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Tucson Electric Power Comp.

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June 3, 2009

Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

Re: Second Workshop related to Renewable Transmission; Docket No. E-00000D-07-0376

Enclosed please find Tucson Electric Power Company's ("TEP") Renewable Transmission Workshop presentations for the second joint workshop being held on Friday June 5, 2009. Attached are TEP's Cost Recovery for Transmission Investment presentation, to be presented by Philip Dion, Vice President of Legal and Environmental Services, and TEP's Interconnection Process presentation, to be presented by Ron Belval, Supervisor, Transmission Planning.

Sincerely,

Philip J. Dion

cc: Chairman Mayes
Commissioner Kennedy
Commissioner Newman
Commissioner Pierce
Commissioner Stump
Cristina Arzaga-Williams
Meghaen Duger
Giancarlo G. Estrada
John Le Sueur
Alan Stephens

Arizona Corporation Commission
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Arizona Corporation Commission

Fifth Biennial Transmission Assessment Commission Decision 70635

Workshop #2 on Transmission to Support Renewable Energy Development

Interconnection Process

Ron Belval
Supervisor – Transmission Planning
Tucson Electric Power Co.

June 5, 2009

Docket E-00000D-07-0376

Open and Transparent Process

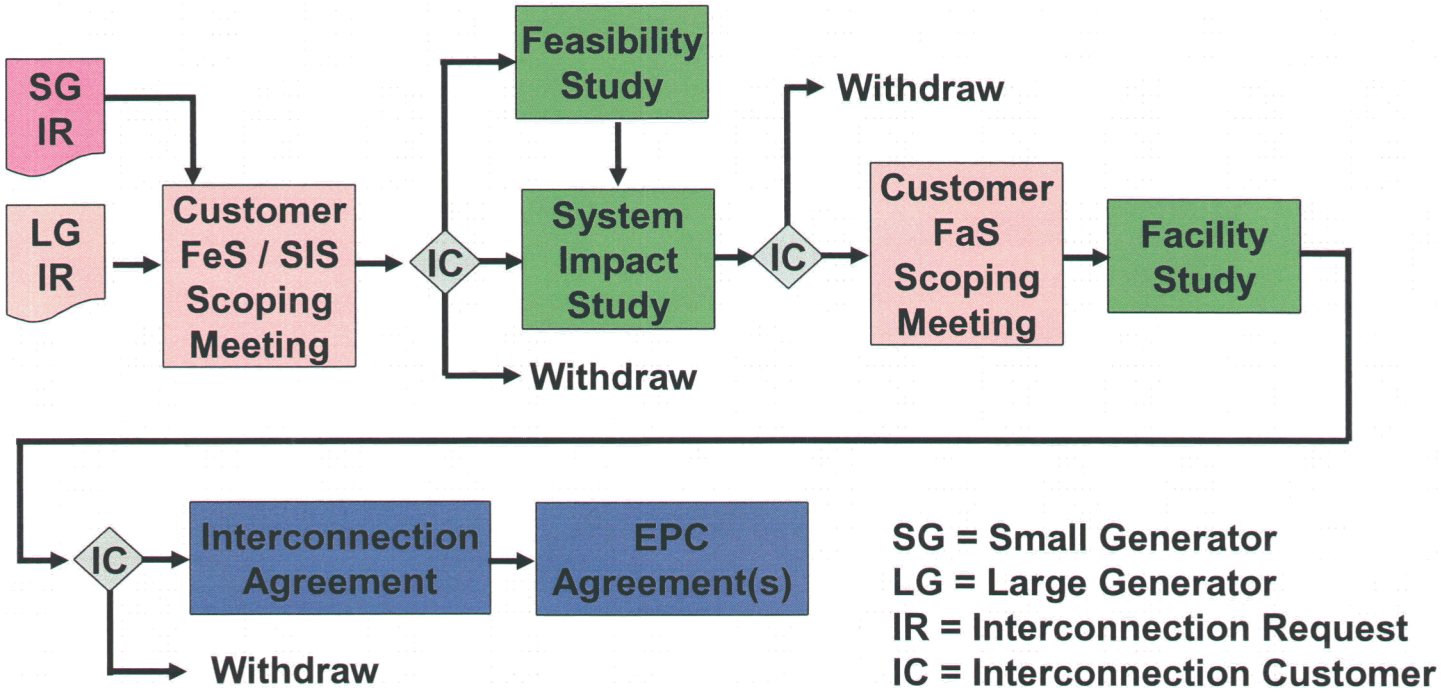
- Initiated by FERC Orders 888 & 889
- Order 890 LGIP
- Utility Industry Restructuring
  - Separation of Transmission and Market Functions
- Requires Open Access Transmission Tariffs (OATT)
  - Applies to FERC Jurisdictional Transmission Providers
  - Non-FERC Jurisdictional Entities Comply with comparable terms for Reciprocal Transmission Access
- Pro-Forma Interconnection Procedure & Agreement
  - Distinction between "Small" and "Large" Generation
- Open Access Same Time Information System (OASIS)
  - Ensures everyone treated equally

Generator Interconnection Process

- **Large Generator Interconnection Procedure (LGIP)**
  - **Applies to Facilities > 20 MW**
- **Interconnections studied as energy only or as network customer**
- **Transmission Service not a part of the LGIP (additional request and studied separately)**
- **All to be connected to facilities used to provide transmission service under the OATT**

(**Note**: Per FERC Order No. 2006-A, if the service to be provided by the IC is retail only, the SGIP does not govern the interconnection process; State interconnection rules apply in such case)

Generator Interconnection Procedure

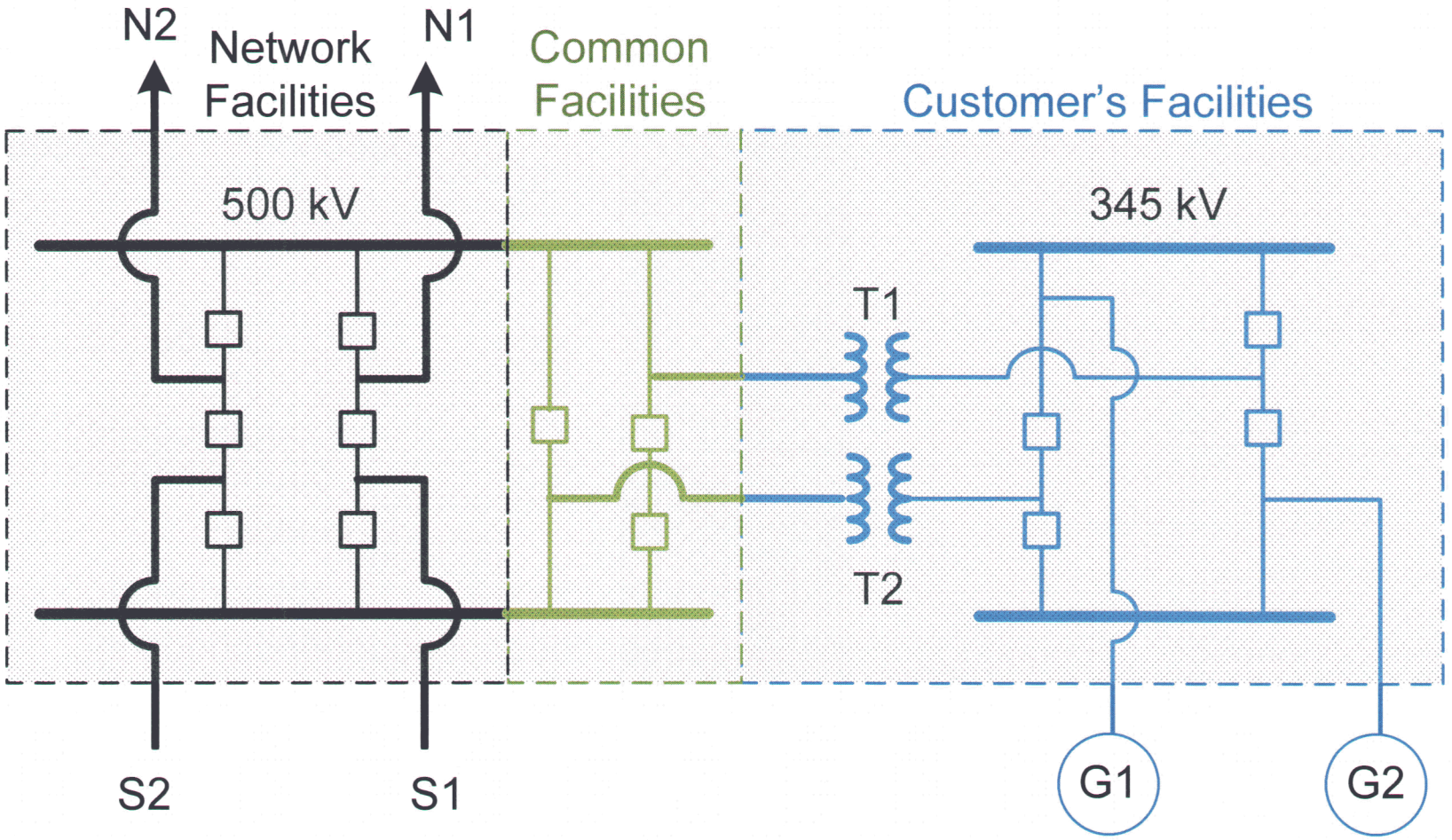


Each Feasibility, System Impact and Facility Study Requires a Separate Agreement

Cost Recovery

- Interconnection Customer pays for all study costs
- Transmission Provider responsible for Capital Investment for Native and Network Customers
  - Recovered through FERC and ACC Approved Rates
  - Native and Network customers pay via pass-thru of costs
- Interconnection Customer pays Administrative and Study costs related to Interconnection Requests
- Facility Costs are Allocated:
  - Interconnection Facilities → Transmission Customer
  - Network Facilities → Transmission Provider
  - Common Facilities → Shared
  - Point-to-Point Upgrades → Transmission Customer

Facility Cost Allocation Basis

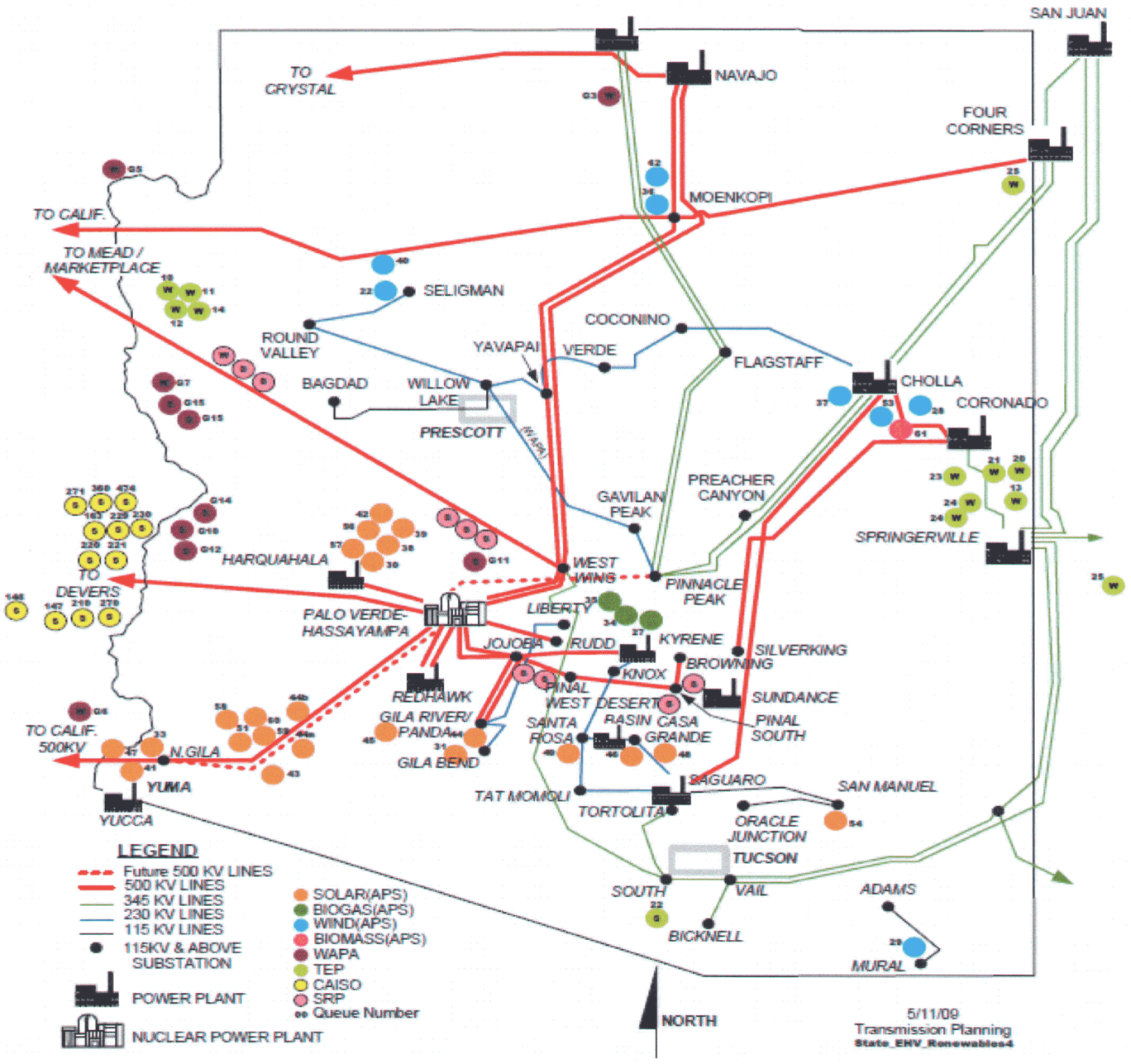


FERC Requirements

- No preferential treatment of any customers including Affiliates
- Coordination with Affected Systems
- Confidentiality per FERC Standard of Conduct
- OASIS Posting
  - List all Interconnection Requests / Data / Status
  - Must not disclose the identity of IC until LGIA is executed or IC requests that TP file an unexecuted LGIA with FERC
  - Deviations in study time line or in service date
  - Advance notice of Scoping Meeting with Affiliate
- Interconnection Agreements must be Filed by FERC Jurisdictional entities

2009 ARIZONA RENEWABLES

Active Generator Queue Listing



Challenges

- **Coordination of Queues among Different Transmission Providers**
  - **Impacts Feasibility and System Impact Study Models**
  - **Q-Sitters tie up Queue**
- **Managing Interconnection Requests made to Joint Transmission Facilities / Projects**
  - **Participants may be combination of FERC and non-FERC jurisdictional entities**
  - **Participants' OATTs have different, possibly conflicting provisions**
- **Timely Identification of Affected Systems**
  - **May not know until preliminary study results are available**
  - **May require re-study to identify system mitigation**
- **How to identify viable projects?**
  - **Contrary to non-discriminatory process**

Opportunities

- Coordination of queues among Arizona Transmission Providers
  - Consider Central OASIS clearinghouse
- Close coordination of Interconnection Requests
  - Facilitate Timely Identification of Affected Systems
  - Identify Duplicate Requests for the Same Project
- Develop Common Interconnection Procedures for Jointly Owned Participation Projects
- Increase Transparency of Process among TPs & ICs
  - Minimize Duplicate Requests and Q-Sitters
- Cluster Studies

Arizona Corporation Commission

Fifth Biennial Transmission Assessment Commission Decision 70635

Workshop #2 on Transmission to Support Renewable Energy Development

Cost Recovery for Transmission Investment

Philip J. Dion
Vice President
Legal & Environmental Services
Tucson Electric Power

June 5, 2009

Docket E-00000D-07-0376

Renewable Infrastructure Policy Issues

- Regulatory certainty at the State and Federal level needed.
- Efficient siting of transmission & generation.
- Definition of "Need".
- Full recovery of prudently incurred costs of abandoned transmission projects.
- Pre-approval, Incentives, CWIP and other means to promote infrastructure.

Methods of Financing

- Traditional Cost of Service
- Socialization
- Market Driven/Merchant

Traditional

- Incumbent utility includes in rate base & recovers through tariff rates as part of it's network.
- States require showing of need, that the project is appropriately sized and costs are prudent.
- Tariff must be just and reasonable.

Interconnector Pay (subset of traditional)

- Require generation facilities to pay the entire cost of adding new transmission to connect themselves to the grid

Socialization Model

- Sharing the cost of the project to users throughout the state or region where a new line is built
  - credits from interconnectors as they come on-line
- Tehachapi Model
  - Cost allocation difference between an ISO and non-organized market participants

Market Driven/Merchant

- Chinook - Zephyr model
  - Portion financed by anchor tenants
  - balance is made available in open season
- Proposed Sun Zia model
  - 100 % of project committed by anchor tenants

Other Models?

- Northeastern Utilities and NSTAR Electric
  - Cost-based, non-merchant participant funded project
  - Hydro generation sold at market-based rates
  - Answers the "cost allocation" question that stifles many projects in organized markets.
- Other Models?
  - Changes at FERC

Funding Sources

- Funding options Include:
  - Revenue Bonds & Equity
  - State Bonds
  - DOE Loan Guarantee Programs
  - Financing based on Transmission service contracts
  - Others