

### SPS 10-Year Plan

#### **December 2011**

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





### **Purpose and Scope**

#### Purpose:

- Document the Southwestern Public Service Company (SPS) transmission system plans looking forward 10 years
- Scope of work:
  - Perform an annual assessment and update of the SPS transmission requirements
    - NERC reliability standards compliance requirements
    - Load forecast, including wholesale loads (2011)
    - Resource plan (2011)
    - Applicable TX, NM Renewable Energy Standards
    - Sold firm transmission service from generation interconnection requests

#### Stakeholder input

- Input on needs and responsive plans are encouraged from stakeholders
- SPS system plan rolls up to Southwest Power Pool (SPP) regional plan and SPP stakeholder process



### **Executive Summary**

- **10-Year Transmission Plan** 
  - Core Reliability Projects (2011 2015)
  - States Renewable Energy Standards
    - TX standard has been met
    - Xcel Energy is working on complying with NM standard for wind, solar, and other renewables through various initiatives
  - Significant SPP Regional and Sub-Regional Transmission Development Projects Ongoing
    - Balanced Portfolio Tuco Woodward, ISD 2014
    - Priority Projects Hitchland Woodward, ISD 2014

 SPS Plan must ultimately be approved through SPP Integrated Transmission Plan (ITP) process



### **Executive Summary**

#### **20-Year Transmission Assessment**

- Is conceptual
- Based on SPP Integrated Transmission Plans (ITP) Year 20 plans
- Supports 20% renewable generation and a carbon tax
- Support infrastructure not identified

### Conclusion

ITP 20 projects support 20% export capability from SPS



### **Key Messages**

- 10-Year Plan
  - Continued load growth
  - Wind/solar development will continue
  - Clarity on balancing area's resource plan could modify and lessen transmission capital requirements from this assessment
- 20-Year Transmission Scenario Assessment
  - Supports reasonable renewable energy mandates
  - Supports some level of carbon tax
  - Facilitates export to other parts of SPP

# SPS System Statistics 2011

- 6,826 Miles of Transmission
- ~ 705 Substations Served
- 62 Generators Served (6,694 MW)
- 28 Wind Generators (910 MW)
- SPS Balancing Authority All-Time Peak Load 5,936 MW (August 2, 2011)







### **SPS Transmission System**

SPS's transmission assets are in TX, NM, OK and KS

 Under operational control of the Southwest Power Pool (SPP) RTO

#### Major Utility Interconnections

- American Electric Power
  - West Texas Utilities
  - Public Service Company of Oklahoma
- Sunflower Electric Corp.
- Public Service Company of New Mexico (HVDC)
- El Paso Electric Company (HVDC)
- Public Service Company of Colorado (HVDC)



### **SPS Retail Service Territory**





### Planning Process Calendar 2011



### **Drivers of Transmission Planning**

- Regulatory/Environmental Concerns
  - TX and NM mandates for renewable energy
- SPP Generator Interconnection Requests
  - Large amount of requests
- Transmission Service Requests
  - Internal and thru-transactions
- Wholesale and Retail Load Additions
  - Geographically diverse
  - Economically sensitive
  - Oil and gas commodity price sensitive
  - **NERC Reliability Standards**

Xcel Energy\*



### **NERC Reports**

- FERC/NERC ongoing investigations of disturbances
- TPL-001-2, update to existing TPL-001 through TPL-004 standards
  - TPL-001-2 may increase the scope of annual assessment due to new performance requirements
- Ongoing compliance studies may identify new network upgrade projects
- Ongoing Standards development



### **SPS BA Coincident Peaks**







### **SPS BA Forecast Peak, MW**



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# **State Renewable Energy Mandates**

- TX Mandate for SPS Retail Loads
  - 5,880 MW by 2015, 10,000 MW by 2025. 2010 goal was increased by 2,000 MW. SPS has energy sales ratio share of total.
    - SPS has met its allocated goal for 2010
- NM Mandate for SPS Retail Loads
  - 405,766 MWH (10% of NM retail sales) by 2011
  - 15% of NM retail sales by 2015
  - 20% of NM retail sales by 2020
  - Minimums required
    - Greater or equal to 20% wind, 20% solar, 10% biomass/biogas
    - Distributed Generation 1.5% to 3% in 2015, and 48.5% from any category
  - SPS has met its 2011 requirements for wind and solar and is currently negotiating with a potential developer to meet its biomass/biogas requirements. SPS has received a variance to extend the time of implementation to 2012.



#### **Generation Interconnection Requests**

- SPP Generation Interconnection queue for SPS area
  - ~ 2,500 MW fossil based requests
  - ~ 400 MW wind based requests
  - ~ 400 MW solar based requests
- SPS has 1,004 MW connected wind generation
  - Approximately 160 MW are on SPS distribution
- SPS has ~ 960 MW of projects with signed interconnection agreements and in suspension, not included in above numbers
- SPS has ~ 2,660 MW of projects (wind) with signed IAs and on schedule for interconnection.



### **Transmission Congestion**

- SPP Flowgates
  - External SPPSPSTIES Flowgate
    - Bisects all AC tielines between SPS and SPP
- SPS Internal Flowgates
  - North-South Flowgate
    - Bisects SPS transmission lines south of Amarillo
      - Temporary Flowgates may limit ahead of N-S flowgate
      - Limiting behavior may be due to non-firm energy flows from north of Amarillo





### **Transmission Congestion Map**





### **Economic Planning**

- SPS reviews studies by others and is actively involved in regional and sub-regional economic planning efforts such as:
  - The Department Energy (DOE) national transmission congestion studies
  - SPP Integrated Transmission Plan (ITP) process
  - Eastern Interconnection Planning Collaborative (EIPC)



### **Economic Planning**

- Economic planning involves
  - Various resource scenario evaluations
  - Economic impact of market congestion on transmission elements
  - Energy and demand loss evaluation on transmission elements
- Economic Benefits coupled with other benefits (reliability, local or regional policy, etc) together enter into transmission alternative evaluation
- SPS relies on SPP's economic planning processes
  - ITP10 10 year economic and reliability analysis



### **Planning Zone Map**





#### Zone 1: Western Kansas, Oklahoma Panhandle, & Texas North Areas





#### Zone 2: Amarillo Area

| W V E | Amarillo |
|-------|----------|
|       |          |

- Industrial, oilfield, agricultural, residential, and commercial loads
- Cities of Amarillo and Channing
- 345-69 kV transmission
- Good growth in past years
- 230 kV interconnection with AEP
- Issues growth, Amarillo transmission upgrades needed

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#### Zone 3: Clovis, Hereford, and Canyon Area



- Heavy agricultural and industrial area
- Cities of Portales, Clovis, Tucumcari, Muleshoe, Friona, Hereford, and Canyon
- 230, 115, and 69 kV transmission, Blackwater HVDC interconnection with PNM
- High wind energy potential
- Issues Clovis transmission system upgrading, Hereford area transmission loading



#### Zone 4: Central Plains and Lubbock Area



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#### Zone 5: Yoakum and Gaines Area





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#### Zone 6: Pecos Valley



- Agricultural, industrial, oilfield, and residential
- Cities of Carlsbad, Roswell, Artesia, and
- Eddy Co HVDC interconnection with El Paso
- 345-69 kV transmission system
- Issues Roswell 69 kV to 115 kV loop conversion, Carlsbad 69 kV capacity



#### Zone 7: Hobbs/Jal Area



- Industrial and oilfield, with residential loads
- Cities of Hobbs, Jal, and Eunice
- 230 and 115 kV transmission
- Issues upgrading the 115 kV system around Hobbs, variable generation dispatch



#### Zone 8: Caprock Area



- Industrial, oilfield, and residential load
- Sharyland Utilities bought Caprock Electric's entire system
- Sharyland Utilities is the only customer on this system
- Sharyland Utilities' 138 kV transmission system overlays ERCOT
- This area has experienced rapid growth, voltage issues in lighter load periods
- SPS's settlement agreement with Sharyland Utilities limits Sharyland Utilities load to 150 MW or less.



#### *Current and Proposed Transmission Projects Zone 1:*



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#### *Current and Proposed Transmission Projects Zone 1:*

| No. | Project Name  | Est.<br>ISD | Status    | Drivers     |
|-----|---|-------------|-----------|-------------|
| 1   | Hitchland 345/230/115 kV Interchange Project        | 03/2011     | Completed | Reliability |
| 2   | Perryton Cap Bank                                   | 01/2011     | Completed | Reliability |
| 3   | Dallam- Sherman 115 kV line                         | 03/2011     | Completed | Reliability |
| 4   | Dallam- Channing 115 kV line Project                | 09/2011     | Completed | Reliability |
| 5   | Hitchland 115 kV line terminations                  | 01/2011     | Completed | Reliability |
| 6   | Hitchland– Moore County 230 kV Line (K75)           | 09/2012     | Current   | Reliability |
| 7   | Hitchland 2nd 345/230 kV 560 MVA Auto               | 12/2012     | Proposed  | Reliability |
| 8   | Hitchland- Ochiltree Co. 230 kV line                | 12/2012     | Current   | Reliability |
| 9   | Hitchland– Woodward Dbl 345 kV Transmission Project | 06/2014     | Current   | Reliability |
| 10  | Ochiltree 230/115 kV 172.5 MVA Autotransformer      | 12/2012     | Current   | Reliability |
| 11  | Ochiltree Co. 115 kV line terminations              | 12/2012     | Current   | Reliability |
| 12  | N/A   |             |           |             |
| 13  | N/A   |             |           |             |
| 14  | N/A   |             |           |             |
| 15  | N/A   |             |           |             |



## Current and Proposed Transmission Projects Zone 1: (cont.)

| No. | Project Name  | Est.<br>ISD | Status   | Drivers     |
|-----|---|-------------|----------|-------------|
| 16  | Novus II (250 MW)                                   | 12/2011     | Current  | IA          |
| 17  | Potter Co- Channing to Dallam 115 kV line           | 06/2012     | Current  | Reliability |
| 18  | Potter County 230/115 kV 112/128 MVA TF             | 12/2011     | Current  | Reliability |
| 19  | Kingsmill 2 <sup>nd</sup> 115/69 kV Autotransformer | 04/2013     | Current  | Reliability |
| 20  | Bowers 2 <sup>nd</sup> 115/69 kV Autotransformer    | 06/2014     | Current  | Reliability |
| 21  | Bowers– Howard 115 kV line                          | 06/2014     | Current  | Reliability |
| 22  | Howard 2 <sup>nd</sup> 115/69 kV Autotransformer    | 06/2016     | Proposed | Reliability |
| 23  | Gray Co. 2 <sup>nd</sup> 115/69 kV Autotransformer  | 12/2021     | Proposed | Reliability |
| 24  | Etter Rural 2nd Stage 115 kV 14.4Mvar Capacitor     | 06/2012     | Current  | Reliability |
| 25  | Spearman 115/69 kV Autotransformer Upgrade          | 06/2015     | Proposed | Reliability |



#### *Current and Proposed Transmission Projects Zone 2:*





#### *Current and Proposed Transmission Projects Zone 2:*

| #  | Project Name   | Est.<br>ISD | Status    | Drivers     |
|----|--|-------------|-----------|-------------|
| 1  | Tyson Foods (V2 reconstruction)                              | 08/2011     | Complete  | Reliability |
| 2  | Hillside Substation  | 06/2012     | Current   | Reliability |
| 3  | Randall 2nd 230/115 kV Autotransformer                       | 04/2013     | Current   | Reliability |
| 4  | Randall Co- Palo Duro Sub 115 kV Reconductor line            | 05/2012     | Current   | Zonal       |
| 5  | Palo Duro Sub- Happy Interchange 115 kV Reconductor Line     | 05/2012     | Current   | Zonal       |
| 6  | Cherry St Interchange 230/115 kV 252 MVA TF                  | 06/2013     | Current   | Reliability |
| 7  | Hastings Sub Convert to 115 kV                               | 12/2013     | Current   | Reliability |
| 8  | Cherry St Hastings New 115 kV line                           | 06/2013     | NTC       | Reliability |
| 9  | East Plant- Hastings 115 kV line.                            | 12/2013     | Current   | Reliability |
| 10 | Randall- Amarillo South 230 kV line                          | 04/2013     | Current   | Reliability |
| 11 | Harrington- Randall County 230 kV Upgrade terminal equipment | 05/2011     | Completed | Reliability |
| 12 | Soncy Sub Convert to 115 kV                                  | 06/2015     | Current   | Reliability |
| 13 | Osage Station and 115 kV Line re-termination                 | 06/2015     | Current   | Reliability |
| 14 | Bushland Interchange 230 kV 50Mvar Capacitor                 | 06/2012     | Proposed  | Reliability |
| 15 | Happy Interchange 115/69 kV Upgrade Autotransformers         | 06/2014     | Current   | Reliability |
| 16 | Randal Co. (Osage)- South Georgia 115kV Reconductor Line     | 06/2017     | Proposed  | Reliability |
| 17 | Cherry St- Northwest 115 kV line #2                          | 06/2021     | Proposed  | Reliability |



#### *Current and Proposed Transmission Projects Zone 3:*



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#### *Current and Proposed Transmission Projects Zone 3:*

| #  | Project Name   | Est.<br>ISD | Status      | Drivers     |
|----|--|-------------|-------------|-------------|
| 1  | Oasis – Perimeter 115 kV New line  | 08/2011     | Completed   | Zonal       |
| 2  | Castro Co 7.2 MVAr Capacitor Project   | 01/2011     | Completed   | Reliability |
| 3  | Parmer Co. Cap Bank  | 05/2012     | Current     | Reliability |
| 4  | Norton Reactor 115 kV  | 09/2013     | Current     | Zonal       |
| 5  | Deaf Smith 24 GSEC   | 06/2012     | Current     | IA          |
| 6  | Clipper Wind (400 MW)  | 10/2012     | Current     | IA          |
| 7  | Pleasant Hill 230/115 kV interchange   | 12/2014     | Current     | Reliability |
| 8  | Pleasant Hill- Oasis Interchange 230 kV line   | 09/2014     | Current     | Reliability |
| 9  | Pleasant Hill- Roosevelt Co. 230 kV line   | 09/2014     | Current     | Reliability |
| 10 | Zodiac Substation Convert to 115 kV  | 06/2013     | Current     | Reliability |
| 11 | Hereford- NE-Hereford (Z72) reinsulate 69 kV line  | 06/2013     | Current     | Reliability |
| 12 | Reterminate T3 in&out of Deaf Smith Interchange<br>(Reconductor from Deaf Smith to Hereford 115 kV line) | 06/2012     | Current     | Reliability |
| 13 | NE-Hereford 2nd 115/69 kV 84 MVA Autotransformer   | 04/2014     | NTC Pending | Reliability |
| 14 | East Clovis Sub Convert to 115 kV  | 06/2012     | Current     | Reliability |
| 15 | Tuco – Woodward 345 kV Project   | 06/2014     | Current     | Reliability |
| 16 | Curry Co – Bailey Co 115 kV line   | 06/2014     | NTC Pending | Reliability |
| 17 | East Muleshoe & Valley Subs Convert to115 kV   | 06/2014     | Proposed    | Reliability |
| 18 | Portales – Zodiac Convert to 115 kV  | 06/2013     | Current     | Reliability |

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#### *Current and Proposed Transmission Projects Zone 4:*





#### *Current and Proposed Transmission Projects Zone 4:*

| #  | Project Name  | Est.<br>ISD | Status         | Drivers            |
|----|---|-------------|----------------|--------------------|
| 1  | GSEC-Antelope (170 MW Gas) Generator                        | 06/2011     | Completed      | IA                 |
| 2  | Plainview North - LH-REC load install 69 kV switch          | 06/2011     | Completed      | Reliability        |
| 3  | Tulia Tap- Kress Interchange Reconductor 115 kV line        | 04/2012     | Current        | Zonal              |
| 4  | Happy Interchange- Tulia Tap Reconductor 115 kV line        | 04/2012     | Current        | Zonal              |
| 5  | N/A   |             |                |                    |
| 6  | N/A   |             |                |                    |
| 7  | Happy Whiteface Wind (240 MW)                               | 10/2013     | Current        | IA                 |
| 8  | TUCO Interchange 2nd 345/230 kV 560 MVA TF                  | 06/2014     | Current        | Balanced Portfolio |
| 9  | Tuco – Woodward 345 kV Project                              | 06/2014     | Current        | Reliability        |
| 10 | Tuco Interchange 3 <sup>rd</sup> 115/69 kV Autotransformer  | 06/2014     | NTC<br>Pending | Reliability        |
| 11 | Happy Sub Upgrade both 115/69 kV transformers to 84/96 MVA. | 06/2014     | NTC            | Reliability        |
| 12 | Newhart Interchange New 230 kV lines                        | 12/2014     | Current        | Reliability        |



#### *Current and Proposed Transmission Projects Zone 4 (cont.):*

| #  | Project Name   | Est.<br>ISD | Status         | Drivers     |
|----|--|-------------|----------------|-------------|
| 13 | Newhart - Lamton 115 kV line (with Hart Ind. Tap)              | 11/2014     | Current        | Reliability |
| 14 | Newhart - Swisher Co. 230 kV line                              | 12/2014     | Current        | Reliability |
| 15 | Newhart - Kress 115 kV line                                    | 03/2014     | Current        | Reliability |
| 16 | Newhart - Castro Co 115 kV line                                | 06/2014     | Current        | Reliability |
| 17 | Hart Industrial Sub Convert to 115 kV                          | 06/2015     | Current        | Reliability |
| 18 | Kress - Plainview City New 115 kV line                         | 03/2014     | Current        | Reliability |
| 19 | Plainview City Interchange 115/69 kV                           | 04/2014     | Current        | Reliability |
| 20 | Plainview City - Cox Interchange New115 kV line                | 12/2014     | Current        | Reliability |
| 21 | Plainview North Convert to 115 kV                              | 06/2014     | Current        | Reliability |
| 22 | Swisher Co. Upgrade 230/115 kV TF to 252 MVA                   | 06/2017     | NTC<br>Pending | Reliability |
| 23 | Dimmit Substation Convert to 115 kV                            | 06/2016     | Proposed       | Reliability |
| 24 | Kress - Swisher Co. Upgrade the 115 kV line terminal equipment | 06/2021     | Proposed       | Reliability |



## *Current and Proposed Transmission Projects Zone 4 (cont.):*





#### *Current and Proposed Transmission Projects Zone 4 (cont.):*

| #  | Project Name   | Est.<br>ISD | Status    | Drivers     |
|----|--|-------------|-----------|-------------|
| 25 | Yuma - Wolfforth 115 kV line T72 Reconductor                     | 01/2011     | Completed | Reliability |
| 26 | Yuma - Carlisle 115 kV line T71 Reconductor                      | 01/2011     | Completed | Reliability |
| 27 | Wolfforth -Terry Co 115 kV line V24 Reconductor                  | 01/2011     | Completed | Reliability |
| 28 | GSEC-SP Alcove Interconnection                                   | Unknown     | Pending   | IA          |
| 29 | GSEC-SP Wolfforth Interconnection                                | Unknown     | Pending   | IA          |
| 30 | Jones Unit 3 Plant Re-powering                                   | 12/2011     | Completed | Reliability |
| 31 | Wolfforth - Yuma terminal Upgrade 115 kV line terminal equipment | 09/2012     | NTC       | Reliability |
| 32 | Graham Co - Lubbock East Relocate normal open on 69 kV           | 06/2012     | Proposed  | Reliability |
| 33 | GSEC-SP Milwaukee Interconnection                                | 03/2013     | Current   | IA          |
| 34 | Lynn Co. Substation Convert load to 115 kV                       | 06/2013     | NTC       | Reliability |
| 35 | Jones Plant Bus  | 06/2013     | Current   | Reliability |
| 36 | Graham Upgrade 115/69 kV transformer to 84/96 MVA                | 06/2016     | Proposed  | Reliability |



# Current and Proposed Transmission Projects Zone 4 (cont.):

| #  | Project Name   | Est.<br>ISD | Status   | Drivers     |
|----|--|-------------|----------|-------------|
| 37 | LC-Littlefield 115 kV conversion                                   | 06/2018     | Proposed | Reliability |
| 38 | Lubbock East - Planters Sub Reconductor 69 kV line                 | 06/2019     | Proposed | Reliability |
| 39 | Crosby Co Upgrade Both 115/69 kV transformers to 84 MVA            | 06/2019     | Proposed | Reliability |
| 40 | East Levelland 115 kV conversion                                   | 06/2019     | Proposed | Reliability |
| 41 | Carlisle Intg. 2nd 168 MVA 230/115 kV TF                           | 06/2020     | Proposed | Reliability |
| 42 | Grassland Interchange Upgrade 230/115 kV TF to 150 MVA             | 06/2021     | Proposed | Reliability |
| 43 | Jones Bus #2 -Lubbock S. Upgrade 230 kV line terminal<br>equipment | 06/2021     | Proposed | Reliability |
| 44 | Allen – Lubbock South 115 kV rebuild line                          | 06/2017     | Proposed | Reliability |
| 45 | Vickers Sub Convert to 115 kV                                      | 06/2021     | Proposed | Reliability |
| 46 | Crosby Co 115 kV 14.4 MVAr Capacitor Project                       | 06/2012     | Proposed | Reliability |
| 47 | Wolfforth – Grassland 230/345 kV Project                           | 06/2014     | Proposed | Reliability |
| 48 | Wolfforth – Yuma T72 115 kV Upgrade line terminal equipment        | 09/2012     | Current  | Reliability |



#### *Current and Proposed Transmission Projects Zone 5:*



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#### *Current and Proposed Transmission Projects Zone 5:*

| # | Project Name  | Est.<br>ISD | Status    | Drivers     |
|---|---|-------------|-----------|-------------|
| 1 | Legacy Interchange 115/69 kV (75 MVA)                   | 06/2011     | Completed | Reliability |
| 2 | Legacy Interchange - Doss Interchange 115 kV line       | 06/2011     | Completed | Reliability |
| 3 | Legacy Interchange - Gaines Co. Interchange 115 kV line | 06/2011     | Completed | Reliability |
| 4 | Johnson Draw Project 115 kV                             | 09/2012     | Current   | Reliability |
| 5 | Yoakum Co. Breaker Failure Relaying                     | 06/2012     | Current   | Reliability |
| 6 | Sulphur Springs – Cedar Lake 115 kV line                | 06/2014     | Proposed  | Reliability |
| 7 | N/A   |             |           |             |

#### *Current and Proposed Transmission Projects Zone 6:*





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#### *Current and Proposed Transmission Projects Zone 6:*

| #  | Project Name   | Est.<br>ISD | Status    | Drivers     |
|----|--|-------------|-----------|-------------|
| 1  | Eagle Creek to Seven Rivers Interchange 115 kV line  | 07/2011     | Completed | Zonal       |
| 2  | Eagle Creek Project 115/69 kV  | 07/2011     | Completed | Reliability |
| 3  | New Navajo No. 5 substation - Navajo No. 4 substation 115 kV line  | 07/2011     | Completed | Reliability |
| 4  | New Navajo No. 5 substation - Navajo No. 3 substation 115 kV line  | 07/2011     | Completed | Reliability |
| 5  | Artesia Town - Artesia South Rural 69 kV line  | 04/2011     | Completed | Reliability |
| 6  | Ocotillo Substation Convert to 115 kV  | 02/2012     | Current   | Reliability |
| 7  | Ocotillo – Pecos 115 kV line   | 04/2012     | Current   | Reliability |
| 8  | Eddy County Breaker Failure Relaying   | 6/1/2012    | Current   | Reliability |
| 9  | Brasher Tap - Roswell Interchange Reconductor 115 kV line  | 12/2012     | NTC       | Reliability |
| 10 | N/A  |             |           |             |
| 11 | Chaves Co. Interchange - Roswell Interchange Convert 69 kV line to 115 kV from (Convert Capitan & Price substations to 115 kV) | 06/2013     | Current   | Reliability |
| 12 | Red Bluff – Wood Draw 115 kV line Tap T41  | 07/2012     | Proposed  | Reliability |
| 13 | Wood Draw 7.2 MVAr Capacitor   | 04/2013     | Proposed  | Reliability |
| 14 | Red Bluff 2-14.4 MVAr Capacitor  | 04/2013     | Proposed  | Reliability |
| 15 | Chaves 230 kV Bus Rebuild  | 12/2012     | Current   | Reliability |
| 16 | Chaves Co 230/115 kV Transformer replacement   | 06/2014     | Current   | Reliability |
| 17 | Eddy Co 2 <sup>nd</sup> 230/115 kV Autotransformer   | 06/2013     | Proposed  | Reliability |



#### *Current and Proposed Transmission Projects Zone 7:*



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#### *Current and Proposed Transmission Projects Zone 7:*

| # | Project Name  | Est.<br>ISD | Status   | Drivers     |
|---|---|-------------|----------|-------------|
| 1 | Maddox Station - Monument (T42) Reconductor 115 kV line               | 05/2012     | NTC      | Reliability |
| 2 | Maddox Station - Sanger SW (T14) Reconductor 115 kV line              | 05/2012     | NTC      | Reliability |
| 3 | Cunningham Station Breaker Failure Relaying                           | 6/1/2012    | Current  | Reliability |
| 4 | Re-conductor 115 kV line from Cunningham Station to Buckeye Tap (V98) | 06/2013     | NTC      | Reliability |
| 5 | Sanger SW - OXY Permian Sub (T14) Reconductor 115 kV line             | 06/2016     | NTC      | Reliability |
| 6 | Eunice Capacitor  | 06/2012     | Current  | Reliability |
| 7 | Lea County lines Re-terminate at Hobbs Interchange                    | 01/2014     | Proposed | Reliability |



There are no current projects scheduled for this zone. All previous projects have been put on hold pending Sharyland's intent to transfer all of Caprock load back to the ERCOT system by January 1, 2014.





#### SPS Tielines - Current and Proposed Transmission Projects





#### SPS Ties - Current and Proposed Transmission Projects

| # | Project Name  | Est.<br>ISD | Status  | Reviewed By                |
|---|---|-------------|---------|----------------------------|
| 1 | Tuco – Mid-Point Reactor Station 345 kV line 2 <sup>nd</sup> Tuco 345/230 kV Auto Transformer | 05/2014     | Current | SPP-Balanced-<br>Portfolio |
| 2 | Mid-Point Reactor Station - Woodward 345 kV line  | 05/2014     | Current | SPP-Balanced-<br>Portfolio |
| 3 | 345 kV Mid-Point Reactor Station  | 05/2014     | Current | SPP-Balanced-<br>Portfolio |
| 4 | Hitchland to Woodward double-circuit 345 kV line  | 06/2014     | Current | SPP EHV                    |
| 5 | XFR - Hitchland 345/230 kV ckt 2  | 06/2014     | Current | SPP Priority<br>Projects   |

### Links to additional information of Xcel Energy\* transmission Plans

#### The Southwest Power Pool (SPP)

http://www.spp.org/

- SPS Study Plans and Results
  - http://www.xcelenergy.com/About\_Us/Transmission/About\_t\_Transmission/Planning\_for\_the\_SPS\_Transmission\_System
- SPS Transmission Planning Points of Contact
  - http://www.xcelenergy.com/About\_Us/Transmission/About\_t Transmission/Planning\_for\_the\_SPS\_Transmission\_Sys\_tem\_