SPP Southwest Power Pool

Helping our members work together

to keep the lights on...

today & in the future

OEPTTF Study Scope

Oklahoma City

January 24, 2008

OEPTTF Scope

- **2010 and 2020 Reliability and Economic Studies**
  - **Base Case and Scenarios**
  - **Scenarios Types**
  - **Alternatives**
  - **Sensitivities**
- **Timelines & Deliverables**
- **Costs / Summits**

Base Cases

- **Topology**
  - **Current 2007 SPP Transmission Expansion Plan (STEP)**
    1. **BOD approved adding Spearville – Comanche Co – Wichita and Spearville – Knoll – Axtell in STEP**
    2. **Assessing impacts of rest of X Plan now**
  - **Western half of X Plan needed in 2020 for n-1 Criteria**
- **Resource Assumptions**
  - **Major recent announcements for wind development in KS and OK by Westar and OG&E, respectively.**
  - **Consistent assumptions across SPP seem reasonable**

Scenarios

- **Moderate Wind Case - 1000/2000 MW of incremental wind in 2010/2020, respectively in OK with injections assumed to be in Oklahoma Panhandle.**
- **High Wind Case - 2000/6000 MW of incremental wind in 2010/2020, respectively in OK with injections assumed to be in Oklahoma Panhandle.**
- **Reliability assessment to be performed in advance of economic assessments to capture potential flowgates which would limit wind output/deliveries for various transmission expansion alternatives.**

Alternatives

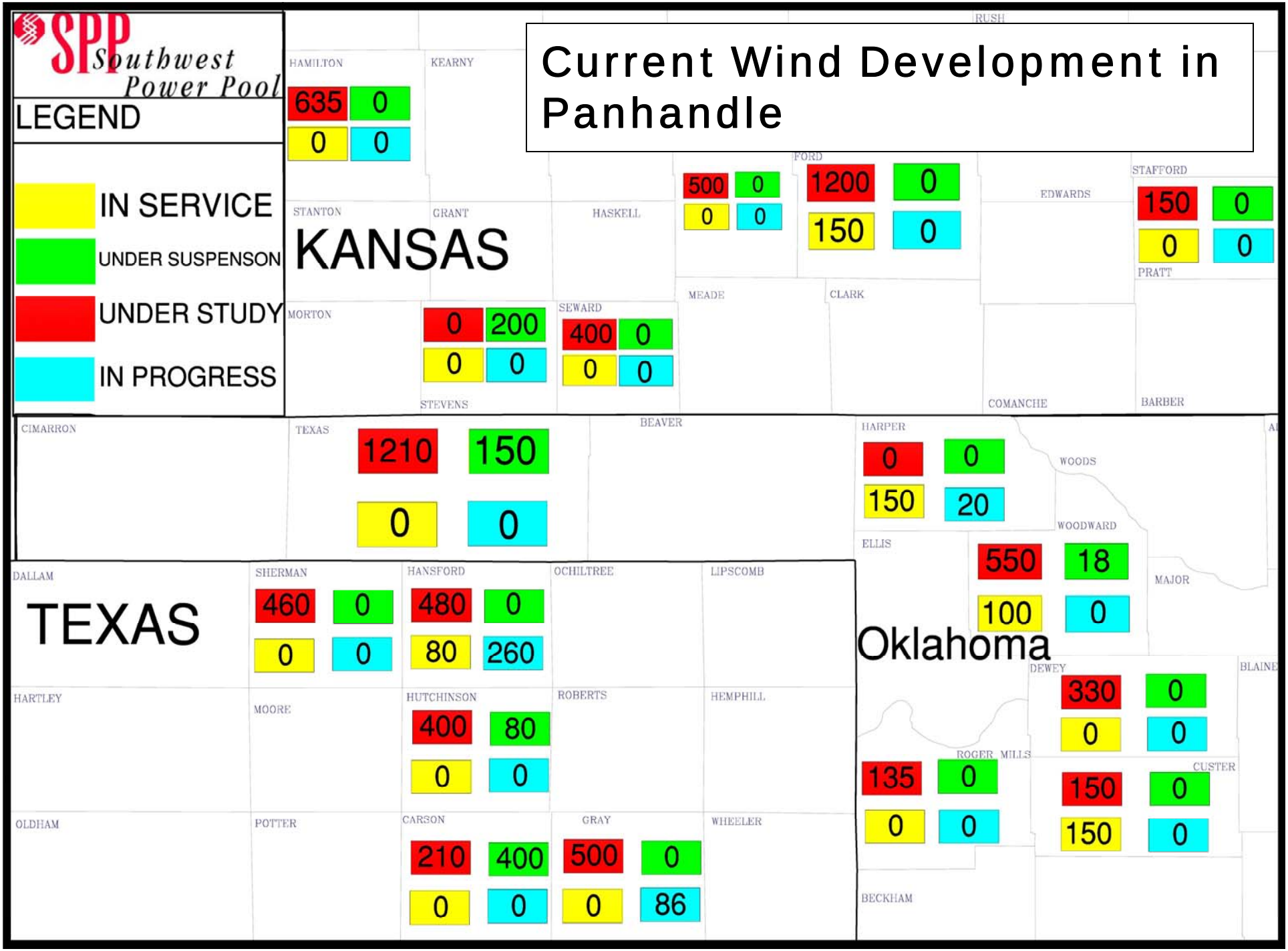
- **Single/Double circuit 345 kV or Single 765 kV line from Hitchland/Guymon area – Mooreland/Woodard and/or Comanche Co. hub for X Plan**
- **Line would provide injections for wind development from Oklahoma Panhandle and adjacent areas and also interconnect with existing SPS Finney – Potter 345kV line at the proposed Hitchland substation.**

Sensitivities

- **High and Low Fuel Cost (+/- 50% of base line price and escalators)**
- **DC Tie Sensitivites – 600/1,200 MW from SPP into ERCOT via DC Tie in 2010/2020**
- **High and Moderate wind injection scenarios**
- **Topology sensitivities to the status and design of the X-Plan considering several alternatives**

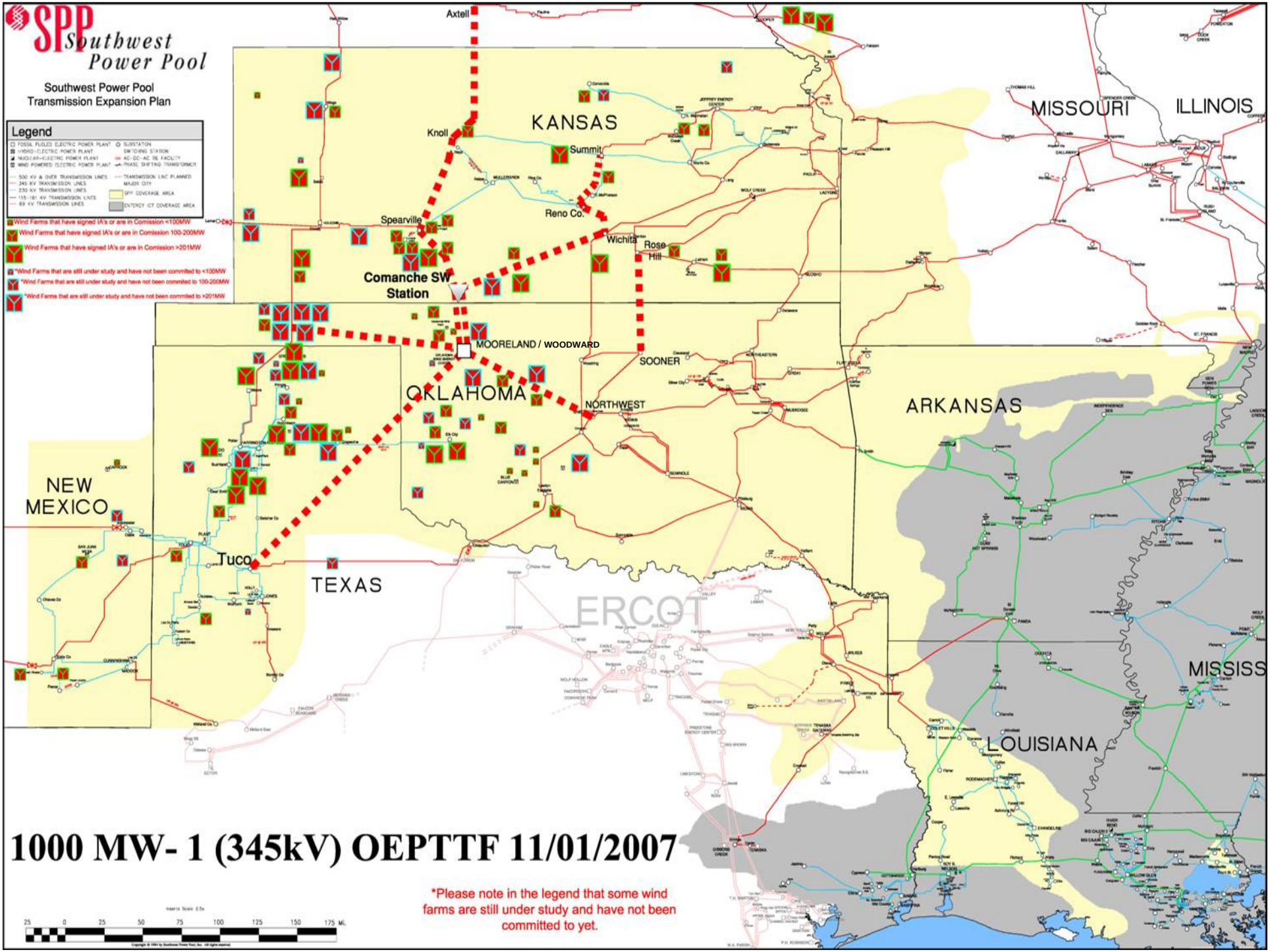
Base Case Wind Assumptions

Wind Type	Base Wind 2010
Kansas	**1,648**
In-Service	460
On Schedule	750
Suspension (50%)	438
Oklahoma	**903**
In-Service	698
On Schedule	20
Suspension (50%)	185
N. Mexico/Texas	**1,499**
In-Service	605
On Schedule	654
Suspension (50%)	240
Grand Total	**4,050**


SPP Southwest Power Pool
LEGEND
IN SERVICE
UNDER SUSPENSON
UNDER STUDY
IN PROGRESS
Current Wind Development in Panhandle
KANSAS
TEXAS
Oklahoma
HAMILTON
KEARNY
STANTON
GRANT
HASKELL
MORTON
STEVENS
SEWARD
MEADE
CLARK
FORD
RUSH
EDWARDS
STAFFORD
PRATT
COMANCHE
BARBER
CIMARRON
TEXAS
BEAVER
HARPER
WOODS
WOODWARD
ELLIS
MAJOR
DALLAM
SHERMAN
HANSFORD
OCHILTREE
LIPSCOMB
HARTLEY
MOORE
HUTCHINSON
ROBERTS
HEMPHILL
OLDHAM
POTTER
CARSON
GRAY
WHEELER
DEWEY
BLAINE
ROGER MILLS
CUSTER
BECKHAM
635 0 0 0
500 0 0 0
1200 0 150 0
150 0 0 0
0 200 0 0
400 0 0 0
1210 150 0 0
0 0 150 20
550 18 100 0
460 0 0 0
480 0 80 260
400 80 0 0
210 400 0 0
500 0 0 86
330 0 0 0
135 0 0 0
150 0 150 0

New Wind Locations and Injection Amounts

Injection Location	Standard Scenario 2010	Standard Scenario 2020	High Wind Scenario 2010	High Wind Scenario 2020	Percent
Kansas	**1,000**	**2,000**	**Same**	**Same**	
Spearville	600	1,200	Same	Same	60%
Mingo	150	300	Same	Same	15%
Elk River	100	200	Same	Same	10%
Summit	150	300	Same	Same	15%
Oklahoma	**1,000**	**2,000**	**2,000**	**6,000**	
Hitchland (Panhandle)	750	1,500	1,500	4,500	75%
Lawton	100	200	200	600	10%
Mooreland/Woodward	150	300	300	900	15%
N. Mexico/Texas	**1,500**	**3,000**	**Same**	**Same**	
Potter	1,050	2,100	Same	Same	70%
Tuco	450	900	Same	Same	30%
Grand Total	**3,500**	**7,000**	**4,500**	**11,000**	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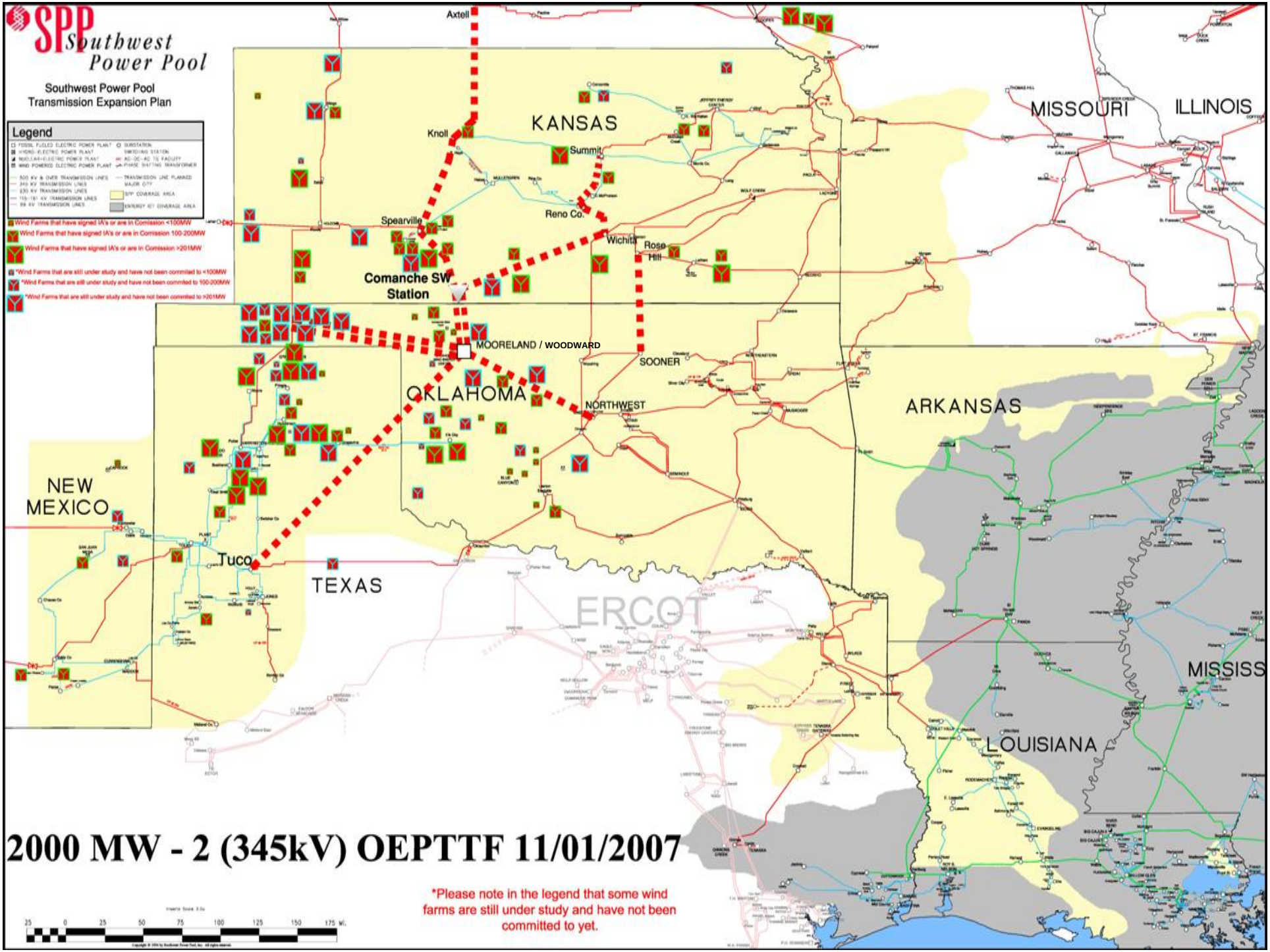
Southwest Power Pool
Transmission Expansion Plan
Legend
Wind Farms that have signed IA's or are in Comission <100MW
Wind Farms that have signed IA's or are in Comission 100-200MW
Wind Farms that have signed IA's or are in Comission >201MW
*Wind Farms that are still under study and have not been commited to <100MW
*Wind Farms that are still under study and have not been commited to 100-200MW
*Wind Farms that are still under study and have not been commited to >201MW
Axtell
KANSAS
Knoll
Summit
Reno Co.
Spearville
Wichita
Rose Hill
Comanche SW Station
MOORELAND / WOODWARD
SOONER
OKLAHOMA
NORTHWEST
ARKANSAS
MISSOURI
ILLINOIS
NEW MEXICO
Tuco
TEXAS
ERCOT
LOUISIANA
MISSISS
1000 MW- 1 (345kV) OEPTTF 11/01/2007
*Please note in the legend that some wind farms are still under study and have not been committed to yet.
25 0 25 50 75 100 125 150 175 Mi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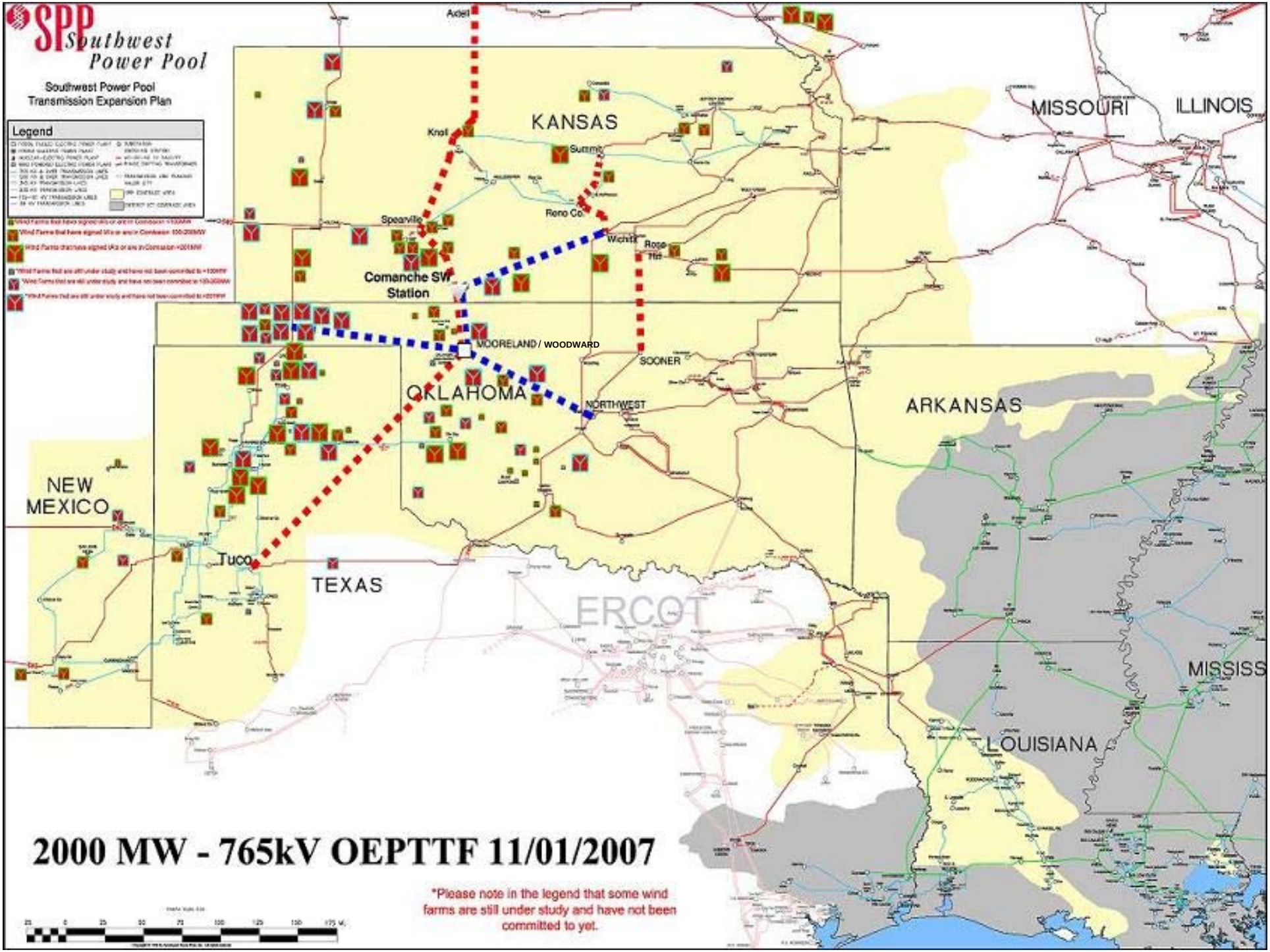
LOUISIANA
MISSISS
2000 MW - 2 (345kV) OEPTTF 11/01/2007
*Please note in the legend that some wind farms are still under study and have not been committed to yet.


SPP Southwest Power Pool
Southwest Power Pool
Transmission Expansion Plan
Legend
Adell
KANSAS
Knol
Summit
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Spearville
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Rose Hill
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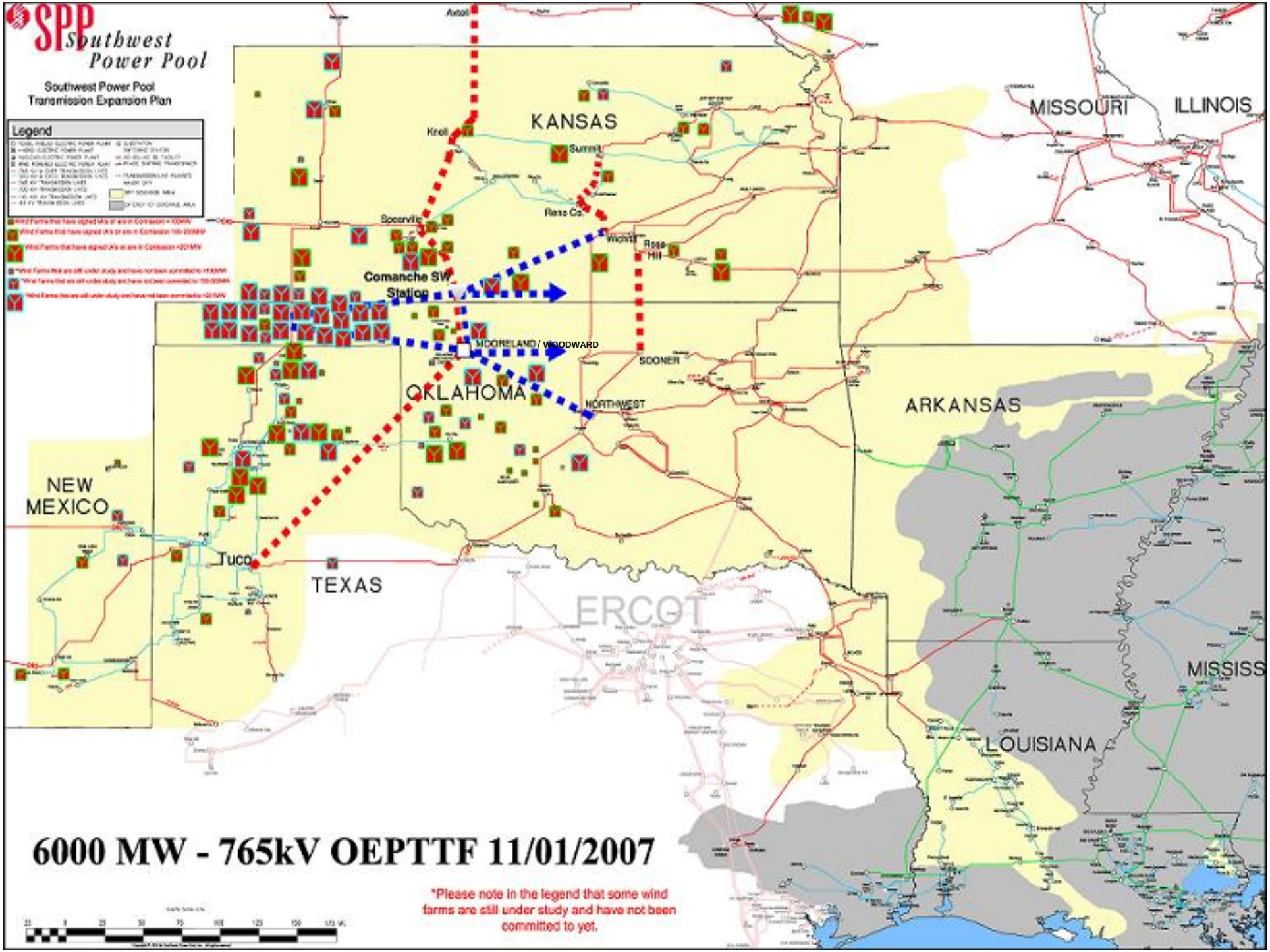
Tuco
TEXAS
ERCOT
MISSISS
LOUISIANA
2000 MW - 765kV OEPTTF 11/01/2007
*Please note in the legend that some wind farms are still under study and have not been committed to yet.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NORTHWEST
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ARKANSAS
NEW MEXICO
Tuco
TEXAS
ERCOT
LOUISIANA
6000 MW - 765kV OEPTTF 11/01/2007
*Please note in the legend that some wind farms are still under study and have not been committed to yet.

Timeline and Deliverables

- **Approve scope and assumptions – late December, 2007**
- **Contingency results – Mid-Late January, 2008**
- **FCITC results – Late January, 2008**
- **Interim/Status Report – Late January, 2008**
- **Economic Results – Late February, 2008**
- **Economic Fuel Sensitivity – Early March, 2008**
- **Final results/report published – Late March, 2008**

NEED 1 month adjustment to this time line

Costs / Summits

- **In the spirit of FERC Order 890 and the need for transparency and stakeholder engagement in expansion planning, SPP is proposing to perform this study without any charges to OEPTTF.**
- **SPP would propose that summits be held in Oklahoma City in mid/late January and mid-March for this study. The first summit would share project scope and preliminary reliability results with all affected stakeholders in advance of the report due to the Oklahoma legislature.**
- **The second summit would share final reliability and preliminary economic results, along with recommendations in advance of final report being issued in late March.**

IMPORTANT NOTE -

Absent a special agreement, SPP must follow its FERC-approved Open Access Transmission Tariff for the provision of transmission service.

While SPP will work with stakeholders on studies to evaluate and identify potential beneficial transmission expansion projects, SPP can not guarantee the availability of transmission capability to provide firm deliverability of resources without a specific request being evaluated and approved as a part of the aggregate study process for long-term transmission service requests.

Keith Tynes
Manager, Planning
501.614.3252
ktynes@spp.org