Transmission Planning Annual Stakeholder Outreach Meeting
10.17.11
Purpose of This Meeting

- To allow stakeholders the opportunity to participate in Tri-State’s transmission planning process consistent with:
  - Development of Tri-State’s long-term transmission plans
  - Attachment L of Tri-State’s OATT
  - CPUC 3627
  - Generator Interconnection Procedures
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Agenda

- Overview of Tri-State
- Tri-State Planning Process
- 2011-2020 L&R Resource Assumptions
- Transmission Capital Construction Plan
- Generation Interconnections
- OATT update
Background

- Tri-State is a member owned, **not-for-profit**, generation and transmission **cooperative**
  - 44 member owners across NM (12), CO (18), NE (6), WY (8)
  - Members serve approximately 1.4 million
  - 200,000 square miles of service territory

- Mission Statement:
  - “Provide our member owners a reliable, cost-based supply of electricity while maintaining a sound financial position through effective utilization of human, capital and physical resources in accordance with cooperative principles.”
Basic Statistics

- Peak Member Load (Summer 2011) ~ 2834 MW

- 5 meters / line mile average

- Load by State
  - New Mexico 471 MW ~ 17%
  - Colorado 1729 MW ~ 61%
  - Nebraska 357 MW ~ 12%
  - Wyoming 277 MW ~ 10%

- Diverse Membership
  - United Power– Brighton, CO – 65,000 meters – 300 MW
  - Garland L&P- Powell, WY – 1,900 meters – 6 MW
Tri-State’s Transmission System

- Tri-State wholly or jointly owns 5,177 miles of transmission
  - 1220 miles - 345 kV
  - 984 miles - 230 kV
  - 184 miles - 138 kV
  - 2740 miles - 115 kV
  - 49 miles - 69 kV

- ~ 220 Stations
- ~ 400 Communication Sites
- DC Tie (Stegall, NE)
- Operations Center / Backup Control Center
Tri-State Generation Resources

- 1,408 MW coal
- 797 MW gas
- 30 MW solar (PPA)
- 51 MW wind (PPA)
- Additional co-op member renewable projects
- Contracts
  - ~ 600 MW federal hydroelectric allocation
  - Basin Electric purchase
Tri-State Planning Process
About WestConnect

- WestConnect is composed of utility companies providing transmission of electricity in the United States.
- The members work collaboratively to assess stakeholder and market needs and to develop cost-effective enhancements to the western wholesale electricity market.
- WestConnect is committed to coordinating its work with other regional industry efforts to achieve as much consistency as possible in the Western Interconnection.
WestConnect Footprint
Tri-State Planning Process

Tri-State performs and participates in transmission planning consistent with FERC 890 principles for coordinated, open and transparent planning.

Tri-State coordinates its planning with other transmission providers and stakeholders at the regional and sub regional levels of the Western Interconnection.

CCPG
SWAT
WestConnect
WECC
Tri-State Planning Process

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CCPG
SWAT
WestConnect
WECC
2011-2020
L&R Resource Assumptions
2011-2020 L&R Resource Assumptions

Resource additions:

- 50 MW wind, Lamar, CO 2015
- 50 MW wind Archer, WY 2015
- 588 MW combined cycle, Lamar, CO 2017
- 100 MW wind Archer, WY 2018
- 200 MW wind Lamar, CO 2020
Transmission Capital Construction Plan
Gladstone 230 kV Phase Shifting Transformer
Dulce Chama
Chama-Dulce 69 to 115 kV Line Upgrade Project
Santa Rosa
Gladstone

Chama-Dulce 69 to 115 kV Line Upgrade Project
Plaza-Waverly 115 kV Loop Project
230 kV Big Sandy-Lincoln-Midway Line Uprate
230 kV Big Sandy-Calhan Line
115 kV Midway-Falcon Line Uprate
Falcon-Paddock 69>115 kV Line Upgrade
115 kV Paddock-Calhan Line
San Luis Valley-Calumet-Comanche Transmission Project
Questions?
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Transmission Interconnection Administrator
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Generator Interconnection Procedures - Reform & Basics

- Final Generator Interconnection Procedures (GIP) went into effect July 1, 2010, and continues to be updated periodically as necessary (next Rev. planned for 12/1/2011).
- Covers all sizes of generation projects connected to Tri-State’s transmission system.
- Does not cover interconnections to Tri-State member cooperative systems.
- NOTE – The GIP does not discuss or address Tri-State Transmission Service or Generation Network Resource issues (Energy Resources - Merchant Group).
Option A) First Come-First Served

Option B) Fast track
(expedited SIS, sec. 7.1.1) with confirmed customer
GIP Process Implementation

• Update on recent efforts and progress made in the Generation Interconnection Study process:
  • Major work completed in developing power flow “TSGT GIP base case” models (2012 & 2015, HS & LA, PSSE-V32 & PSLF-V17) that have been reviewed and included input from regional entities (TSGT, XE/PSCo, BHC, CSU, WAPA, BEPC, etc.).
  • Tracking of study costs and implementing quarterly cost account summary reports to be issued to Interconnection Customers.
  • Improved review of IR filings, customer facilities model data, clarification of TSGT interconnection and operational criteria (voltage regulation, dynamics, etc.) to minimize need for re-study.

• Pre-GIR Application Information:
  • Phone call and single meeting discussion of Tri-State’s GIP process / requirements, and Queue & completed reports on OASIS;
  • Tri-State Transmission Map with GIR locations, and GIP Base Cases available upon request, once NDA signed with Tri-State (and WECC).
## Major Changes in the GIP

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<td>3.3, 3.4</td>
<td>IR Filing Deposits</td>
<td>3.3 - $125k Dep (&lt;75MW) $250k Dep (&gt;75MW) (plus model data, 50% Site Control)</td>
<td>3.4 - (New) $25k Dep (&lt;10MW) (New) $50k Dep (10 - 20MW) (New) $75k Dep (20 – 75MW) $250k Dep (&gt;75MW) (plus model data, (new) 25% Site Control)</td>
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<td>5.1</td>
<td>Study Deposits (add’l info.)</td>
<td>IR filed before 2/2009 requires additional $$ required as needed to bring total dep to $125k.</td>
<td>IR filed before 7/2010 (*8/2010) requires additional $$ required as needed to bring total dep to (new) $250k.</td>
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<td>System Impact Study (SIS)</td>
<td>Expedited study option for projects with LOI / PPA.</td>
<td>Same</td>
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# Major Changes in the GIP

|------|-------|-------------------------------|--------------|
| 8.1  | Facilities Study (FacS) – Items required from IC to begin study. | For IR designated as a Network Resource (NR):  
  a) Site Control - 50%.  
  b) Ltr Of Intent / PPA for NR.  

For IR designated as an Energy Resource (ER):  
  a) Site Control 50%.  
  b) No LOI / PPA necessary.  

180 days (6 months) allowed for signing FacSA and supplying documentation of Site Control and LOI / PPA. | a) Site Control – 50%.  
 b) (New) Dep or Ltr Of Credit for 25% of cost of Interconnection Facilities and Network Upgrades.  
 c) (New) Either:  
   - Designation as a NR or;  
   - TSR with TSGT or;  
   - A written statement acknowledging IC’s acceptance of risk of TP system operating limits.  

(New) 18 months allowed for supplying evidence of site control and LOI / PPA, and (new) 25% of Intercon. Facilities & Network Upgrade costs, followed by signing GIR Facilities Study Agreement (FacSA). |
## Major Changes in the GIP

|------|-------|--------------------------------|--------------|
| 11.3 | Gen. Intercon. Agreement (GIA) | 11.3 – Once final LGIA tendered to IC, it must be signed and returned to TP (TSG&T) within 21 days, along with:  
   a) Site Control 100%.  
   b) Evidence of project milestones achieved, such as either:  
      • Fuel supply contract (if applicable);  
      • Cooling water supply contract (if applicable);  
      • Contract signed for E&P of major equipment / construction of IC facilities;  
      • Contract signed for air / land / water use permit. | 11.3 – Once final GIA tendered to IC, it must be signed and returned to TP (TSG&T) within 21 days, along with:  
   a) Site Control 100%.  
   b) (New) Deposit or LOC for balance of the 100% cost of Interconnection facilities and Network Upgrades as identified in the final FacS. |
Generation Interconnection Requests (GIR) Queues & Applications

- Total # of IRs in Queue as of 10/12/11: **21**
  - (13 in CO, 3 in NM, 5 in WY, 0 in NB)
- Total MW of IRs in Queue as of 10/12/11: **2,683 MW**
  - (1,888 MW in CO, 145 MW in NM, 650 MW in WY, 0 MW in NB)
- Last Semiannual GIR Application Window closed: **Aug. 31, 2011**
- Only 2 new GIRs received in each of the last 2 GIR Application Windows;
- Next semi-annual GIR Application Window opens: **Jan. 1, 2012**
Questions?
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OATT Update
Open Access Transmission Tariff

- In place since 2001

- Formula Rate—updated annually

- 2011 Point-to-Point Rate:
  - $3.48 per kW month

- Non-firm rates currently discounted up to 70%

- WestConnect Pricing Experiment
  - Non-pancaked hourly non-firm transmission
Tri-State
Open Access Transmission Tariff

- Tri-State is not FERC jurisdictional, but uses FERC *pro forma* tariff model
- Reviewed annually and revised when needed
- Formula Rate—updated annually
- Non-firm rates currently discounted up to 70%
- WestConnect Pricing Experiment
  - Non-pancaked hourly non-firm transmission
Recent Changes to OATT and GIP

- **OATT**
  - Added Hourly Firm product
  - Eliminated deposit for sales of three months or less
  - Modified Billing procedures
    - Default
    - Distribution of penalty revenue
  - Updated Attachment C—ATC methodology
  - Updated Attachment L—Transmission Planning

- **GIP**
  - Clarified method for reimbursement of network credits when Tri-State is an Affected System
Historical Transmission Usage
(12 month average)

- Sum of Point-to-Point reservations and coincident peak network load

- 2007: 2,442 MW
- 2008: 2,543 MW
- 2009: 2,509 MW
- 2010: 2,587 MW
- 2011: 2,626 MW (through August)
- 2011 System peak in August = 3,105 MW
Rate Design

- **Monthly Network Service Charge** = 
  \[
  \text{ATRR} / 12 \times \text{Load Ratio Share}
  \]
  
  Load Ratio Share = Customer 12 CP/Total 12 CP

- **Point to Point Transmission Rate** = 
  \[
  \text{ATRR} / \text{Total Load}
  \]

- **On-Peak Non-Firm Point to Point Rate** =
  \[
  \text{Annual Transmission rate} / 4160 \text{ hours}
  \]

- **Off-Peak Non-Firm Point-to-Point Rate**
  \[
  \text{Annual Transmission rate} / 8760 \text{ hours}
  \]
2012 Transmission Rates

Annual Transmission Revenue Requirement
$109,992,813

Point-to-Point Transmission Rates -
$ / MW-Month $3,570.53

Schedule 1--Scheduling and Dispatch
$ / MW-Month $328.99

Schedule 2--VAR Support
$ / MW-Month $87.82
OASIS Information

Go to:

www.tristategt.org/Operations

OATT Queues and Studies

- Interconnection requests
- Transmission Service requests
- Study Reports
Questions?
For More Information

- www.tristategt.org/AboutUs/TransmissionPlanning
  - Comment Form
  - Transmission Planning Documents
  - Presentation
- Email: TransmissionPlanning@tristategt.org