NARUC Summer Meeting
Electricity Committee

Phil Crissup, PE

Oklahoma Gas and Electric Co

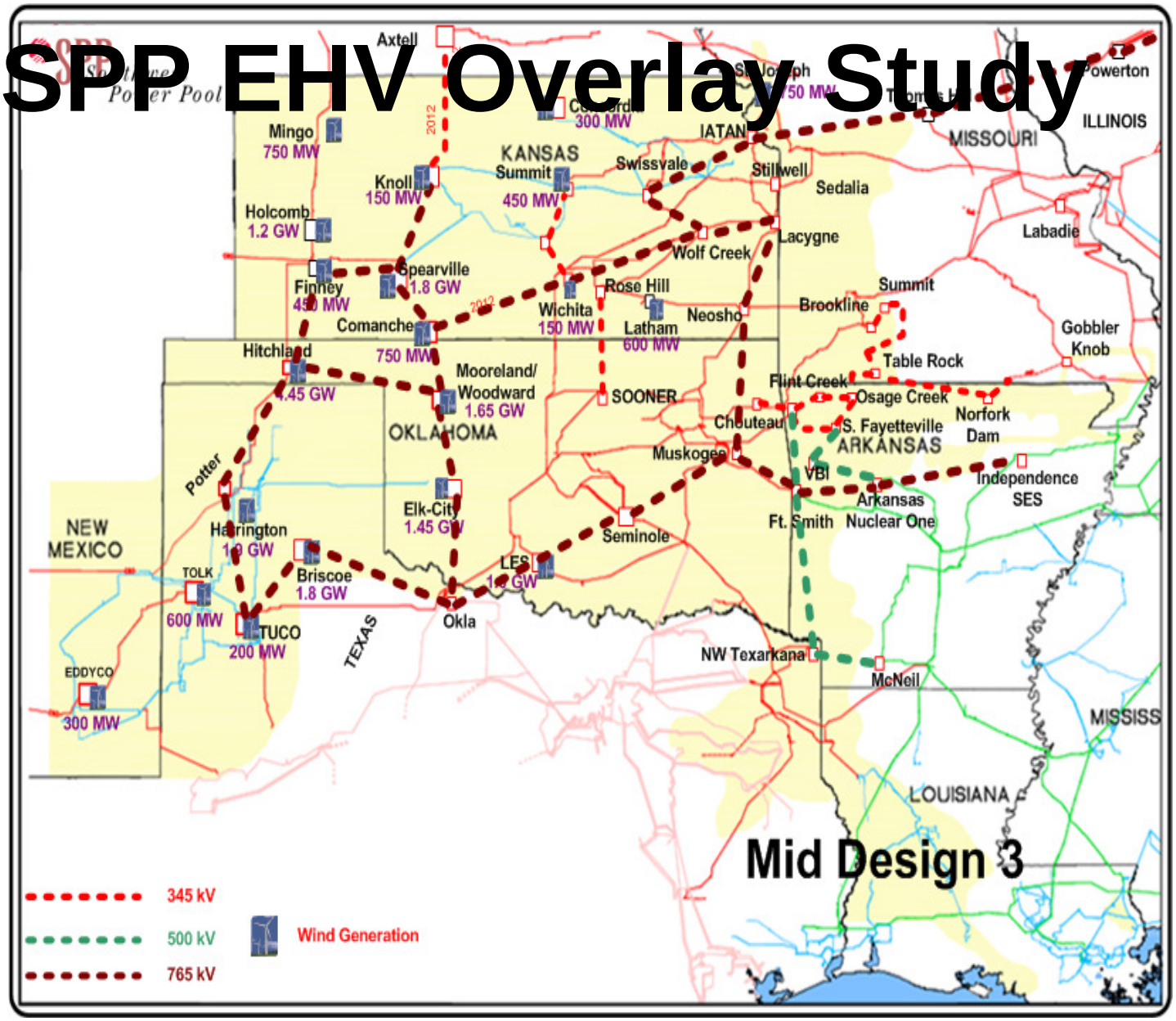
July 22, 2008

- Edison’s first light bulb – 1879
- First central station electrical generating plant – 1882
- Oklahoma – 1889
- OG&E – 1902

Dilemma: What to do if current processes don't work?

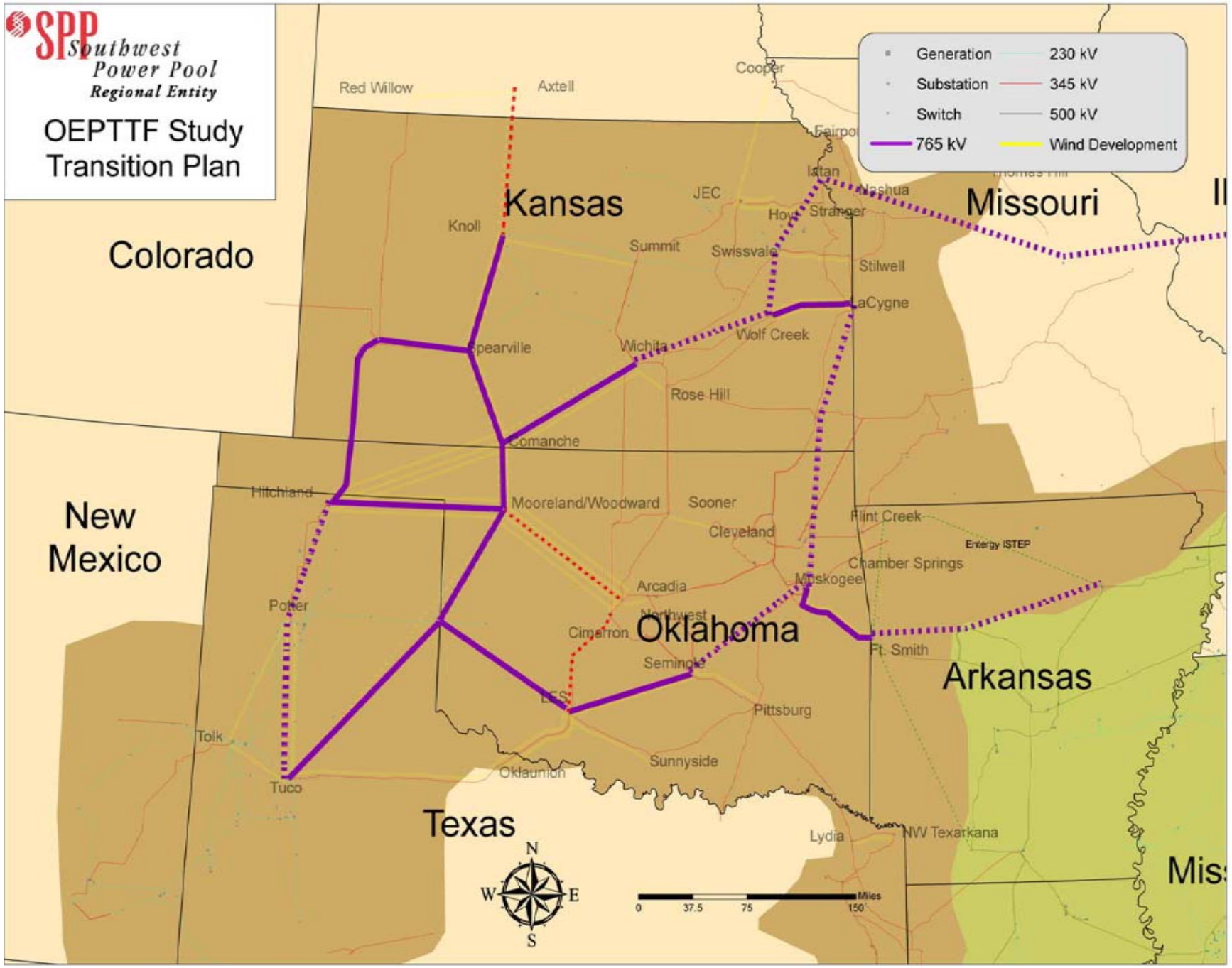
- Old Paradigm: Plan generation and transmission together
  - OG&E built and acquired 6,000 MW of generating capacity and 4,200 miles of transmission lines
- Post FERC Order 888 Paradigm: Plan generation and transmission independently
- Current Process has challenges: Wind Interconnection and Transmission Service Queues are clogged across country. Plagued by the 'Chicken or Egg' conundrum
- New Approach: Must build transmission first, in order for wind generation to develop in a timely fashion
- You need a good plan. SPP developed it.

SPP EHV Overlay Study



What to build?

- Local - 345kV
  - Deliver wind generation to local load
- Regional – Initial parts of 765 kV plan
  - Deliver wind generation on a regional basis
  - Identify regional benefits
- National – 765kV build out
  - Full build out of 765kV system to deliver wind resources on a national basis

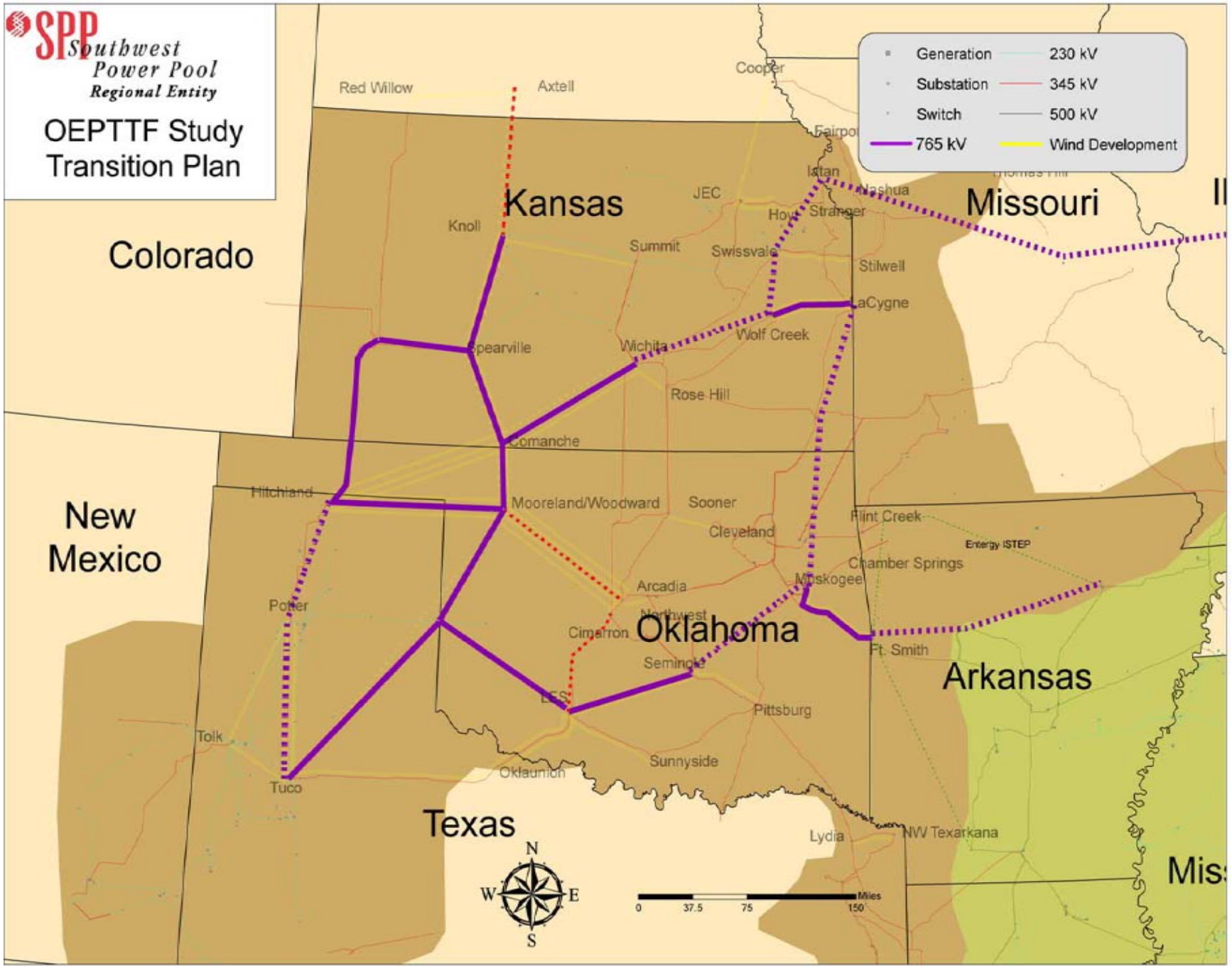

SPP Southwest Power Pool Regional Entity
OEPTTF Study Transition Plan
Generation
Substation
Switch
765 kV
230 kV
345 kV
500 kV
Wind Development
Kansas
Missouri
Colorado
New Mexico
Oklahoma
Arkansas
Texas
Red Willow
Axtell
Cooper
Knoll
Summit
JEC
Swissvale
Stilwell
LaCygne
Wolf Creek
Spearville
Wichita
Rose Hill
Comanche
Hitchland
Mooreland/Woodward
Sooner
Cleveland
Flint Creek
Chamber Springs
Muskogee
Arcadia
Cimarron
Seminole
Ft. Smith
Pittsburg
Sunnyside
Oklaunion
Tolk
Tuco
Lydia
NW Texarkana
N
W
E
S
0
37.5
75
150
Miles

345kV Transmission line from wind resource area in Oklahoma to load

- Our customers want access to more renewable power
- The State of Oklahoma recognizes the econmic benefits of developing wind generation
- Transmission is the constraint; OG&E filed case to recover cost of transmission line to allow additional wind development
- Case pending before Oklahoma Corporation Commission with a ruling requested in mid-August
- Line routing underway, four town-hall meetings held, 345/138kV Transformer and 70% of poles ordered; scheduled to be in service 4th Quarter 2009

765kV EHV on a Regional basis

- Identify portions of 765kV plan that benefit region, based on economics and reliability
- Develop ‘Postage Stamp’ Cost Allocation for Regional 765kV plan
- Build-out 765kV regionally to deliver benefits to SPP region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765kV EHV on a Super-Regional/National basis

- Identify portions of 765kV plan that benefit multiple regions; economics and reliability
- Develop ‘Postage Stamp’ Cost Allocation for Super-Regional 765kV plan
  - Seams Agreements with neighbors of SPP, Entergy, ERCOT
- Extend 765kV to other regions for export
  - Seams Agreements with other RTOs, Western Interconnect, etc

Pressing Issues

- Cost Allocation – How to assign costs of Transmission build out
  - Local, Regional, Super-Regional, National
- Wind Integration – How to operate huge amounts of wind
- Reliability – Expand definition of Reliability to more closely resemble Operating conditions,ie, multiple elements out of service simultaneously. Will require additional upgrades for Reliability

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