• Summary of Action Items •

1. SPP Staff will post an updated Reliability and Market Power Mitigation Assessment presentation.
2. Mr. Mak Nagle will provide the voltage criteria that will be utilized in the analysis.
Agenda Item 1 – Introduction, Agenda Discussion, Meeting Purpose

Mr. Les Dillahunty called the meeting to order at 10:30 a.m. and asked for a round of introductions. There were 56 persons in attendance (Attachment 1 – Attendance).

Mr. Dillahunty reviewed the meeting agenda (Attachment 2 – Agenda) and described the purpose of the meeting was to provide a conceptual overview of the SPP QPR study process to the ETI Stakeholder. SPP and ETI teams have provided several strawman for review today in efforts to solicit stakeholder feedback.

Agenda Item 2 – Review Proposed Work Plan

Mr. Mark Rossi covered the agenda item later in the meeting.

Agenda Item 3 – Review Technical Studies

Market Power Study

Mr. David Patton provided an overview of the market power study process (Attachment 3 – Market Power Study Presentation). Mr. Patton described the expected deliverables, Market power tests (HHI and Pivotal Supplier Test), and Mitigation Alternatives concepts that will be used in the development of the market study report.

Transmission Planning and Production Cost Analysis

Mr. Mak Nagle provided an overview of the SPP QPR Analysis Objectives, Study Details, and Current Status for Reliability and Market Power Mitigation Assessments (Attachment 4 – Reliability and Market Power Mitigation Assessment). Mr. Nagle emphasized that ETI Stakeholders will have at least two future meetings to provide input into the QPR study. When possible, SPP will include the necessary stakeholders to confirm the assumptions made in the study process.

ROA/QPR Implementation Analysis

Ms. Shari Heino provided background, description of the parties, a list of issues, and next steps concerning retail open access for ETI within SPP (Attachment 5 – Retail Open Access).

Agenda Item 4 – Review Schedule and Logistics

Mr. Mark Rossi reviewed the project schedule (Attachment 6 – Project Schedule) which includes Stakeholder meetings on April 16th, June 19th, and additional meetings anticipated for August and October time frame.
Agenda Item 5 – Adjournment

With no further business, Mr. Dillahunty thanked everyone for participating and adjourned the meeting at 1:30 PM.
Respectfully Submitted,

Gerrud A. Wallaert
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Page 4 of 27
Southwest Power Pool, Inc.
ETI-SPP QPR STUDY MEETING
February 21, 2008
Hyatt Regency Town Lake – Austin, Texas

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<td>Terri Clynes</td>
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<td>Shari Heino</td>
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**Southwest Power Pool, Inc.**
**ETI-SPP QPR STUDY MEETING**
February 21, 2008
Hyatt Regency Town Lake – Austin, Texas

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Southwest Power Pool, Inc.
ETI-SPP QPR Study
February 21, 2008
Hyatt Regency, Austin, Texas

• A G E N D A •
10:30 a.m. – 3:30 p.m.

1. Call to Order, Agenda Discussion, Meeting Purpose .................................................. Les Dillahunty

2. Review Proposed Work Plan

3. Review Technical Studies
   a. Market Power Study .......................................................... David Patton (Potomac Economics)
   b. Transmission Planning and Production Cost Analysis ............................ Mak Nagle
   c. ROA/QPR Implementation Analysis
      i. Comparison of other ISO/RTO implementations .......................... Mark Rossi
      ii. Potential SPP approaches .................................................. Shari Heino

4. Review Schedule and Logistics
   a. Overview and Action Items .................................................. Mark Rossi
   b. Stakeholder meetings and logistics ........................................... Heather Starnes

5. Adjournment .................................................................................. Les Dillahunty
**SPP-Entergy Market Power Analysis**

Presented By:

David B. Patton, Ph.D.
President, Potomac Economics

February 21, 2008

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**Market Power Study**

- Potomac Economics has been engaged to:
  - Perform an evaluation of market power related to ETI joining the SPP; and
  - Identify mitigation options that would address market power issues found.
- The study will address:
  - Market power requirements of Senate Bill 7 for the SPP to be a Qualified Power Region (“QPR”); as well as
  - Local market power issues associated with serving load in the ETI area.
- It is the local market power analysis that is most likely to generate the need for some form of market power mitigation.
Market Power Study

- For the prospective QPR region as a whole, Senate Bill 7 requires only that suppliers’ market shares be less than 20 percent.
  ✓ Hence, we will focus on this test for the SPP-wide analysis.
- However, Senate Bill 7 and subsequent PUCT precedent do not provide specific guidance or requirements for the evaluation of local market power.
- Therefore, we intend to produce a number of market power indicators for the local ETI area, including:
  ✓ Market concentration based on installed capacity (i.e., HHI statistics);
  ✓ Market concentration based on uncommitted capacity;
  ✓ Pivotal supplier test for the ETI region;
  ✓ Pivotal supplier test on a constraint by constraint basis;
- The pivotal supplier analyses seek to determine whether the load can be served (and transmission constraints can be managed) if a supplier withholds its resources.

Because the integration of ETI into SPP would not take place for 4-5 years, we will be using forecasted supply, demand and transmission conditions in our analyses.
- In addition to drawing conclusions regarding local market power issues, the proposed analyses will allow us to develop recommendations for market power mitigation to address the issues.
  ✓ We will consider various combinations of potential mitigation for any local market power issues that are identified.
  ✓ The most likely mitigation alternatives are:
    – Expanded transmission capability -- increase competition in the local area, and
    – Capacity auctions -- reduce the concentration of the ownership of supply.
- We have already begun work to develop a detailed list of data that will be required from SPP and ETI to perform these analyses.
**SPP QPR Analysis : Objective**

- **Reliability Assessment**
  - Identify Transmission upgrades to serve ETI under SPP RTO footprint using SPP planning criteria
  - ETI planning criteria will also be evaluated

- **Market Power Mitigation Assessment**
  - Identify Transmission upgrades that could potentially produce net benefits for the rate payers in SPP footprint including ETI
  - Comparable to ERCOT QPR assessment

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**Study Process Overview with Stakeholder Involvement**

- **Work Plan Development**
- **Stakeholder Meeting**
- **Study Tracks**
  - Reliability
  - Market Power
  - Prod Cost
  - ROA
- **Post Results**
- **Stakeholder Meeting**
- **Revise Assessments Considering Stakeholder Feedback**
- **Stakeholder Input**
- **Post Results**
- **Stakeholder Meeting**
- **Finalize & Post Results**
- **Prepare Final Report**
- **Submit Report to PUCT**

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**WWW.SPP.ORG**
Reliability Assessment : Study Details

• Status Quo case (2012 Summer Peak Condition)
• Modified Base Case
  • Planned and approved transmission upgrades in SPP and Entergy footprint along with known generation addition to meet SPP planning criteria
  • Reliability Must Run (RMR) requirements will be considered
  • Address Market Power Issue within ETI

Market Power Mitigation Assessment - Process

• Use New Energy Associates/Ventyx software PROMOD IV and Powerbase for the analysis

• Current process is posted on SPP Website under EMMTF http://www.spp.org/publications/EMMTF_Draft_31_Clean_03-28-06.doc

• Any changes to the EMMTF method will be documented and detailed in the analysis portion of the ETI Study Report (e.g., the use of adjusted production cost as opposed to production cost)
Market Power Mitigation Assessment - Methodology

• Use 2012 as reference year
• SPP recommends that adjusted production cost analysis be calculated for the SPP footprint including ETI
• Following Change Cases will be developed in PROMOD IV
  • Modified Base Case developed through Reliability Assessment
  • Change Case 1 with Market Power addressed for ETI
  • Change Case 2 with incremental Economic Upgrades
• Benefit to Cost analysis should be conducted on each of the above scenarios as referenced to the Status Quo base case

Current Status on SPP QPR study

• Kick off meeting was held on January 11, 2008
• SPP Technical team has issued data request to ETI in the second week of February for Reliability and Market Power Mitigation Assessments
• Study Models Finalized
  • Reliability Assessment : March 2008
  • MP Mitigation Assessment : April 2008
• Preliminary Results Expected
  • Reliability Assessment : June 2008
  • MP Mitigation Assessment : August 2008
Questions?

Mak Nagle
Manager, Technical Studies and Modeling
501-614-3564
mnagle@spp.org
Retail Open Access for ETI within SPP

Implementation Considerations
Stakeholder Meeting
February 21, 2007
Austin, Texas
The Public Utility Commission of Texas ("PUCT")

♦ In Docket No. 33687, the PUCT ordered Entergy Gulf States, Inc. to request that SPP study the possibility of integrating Entergy’s Texas service area into the SPP region in order to support retail open access in the area.

♦ Web site: http://www.puc.state.tx.us/index.cfm

The Electric Reliability Council of Texas, Inc. ("ERCOT")

♦ ERCOT’s role as registration agent:
  ♦ Maintains the centralized registration database for the entire state
  ♦ Serves as the transaction clearing house for all retail transactions
  ♦ Compiles information on transaction performance metrics
  ♦ Addresses data discrepancies and dispute resolutions
  ♦ Acts as the test administrator for retail qualification and testing

♦ ERCOT’s role for wholesale market settlement (ERCOT Region):
  ♦ Data acquisition, load profiling, data aggregation, settlements and billing.
  ♦ Data extracts provides market participants with information about choice of provider, usage levels, profile codes, region codes, nodal codes, loss codes, station codes, zip codes.
ERCOT, cont.

- ERCOT’s retail market rules:
  - The ERCOT Protocols (http://www.ercot.com/mktrules/protocols/current.html), particularly Sections 14 through 19, 23 and 24

Southwest Power Pool (“SPP”)

- Independent System Operator and Regional Transmission Organization with a footprint spanning eight states, including a portion of Texas.
- Manages the reliability and markets defined in its Open Access Transmission Tariff. The OATT provides one-stop shopping for regional transmission service with consistent rates and terms. Customers have direct accesses to generation resources residing anywhere inside SPP’s service territory.
- Will be responsible for coordinating REP access to the SPP transmission system and markets
- Will be responsible for defining data requirements for load data to be provided by ERCOT, utilizing this data in scheduling and settlement, and providing market participants the data needed to shadow these processes.
Entergy Texas Inc. (‘‘ETI’’)

- ETI is the distribution service provider for its service area. It would register in ERCOT’s system as a TDSP (transmission and/or distribution provider).
- ETI would also need to create an affiliated REP to serve its customers unless and until they switch to a new provider.
- In order to support customer choice, ETI would need systems capable of interacting with ERCOT and REPs to support the high volume of retail transactions.
- TDSPs provide services essential to effectuating customer choice, including meter reading and providing switch acknowledgments.

Retail Electric Providers (‘‘REPs’’)

- REPs make retail sales to end-users in areas where customer choice exists. These entities cannot own generation or wires facilities (although they may be affiliated with companies that do).
- Each premise served by a REP is represented by an Electric Service Identifier (ESI ID) in ERCOT’s system.
- REPs must register and test with ERCOT and any new TDSP in order to serve customers in the TDSP’s area.
- REPs, after certification by the PUCT and ERCOT, may compete for customers in areas open to retail electric competition (note: municipal and cooperative service areas may opt out of competition).
- Non-ERCOT REPs must pay a per-ESI ID fee (Non-ERCOT Load Serving Entity fee) for use of ERCOT’s registration system – currently set at $1.15 per ESI ID per year.
m9 Change "Entergy" to "ETI".
matthew.manzi, 2/8/2008
**ETI as a TDSP in ERCOT's Registration System for Retail Transactions**

- ETI and all ESI IDs for its service area must be entered into ERCOT’s registration system (similar process/costs whether ETI becomes part of SPP or ERCOT).
- Testing process for ETI as TDSP and all REPs (including ETI's affiliated REP) (similar process/costs whether ETI becomes part of SPP or ERCOT).
  - End-to-end test of the retail commercial processes that occur in the Texas market. REPs and TDSPs must test with each other and ERCOT in order to ensure transaction capability.
  - Test flights are held three times per year.

**Data Transfer – ERCOT to SPP**

- Types of data available in ERCOT's system:
  - Choice of provider, usage levels, profile codes, region codes, nodal codes, loss codes, station codes, zip codes, ESI ID.
  - UFE, Transmission Losses, Distribution Losses
  - Weather-Zoned Load Profiles
- Data transfer process:
  - ERCOT and SPP will need to coordinate to establish frequency, formats, values included, etc.
**SPP’s Open Access Transmission Tariff and scheduling system**

- Direct access to more than 200 generation resources, subject to transmission access.
- Network Integration Transmission Service (NITS) provides access from all sources in the SPP region for a single MWh rate based on wholesale energy usage.
- Point-to-point service offers a “pay per use” supplement or alternative to NITS.
- Substantial economic purchase opportunities available via non-firm transmission service.
- A REP would function as a type of Load Serving Entities (LSE) under SPP’s OATT.
- All LSEs must arrange transmission service.
Transmission Service Integration in Other Markets

- Other jurisdictions have integrated retail access with their wholesale markets
- Examples of options to consider:
  - Pennsylvania/PJM
    - Retailers within PJM can take NITS or PTP Service
  - Massachusetts/ISO-NE
    - Retailers and load aggregators allocated a pro-rata share of local utility transmission costs
- Implementation implications:
  - Potential process changes
  - Potential system changes if data required for different types of cost allocations
  - Potential changes to settlement systems

SPP’s Energy Imbalance Service Market

- Real-time balancing energy market – ancillary services are self-provided (LSEs must procure own ancillary services)
- LSEs must identify (1) capacity (bilateral contracts or committed generation) available to service load (but need not schedule the energy from that capacity) and (2) the load points to be served.
- Locational imbalance pricing (nodal) aggregated from the bus level
- No day-ahead market (bilateral markets used)
- Physical transmission rights
- Self-commitment of resources by owners allowed
- Voluntary offers by resource entities may be submitted
- Energy schedules are made using reservations
- Settlement for imbalance energy
- Uninstructed deviation charge
- Hourly settlement, weekly invoicing
- Dispatch is regional and is calculated using a security constrained, offer-based economic dispatch (SCED) every 5 minutes
SPP's Future Market Plans

- SPP Stakeholders are currently assessing the costs and benefits of future market steps.
- Design elements of the market that are currently under consideration:
  - Nodal market design
  - Day ahead bid-based energy and capacity market
  - Ancillary service markets for contingency and regulating reserves
  - Congestion rights hedges (financial instruments)
  - Consolidation of SPP into a single regional balancing authority
- An RFP for the cost-benefit study is currently in the hands of potential vendors
- Later this year, SPP stakeholders, including regulators, will review the results and determine the next phase of market implementation. REPs would have the opportunity to participate in the shaping of the market design.

Technical issues in integrating competitive retail load data into scheduling and settlement in SPP markets

- Nodal busses with multiple load entities behind them are assigned a fixed percentage of load at the bus. This percentage can only change once per month.
  - This factor affects all charges that could be allocated to load and ultimately affects price settlement.
  - It is used in real-time and in after-the-fact settlement.
- SPP’s settlement system may need to accommodate an increased amount of data depending on how much ERCOT will be able to aggregate the load data before providing it to SPP.
- REPs will need to obtain transmission service for a variable amount of load (possible options: use procurement process already in tariff for LSEs or have ETI procure transmission service on REP’s behalf).
Options for achieving competitive retail load data integration in SPP systems
(Integrating data from ERCOT into SPP systems)

- SPP builds systems in house to accommodate additional data and allow for settlement and resettlement based upon accurate load quantities.
- SPP out-sources the data aggregation and settlement for retail customer data.
- SPP uses its current system with workarounds (less accuracy as to load share, the fixed percentages of load at a bus would only be updated once per month to reflect new providers selected by customers).

To do list

- Coordinate with ERCOT to provide business requirements for the data transfer project
  - Goal to determine retail load data transfer process (and determine number of nodes in ETI area)
- Determine high level cost estimates for potential solutions and cost allocation
- Identify changes needed in SPP’s tariff to accommodate new market participants
- ERCOT will need to evaluate the costs of aggregating and sending needed load data to SPP
Future Meeting Dates

- Stakeholder Meetings
  - Wednesday, April 16th
  - Thursday, June 19th
  - Additional meetings anticipated for August and October time frame

- Monthly project meetings held on alternative months

To Sign Up for SPP’s ETI Study Email List contact hstarnes@spp.org

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