Current	Reliability
3	115 kV line from new Navajo No. 5 substation - Navajo No. 4 substation	04/2011	Current	Reliability
4	115 kV line from new Navajo No. 5 substation - Navajo No. 3 substation	04/2011	Current	Reliability
5	69 kV line from Artesia Town - Artesia South Rural	04/2011	Current	Reliability
6	Convert Ocotillo Substation to 115 kV	06/2011	Current	Reliability
7	Eddy County Breaker Failure Relaying	6/1/2012	Current	Reliability
8	Reconductor 115 kV line from Brasher Tap - Roswell Interchange	06/2012	Current	Reliability
9	Sand Hill Wind (160 MW)	10/2012	Current	IA
10	Convert 69 kV line to 115 kV from Chaves Co. Interchange to Roswell Interchange (Convert Capitan & Price substations to 115 kV)	12/2012	Current	Reliability

Figure 23 - Zone 7 – Current and Proposed Projects

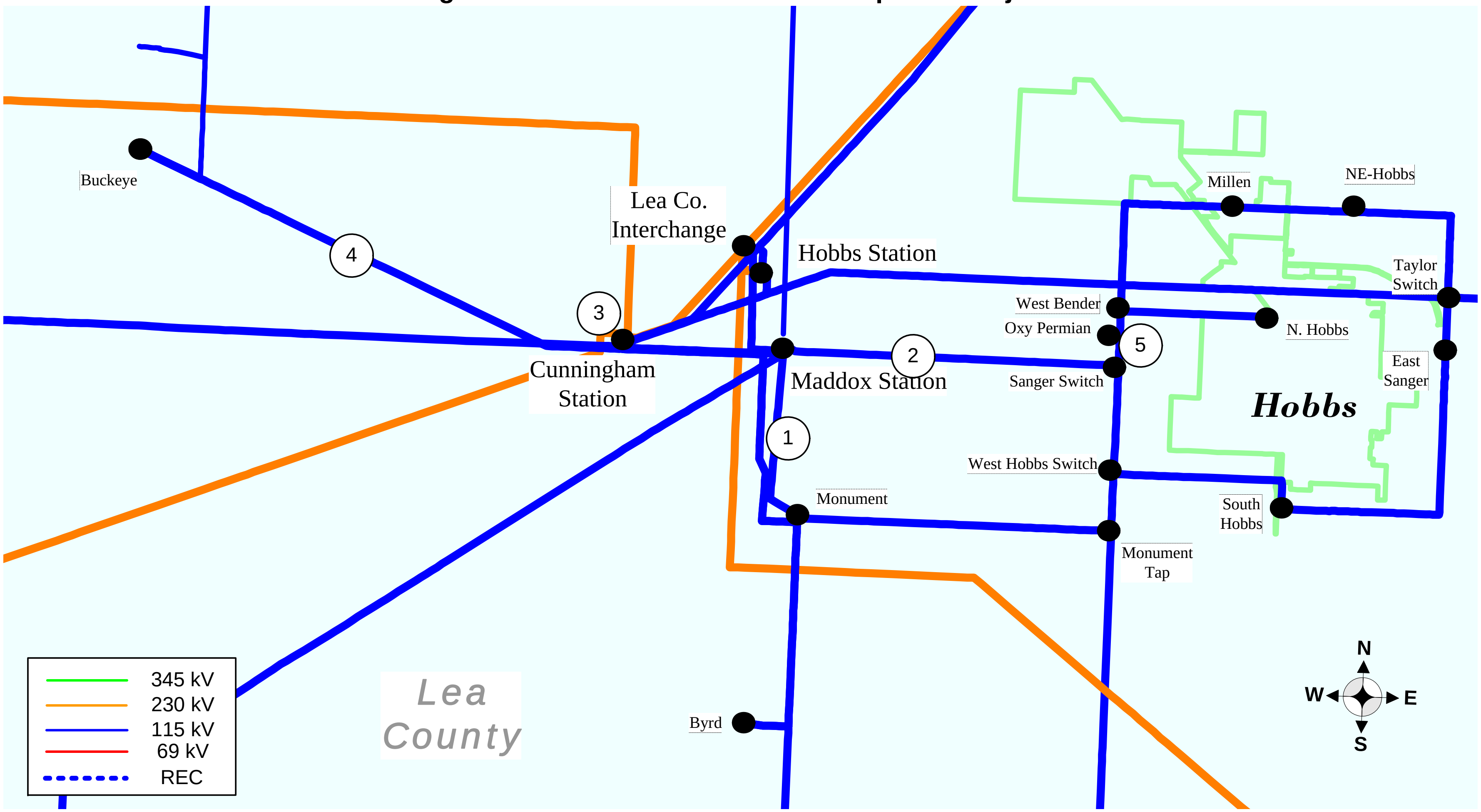

Table 8: Current and Proposed Projects in Zone 7

#	Project Name	Est. ISD	Status	Drivers
1	Reconductor 115 kV line from Maddox Station to Monument (T42)	05/2012	Current	Reliability
2	Reconductor 115 kV line from Maddox Station to Sanger SW (T14)	05/2012	Current	Reliability
3	Cunningham Station Breaker Failure Relaying	6/1/2012	Current	Reliability
4	Reconductor 115 kV line from Cunningham Station to Buckey Tap (V98)	06/2013	NTC Pending	Reliability
5	Reconductor 115 kV line from Sanger SW to OXY Permian Sub (T14)	06/2016	NTC Pending	Reliability

Figure 24 – SPS-Ties– Current and Proposed Projects

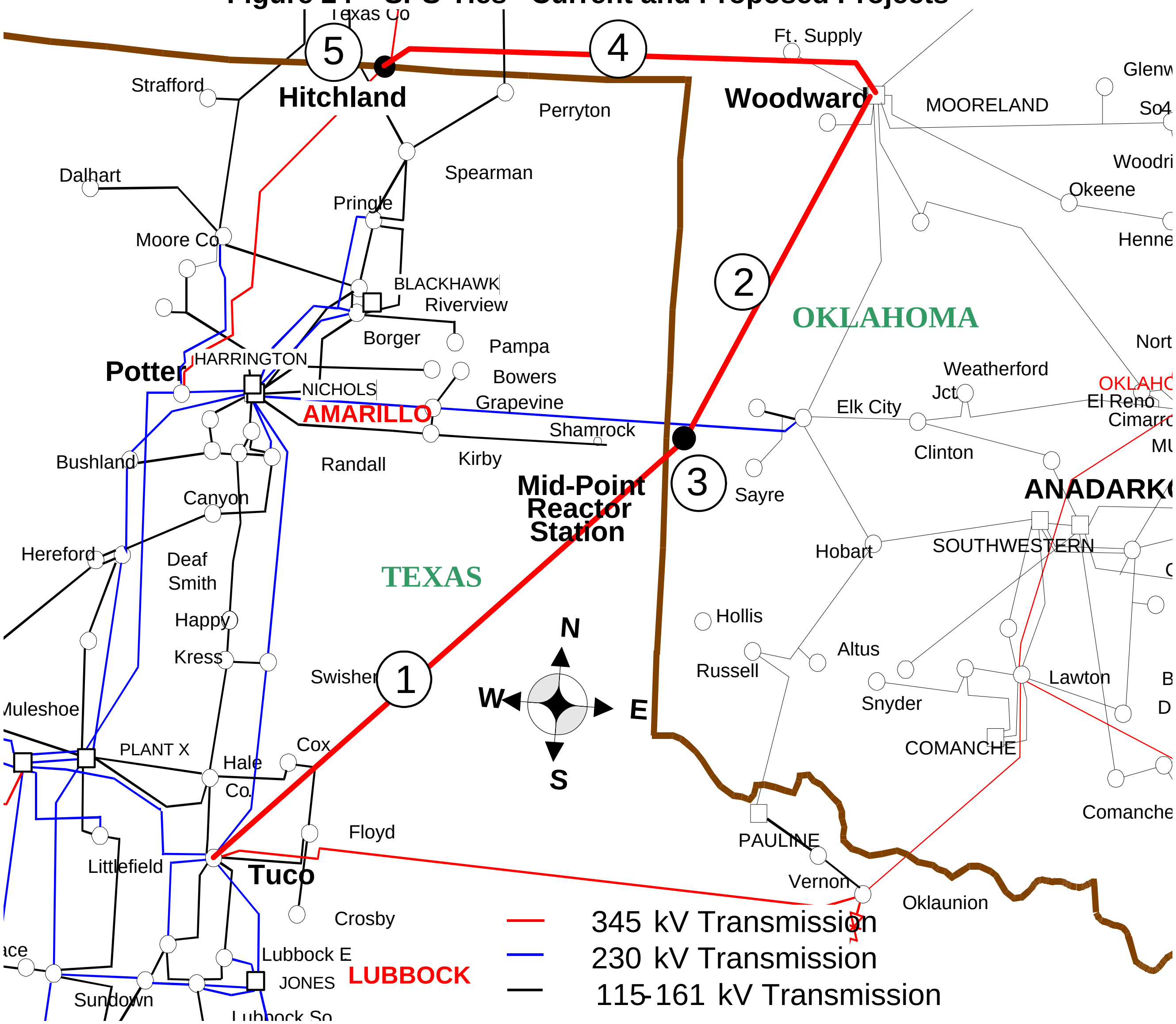

Table 9: Planned Tie-Line Projects

#	Project Name	Est. ISD	Status	Drivers
1	Tuco – Mid-Point Reactor Station 345 kV line	05/2014	Current	SPP-Bal-Port
2	Mid-Point Reactor Station - Woodward 345 kV line	05/2014	Current	SPP-Bal-Port
3	345 kV Mid-Point Reactor Station	05/2014	Current	SPP-Bal-Port
4	Hitchland to Woodward double-circuit 345 kV line	12/2015	Current	SPP EHV
5	XFR - Hitchland 345/230 kV ckt 2	06/2014	Current	Priority

D. Project Tracking Information

SPS provides to SPP project tracking information, such as in-service dates, updates cost estimates, key equipment delivery information on quarterly basis for the STEP projects. This information can be obtained by going to this link and downloading the records for SPS.

Link: http://www.spp.org/section.asp?pageID=114

III. Summary of the Initial 10-Year Plan

A. Summary of Proposed Additions from 2011 – 2021

The transmission additions discussed in this report for the upcoming 10 year horizon are primarily for load serving purposes. They consist of numerous transformer upgrades, 230 and 115 kV transmission line construction, and installation of some transmission capacitor banks for improved voltage response in contingencies.

The sheer magnitude of the upgrades is due to heavy import into the SPS area and an increased load forecast for the SPS area through all years of the studies. SPS currently plans to add new generation at Jones Plant and GSEC is planning to add generation at TUCO Interchange. These plans have been included in this year's planning studies and therefore the timing of the SPP STEP upgrades has already considered the added generation to the SPS transmission system. SPS will continue to work with SPP to refine the list of upgrades as additional information becomes known.

The 2010 STEP process identified some locations where the conversion of the transmission service from 69 kV to 115 kV is needed to unload the overloaded 69 kV transmission system. Some of the locations identified for conversion were so identified because of their load amount. However some of these locations do not belong to SPS and careful coordination between customer and transmission service provider is warranted. The exact choice of which substation to convert to a higher voltage may change, but the trend for more 69 kV to 115 kV conversions will continue into the future.

B. Transmission Interface Expansion

SPS is aware of the interface issues which it faces. SPS is on the far western edge of the eastern electrical grid with AC interconnections available only to the north and east. Many SPP members have the potential for AC interconnection in all directions around their load service regions. As part of this report and the 2010 SPP STEP, no detailed study of the transmission interface capability (transfer capability) has been done. The study processes that are used in the SPP STEP assure that the proposed projects will be sufficient to import the required flows from resources external to SPS. Should a detailed transfer analysis be done in the future, the additions of the Tuco-Woodward 345 kV line plus the Hitchland to Woodward double circuit 345 kV lines are expected to raise the SPS import and export capability substantially.

C. Challenges and Issues

SPS faces many upcoming challenges. They can be listed below.

a. Load growth – With the uncertain economic climate affecting energy production and agricultural development in the region, SPS's customers may be postponing development projects until their market is more stable.

b. SPP – New internal transmission planning process with a longer time frame planning view (20 year planning horizon) containing enhanced economic analysis along with a reliability analysis – Integrated Transmission Planning

c. Transmission and substation construction level – availability of internal and external engineering and construction resources to support the transmission projects in this plan

d. Material deliveries – Industry pressure due to increased transmission development nationwide and higher focus on renewable energy. Challenge to make deliveries on needed dates.

e. NERC/FERC Compliance requirements – Additional compliance study requirements which may require additional transmission additions under short time frames in response to new standards.

IV. 2010 10/20 Year Plan Export Study

Beginning in 2010 the Southwest Power Pool (SPP) embarked on a new Integrated Transmission Planning (ITP) process. This new process integrates three existing and distinct processes into one planning effort. For 2010, the long range focus of the ITP process is to assess system needs 20 years into the future. The two key objectives/assumptions of the study are to assess the effect renewable energy mandates and possible carbon taxes might have on the transmission needs 20 years into the future. The SPP ITP20 study assumed renewable generation of up to 20% on a regional basis (with the majority of that generation located in the western parts of SPP) with and without a carbon tax of $73/ton.

The objective of this Xcel Energy study is to assess the export capability of possible transmission projects considering varying amounts of renewable generation with implied carbon tax, and greater than expected load growth in SPS. The intent was to use the results of the SPP ITP planning effort as the basis for this study. Due to timing issues this study was initiated before SPP finalized their 2010 ITP plan. However, this study includes transmission projects likely to be found in the final SPP 2010 ITP 20 year plan.

As part of the planning process SPP developed four least cost futures. Two of these futures are shown graphically in Figures 25 and 26 below. While the final plan from SPP is unknown at the time of this export study, it appears likely parts of either or both least cost futures shown below will be included. Therefore, by studying multiple outcomes, a reasonable assessment of export capability can be made that will likely be applicable to the final SPP plan.

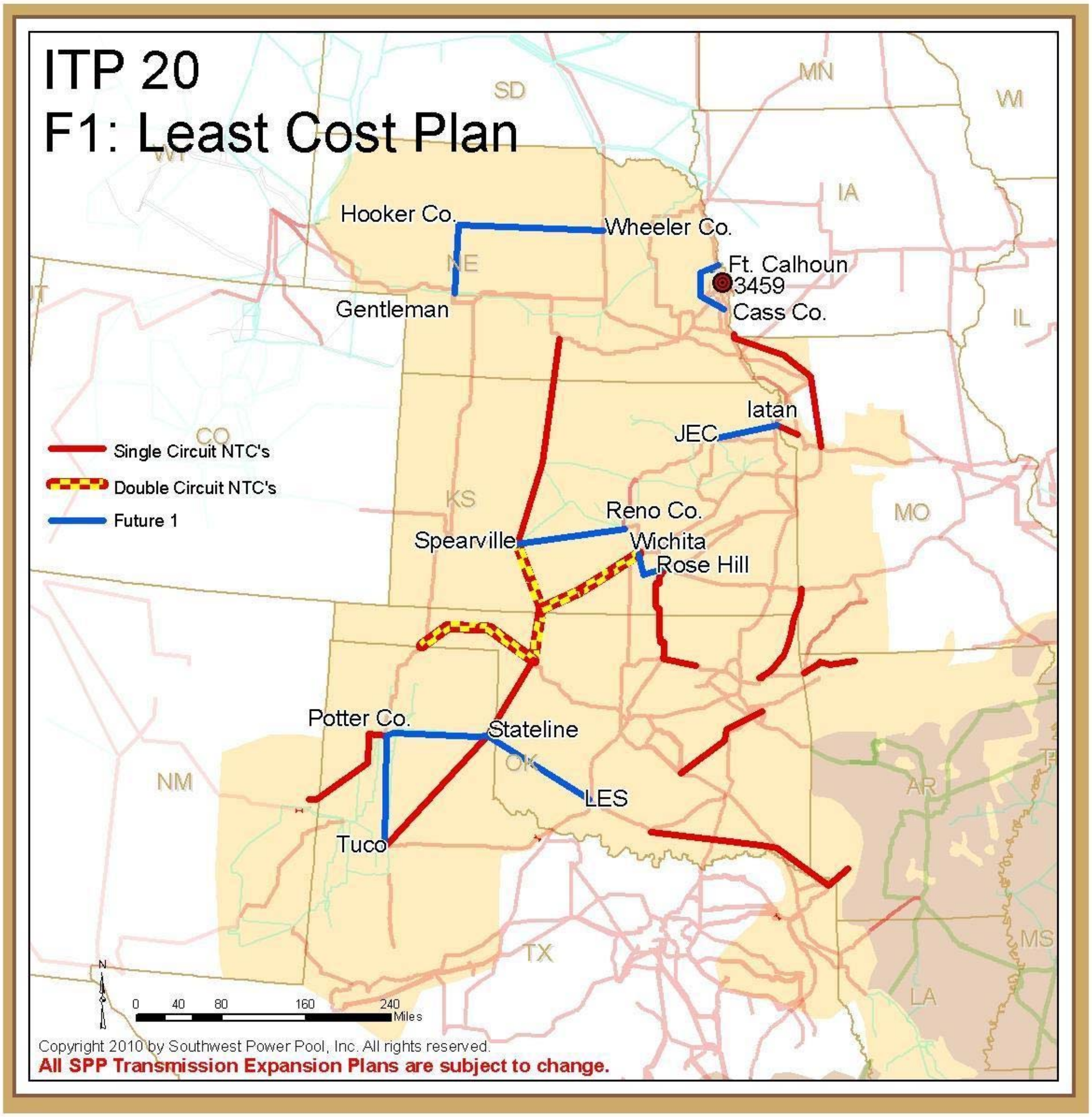

Figure 25 – SPP Future 1

The significant features of the above plan from an SPS perspective are the addition of single circuit 345 kV lines from Tuco to Potter County and from Potter County to Stateline.

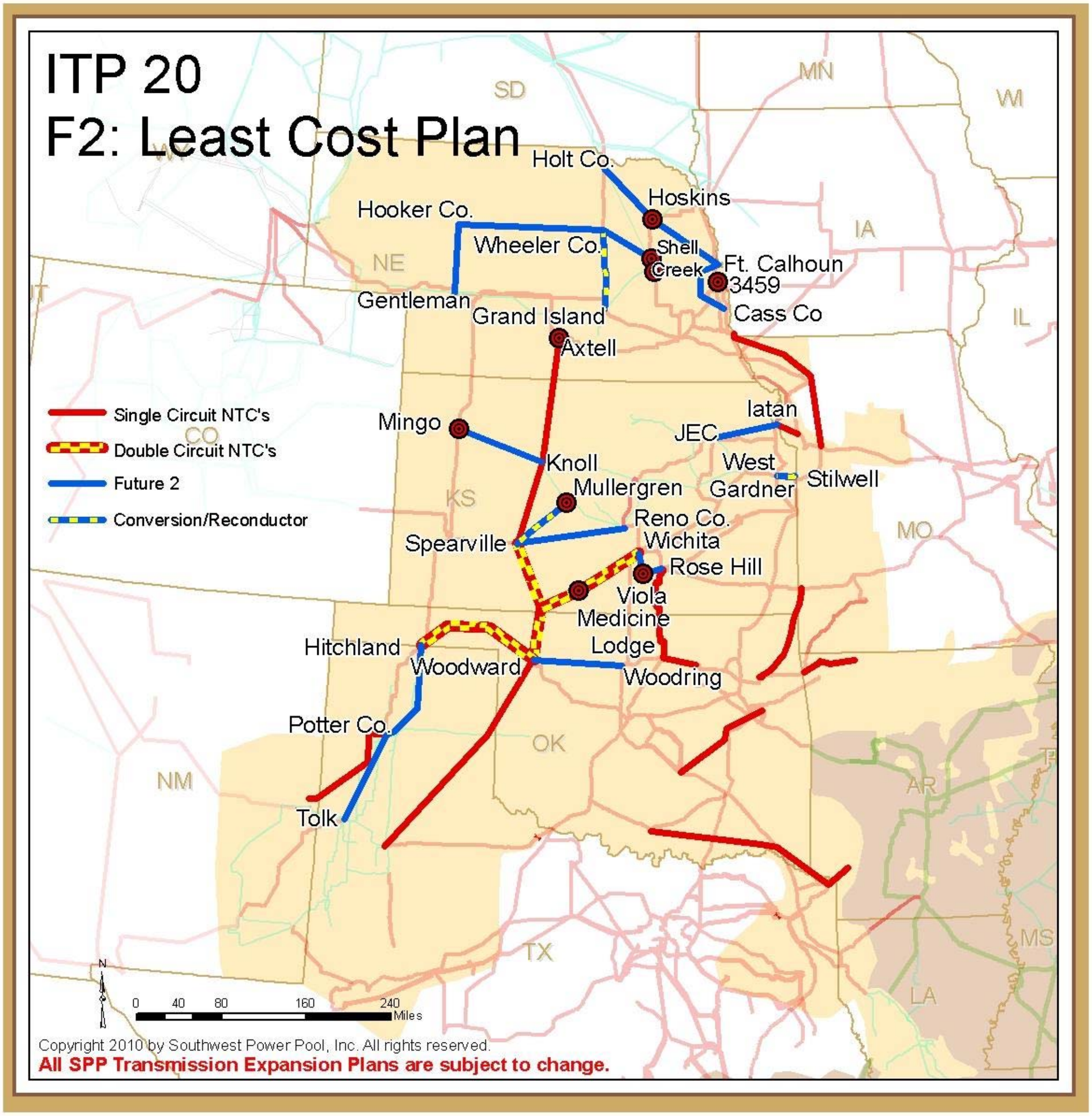

Figure 26 – SPP Future 2

The significant features of the above plan from an SPS perspective are the addition of single circuit 345 kV lines from Tolk to Potter County and from Potter County to Hitchland.

The approach used for this study was to calculate the First Contingency Incremental Transfer Capability (FCITC). The FCITC measures the maximum increase in power transfer that can take place between two selected subsystems without violating branch ratings or interface limits under a single contingency. To the extent practical, and for consistency, the cases and data used for this study were derived from the 2010 SPP ITP study.

This study evaluated three amounts of renewable generation in SPS: 20% (1191 MW) of SPS generation, 37% (2610 MW, corresponding to the amount used in the SPP study), and 50% (3000 MW). FCITC was calculated both at load levels assumed during the SPP ITP study and with the SPS load 10% higher than assumed in the SPP study.

The results of the FCITC analysis are shown in Table 10. Future 2+ in Table 10 denotes the SPP Future 2 with the addition of the Potter County to Stateline 345 kV line from Future 1. As can be seen, the analysis shows that for all cases studied transfer capability under single contingency is greater than 20% of generation in SPS. Except for the condition where the transfer is to more remote regions of SPP relative to SPS, the transfer capability can be approximately 37% of generation; and in some circumstances even more. From a FCITC perspective, projects in SPS that include the lines in Future 2 clearly provide the greatest transfer capability.

Table 10: Results of FCITC Calculation

	Transfer to "near" SPP			Transfer to "far" SPP		
		FCITC (MW)			FCITC (MW)	
Percent Renewable:	20%	37%	50%	20%	37%	50%
SPP Future 1	1638	1634	1635	1453	1450	1450
Future 1 + 10% SPS load	2019	2014	2015	1776	1774	1775
SPP Future 2	2358	2350	2352	1946	1941	1942
Future 2 + 10% SPS load	2725	2734	2727	2242	2248	2216
SPP Future 2+	2155	2150	2151	1762	1759	1760
Future 2+ and 10% SPS load	2716	2710	2711	2199	2195	2196

The following observations were made during the course of this study:

- If the lines in Future 2 in the SPS area are adopted as part of the preferred plan by SPP, additional static reactive support may be needed in SPS, particularly if load growth exceeds expectations.
- In all instances studied, the limiting element was at a voltage less than 345 kV. In addition some overloads were observed on the underlying system. These suggest that should any of these 345 kV projects be built, some reinforcement of the underlying network might be needed. In addition, selectively reinforcing the underlying network will likely increase the transfer capacity under single contingency.
- Since the FCITC analysis calculates the transfer capability following a single contingency, the variations in transfer capability to some extent reflect pre-contingency loading changes as the load and the EHV network is changed.

Appropriately selecting technically robust and economic transmission plans require detailed and varied analysis. This FCITC analysis only looks at one technical aspect: power transfer increase between two subsystems under single contingency. While this study suggests one set of lines has an advantage, a full analysis is needed to identify the most cost effective and technically robust solution.

Appendices
Appendix A - SPP STEP Study Scope

List of Maps (Diagrams)

Southwest Power Pool (SPP) 2010
Transmission Expansion Plan Scope
For 2010 10 year Reliability Assessment Study
PROPOSAL THREE
TWG Approved February 3, 2010

Introduction

The main objective of the reliability review SPP Transmission Expansion Plan (STEP) is to create an effective long-range plan for the SPP footprint which identifies problems for normal conditions (no contingency) and (N-1) scenarios using NERC Reliability Standards, SPP Criteria, and local planning criteria and coordinating appropriate mitigation plans to meet the reliability needs of the SPP region. This analysis is not for NERC compliance reporting (NERC compliance will be facilitated through a different SPP process), but rather to meet SPP OATT, Attachment 'O' requirements to plan a reliable transmission system for the long term transmission service needs of the SPP system. In addition, projects which may produce an economic benefit to the stakeholders in the SPP footprint are evaluated. This process consists of the following steps:

1. Identification of the reliability based problems (SPP and local criteria)
2. Comprehensive assessment of known mitigation plans

Development of additional mitigation plans to meet the needs of the region and maintain SPP and Local reliability/planning standards

The process is open and transparent allowing for stakeholder input. All study results from the planning process will be coordinated with other entities/regions responsible for transmission needs assessment/planning.

Expansion Plan Objectives

<u>Reliability Planning</u>

- SPP shall plan the SPP Transmission System to meet:
  - SPP Criteria
  - SPP RTO approved Local Planning Criteria as requested by Transmission Owners (TO)
- Address additional needs of the region
- Assess mitigation plans proposed by TO (operating guides and/or new facilities)
- SPP shall track authorized and planned system upgrades to ensure reliability projects are built in time to meet the needs of the system. This will be accomplished through the SPP Project Tracking quarterly reporting process.
- SPP shall coordinate regional transmission plans with neighboring entities, regions and RTO's.

Assumptions for Reliability Assessment

Load Flow Models

- The STEP load flow cases will be built using 2010 series MDWG Models On Demand (MOD) process. The 2009 spring MDWG case will be used for the basic starting topology and MOD process will be used to determine load and which MOD project to include in the STEP model. The load and capacity forecast for the flow cases have included the impact on load of the existing and planned demand response resources.
- SPP shall use the 2011 Summer Peak and the 2011/12 Winter Peak for timing projects. The 2012 Summer Peak, 2012/13 Winter Peak, 2016 Summer Peak, 2016/17 Winter Peak and 2021 Summer Peak cases with updates from nearby regions and entities will be used in the contingency analysis.
    - Include all the latest SERC model data, which includes the AECI and EES systems, in the base model
    - All projects in AECI's Construction Plan shall be included in the models
    - All projects in Entergy's Construction Plan shall be included in the models
    - Treatment of Transmission Owner-Initiated Projects
        - SPP shall include Transmission Owner-Initiated Projects as determined by the Transmission Owner. MOD Type – Reliability, MOD Status STEP (w/NTC) or Planned
    - Treatment of previous SPP Transmission Expansion Plan Projects
        - All Regional Reliability Upgrades listed in Appendix B of the BOD approved 2009 STEP shall be included in the model except for those that have been requested to be removed and have been through stakeholder review. MOD Type- Reliability, MOD Status STEP (w/NTC) or TO Planned
        - Balanced Portfolio projects will be included.
    - Treatment of SPP Aggregate Study (Attachment Z) Projects
        - All projects that have either an LOA/NTC shall be included in the model except for those that have been requested to be removed and have been through stakeholder review. MOD Type TSR, MOD Status w/NTC (Approved)
    - Including service from new generation without TSR filed service agreement have a high probability of going into service and also getting an executed transmission service agreement must meet all of the below requirements:
        - A formal request sent to SPP requesting the generation capacity be included into the STEP
        - Have a signed IA not on suspension
        - Acquired the funding for major equipment
        - In the Aggregate Study and completed facility study waiting for results without third party impacts (eliminates generators that may drop out as a result of changes in study results)
        - Acquired air and environmental permits where applicable
        - Started construction with major equipment awarded
    - Exception for SPS generation deficiency:

        - Add the Antelope 170 MW unit and one other 190 MW gas turbine unit in the SPS area to the STEP models
    - Treatment of generation deficiencies
        - In later years of the STEP analysis when there is a shortfall between interchange, generation, and load, the following process will be used:
            1. Exhaust the dispatchable generation of the network customer
            2. Exhaust the Independent Power Producers (IPP) dispatchable generation in the same model area
            3. After the above generation was exhausted, the remaining unused, dispatchable generation within SPP footprint would be dispatched on a pro rata basis."
    - Treatment transmission interconnection facilities of new generation. Include the interconnection facilities with executed agreements not on suspension. MOD Type LGIP, MOD status W/GIP.
    - Include all MOD projects that have been energized. MOD Type Network, MOD type Energized.
    - Include all MOD project that change network topology status. Constructed facilities that are out-of-service or normally open. MOD Type Outage, MOD Status Outage
    - Include all MOD projects that update network data. MOD Type, MOD Status Update.
    - Scenario cases
        - SPP will develop **two** scenario cases for each season for the steady state evaluation
            - The "Scenario Zero" case has the same dispatch as the MDWG cases with the exception that generation that does not have a signed interconnection agreement and generation that does not have transmission service is also removed. The exception to this is in later years when generation load and interchange does not match the shortfall is made up of units that are in-service.
            - The "All transactions" (scenario 5) case is the same as the zero scenario case with the dispatch changed to include all transmission service sold with ERCOTN North to South, ERCOTE East to West, SPS importing and SPS exporting to the Lamar HVDC tie

Methodology for Reliability Assessment

Steady State Analysis

- Monitoring of Facilities
    - SPP staff shall monitor all facilities in the SPP footprint 69 kV and above for the **near-term** cases (2012 Summer Peak, 2012/13 Winter Peak, 2016 Summer Peak and 2016/17 Winter Peak). For the **long-term** cases in 2021, SPP monitoring will be increased to 100 kV and above.

- With the exception of Entergy (EES) and Associated Electric (AECI), SPP staff shall monitor all facilities in first tier control areas 230 kV and above. Within EES and AECI, facilities shall be monitored at 100 kV and above.

- Normal conditions and Contingency analysis shall be performed on the 2011 Summer Peak, 2011/12 Winter Peak, 2016 Summer Peak, 2016/17 Winter Peak and 2021 Summer Peak cases (including the “Scenario Zero” and Scenario 5 transaction cases).
  - Normal conditions
  - All N-1 single-element contingencies 69 kV and above in SPP will be evaluated. These contingencies do not include manual transfer of load or manual switching.
  - All N-1 single-element contingencies 100 kV and above in EES, AECI, and all other first-tier companies will be evaluated.
  - SPP will verify that all normal conditions and N-1 violations identified have corrective plans

Use of Transmission Operating Directives (TOD)

- The Steady State analysis will identify all violations without the use of TODs.
- TODs may be used as alternatives to planned projects. Load flow analysis will be performed to determine the effectiveness of the TOD in alleviating the violation(s).

Demand Response

The load and capacity forecast for the flow cases have included the impact on load of the existing and planned demand response resources.

Study Timeline

Finalize Scope --– February 2010
Build Models --– Feb – March 2010
Contingency Analysis ---– April 2010
Results back from TO and Stakeholders ---------------------------- May 15, 2010
Present Findings and Proposed Improvements--------------------– May 27, 2010
Refine regional solutions and collaborate reliability needs
with ITP findings ---– June – July 2010
Fall Joint ITP Summit to share solutions ---------------------------– August 12, 2010
Draft STEP Report Sections --– October 1, 2010
TWG Approve STEP Report Sections------------------------------- November 3, 2010