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# CATS

Central Arizona Transmission Study

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CART Meeting

*Presentation by*

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**Salt River Project**



Delivering More Than Power.®

# CATS overview



**Scope**: Collaborative regional study.

**Considerations**: Increasing energy demands for Central Arizona in an environment of deregulation and emerging electric utility competition.

**Purpose**: Develop a high level transmission plan for Central Arizona that maximizes regional benefits, while making efficient use of the existing transmission system.

# Study participants

- Arizona Corp. Commission
- APS
- TEP
- SRP
- SWTC
- WAPA
- PNM
- Citizens Utilities
- Williams Energy Mfg & Trading
- Industrial Power Tech.
- Arizona Power Authority
- Power Up Corp.
- Desert Energy
- CAP
- NRG
- Southwestern Power Group
- Reliant Energy
- PPL
- Allegheny Energy supply
- AES
- Pinnacle West Energy
- Mountain County Co Generation
- Trans - Elect
- Panda Energy
- Teco Energy
- PDE
- Duke Energy & Trading
- ED #3 & MSIDD
- PG&E

# The vision



- **Serve future customers in Central Arizona**
- **Make more efficient use of existing transmission system**
- **Develop long term transmission plan**
- **Facilitate development of new transmission**
- **Encourage generators to locate in areas that support transmission**



# CATS study challenges

- **Business rules are changing or not clear**
  - a. FERC rule making
  - b. Economy
  - c. Enron / Anderson
- **Key decision factors not known**
  - a. Who approves the plan
  - b. Funding
  - c. Approval to construct
- **Organizations changing**
- **Must work within existing organization and paradigms**

# CATS study challenges

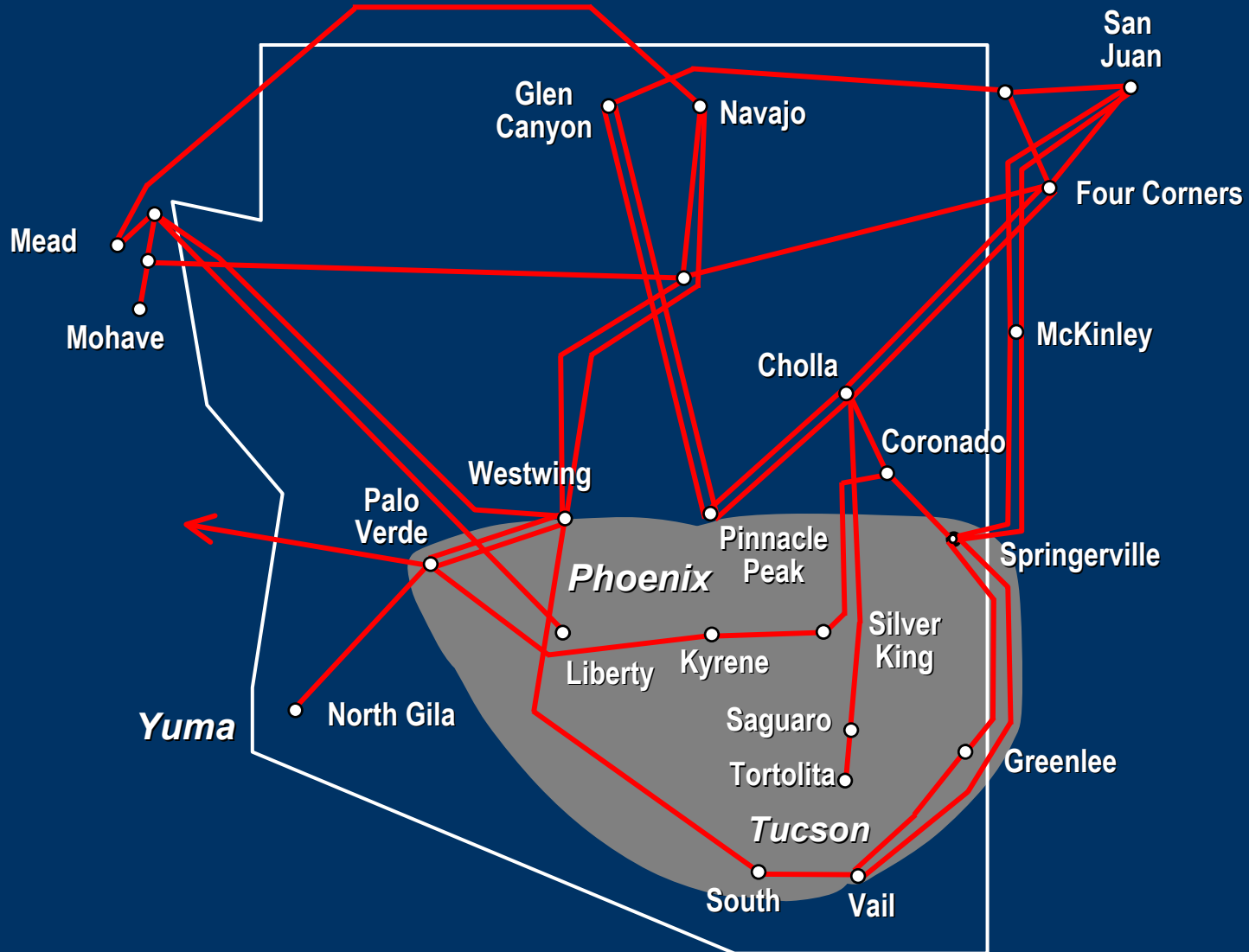
- **Planning responsibilities / roles unclear**
- **Study work**
  - a. **Non traditional study - future generation and use of system not known**
  - b. **Transmission plans are dependent on resource plans**
  - c. **Who will do the work?**
- **How will results be implemented?**
- **Incentives for new transmission are inadequate**
- **Difficult to justify transmission projects**

# The benefits are clear ...

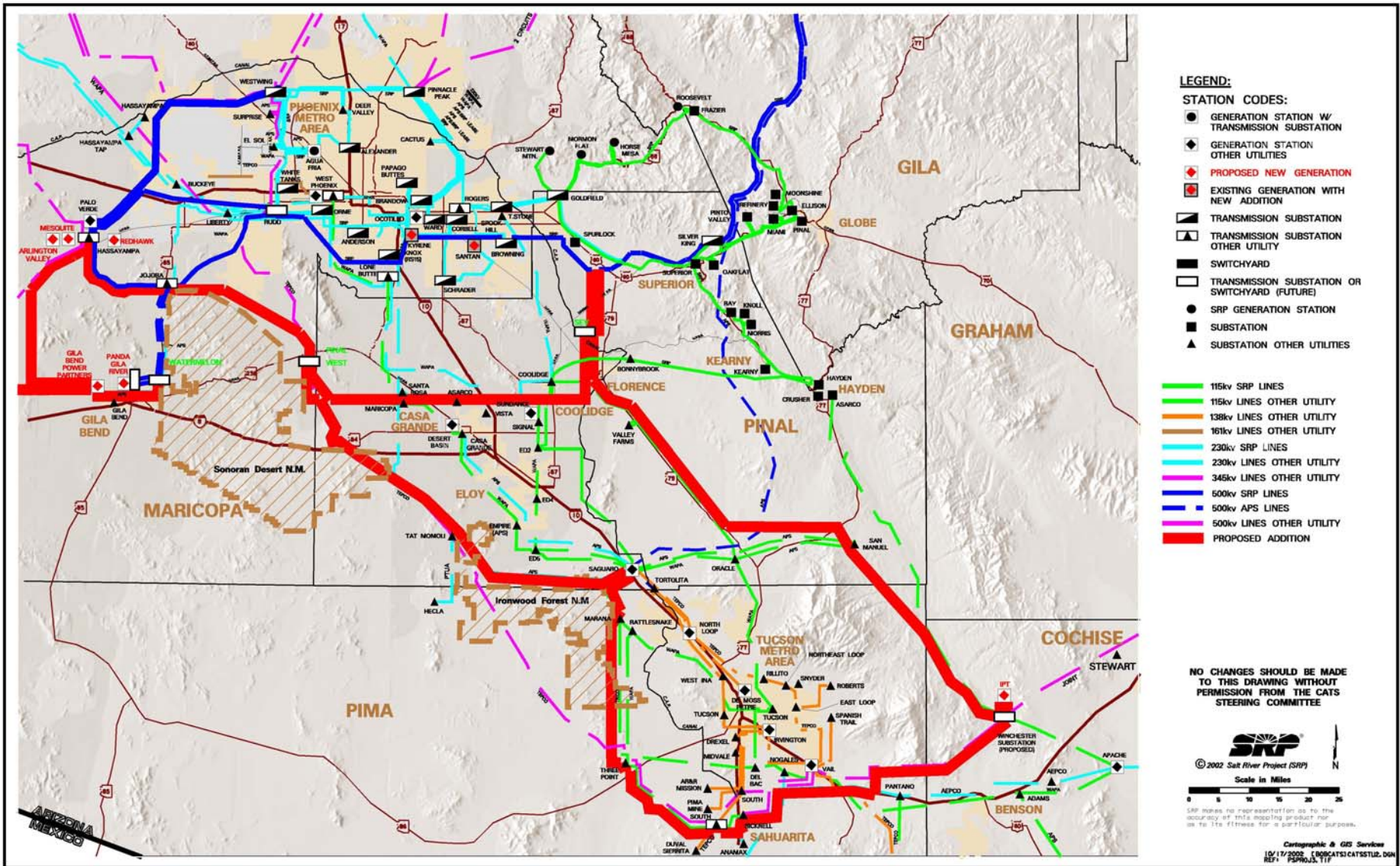


- Not practical to do alone
- Forum for open exchange of needs, ideas and concepts
- Central point of communication for generation developers and transmission planners
- Synergy from working together
- Common vision for future development (Long Range Plan)
- **Customers win**: increased supply and reliability; lower environmental impact.

# CATS study area



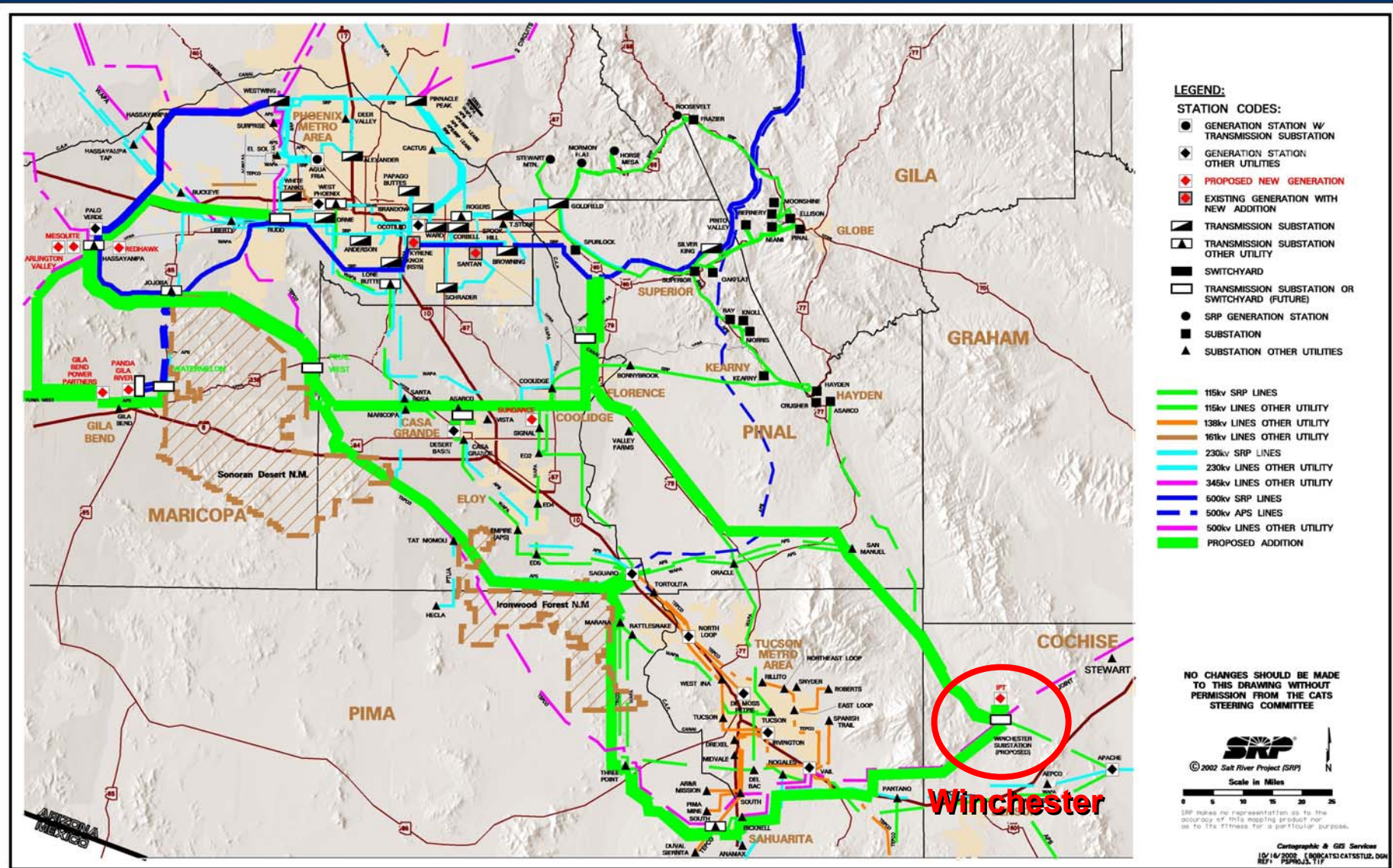
# Central AZ: Long-Term Plan



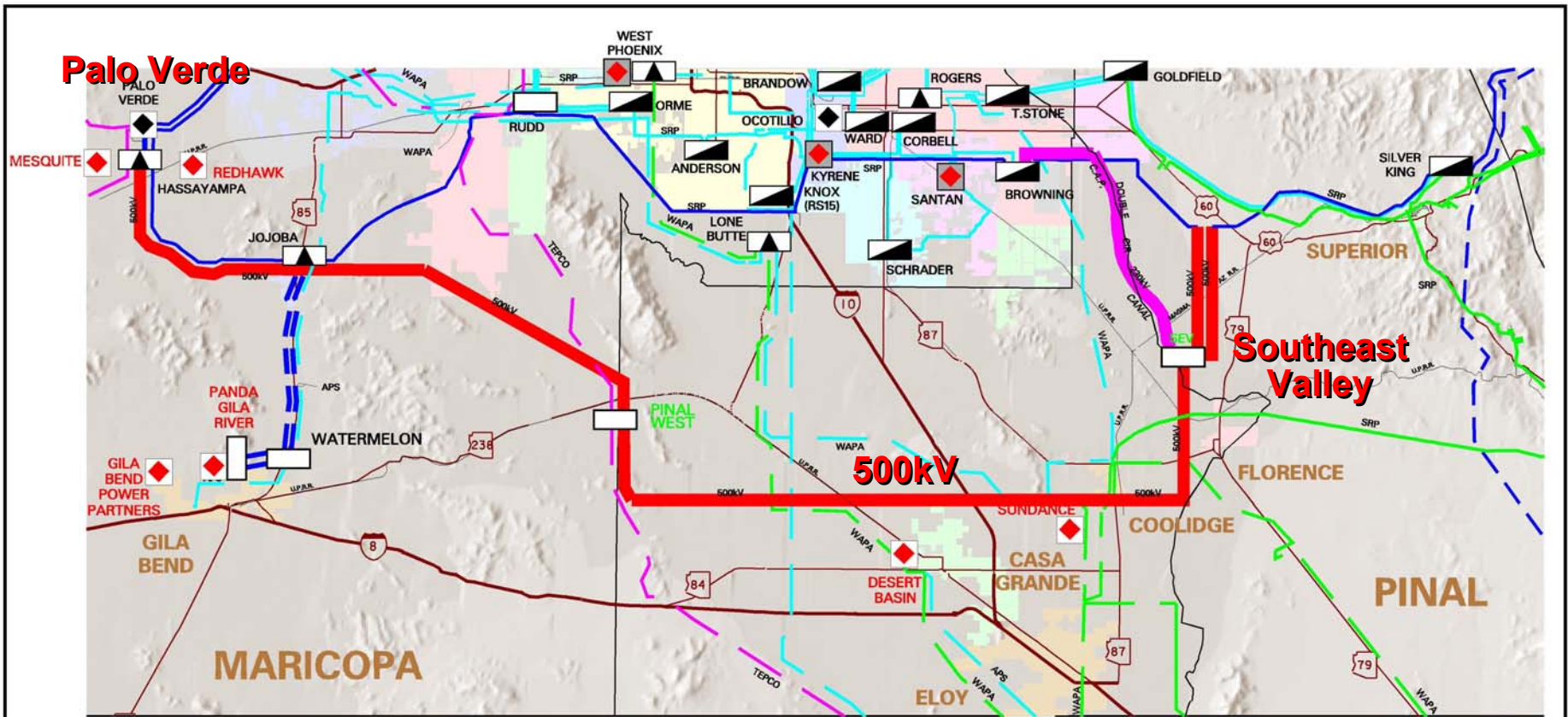


# **Implementation of CATS Status**

# Winchester substation



# Palo Verde Southeast Valley Project



**LEGEND:**

- 115kv SRP LINES
- 115kv LINES OTHER UTILITY
- 138kv LINES OTHER UTILITY
- 161kv LINES OTHER UTILITY
- 230kv SRP LINES
- 230kv LINES OTHER UTILITY
- 345kv LINES OTHER UTILITY
- 500kv SRP LINES
- 500kv APS LINES
- 500kv LINES OTHER UTILITY
- PROPOSED ADDITION FOR ILLUSTRATION ONLY
- PROPOSED ADDITION FOR ILLUSTRATION ONLY

**STATION CODES:**

- GENERATION STATION W/ TRANSMISSION SUBSTATION
- GENERATION STATION OTHERS
- PROPOSED NEW GENERATION
- EXISTING GENERATION WITH NEW ADDITION
- TRANSMISSION SUBSTATION
- TRANSMISSION SUBSTATION OTHER UTILITY
- SWITCHYARD
- TRANSMISSION SUBSTATION OR SWITCHYARD (FUTURE)

**OWNERSHIP CODES:**

- SRP SALT RIVER PROJECT
- APS ARIZONA PUBLIC SERVICE
- WAPA WESTERN AREA POWER ADMINISTRATION DEPARTMENT OF ENERGY
- TEPCO TUCSON ELECTRIC POWER CO.
- JOINT TWO OR MORE OWNERS
- EPNG EL PASO NATURAL GAS CO.

**PALO VERDE TO SOUTHEAST VALLEY STATION POSSIBLE STUDY AREA**



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