



**Southwest Power Pool, Inc. – Entergy  
 2010 SPP SPRING PLANNING WORKSHOP  
 ENTERGY SPP RTO REGIONAL PLANNING PROCESS**

**May 27, 2010**

**Little Rock, AR**

**Embassy Suites**

**• Agenda •**

**8-9:45 AM**

1. Administrative
  - A. Introductions..... All
  - B. Discuss/Approve Minutes of 4/20/2010 ESRPP Meeting ..... Jody Holland/All
  - C. SPP Antitrust Guidelines..... Jody Holland
2. Review Past Action Items ..... Jody Holland
3. Process Overview..... Tim McGinnis
4. 2010 ESRPP Study Scope .....Eric Burkey
5. Selected Studies for 2010 ESRPP Cycle ..... Paul Simoneaux
6. Other Discussion ..... All
7. Adjournment



**Southwest Power Pool, Inc. – Entergy**  
**ENTERGY SPP RTO REGIONAL PLANNING PROCESS MEETING**  
**April 20, 2010**  
**NET CONFERENCE**

- **Summary of Action Items** •

**No Action Items**



**Southwest Power Pool, Inc. – Entergy**  
**ENERGY SPP RTO REGIONAL PLANNING PROCESS MEETING**  
**April 20, 2010**  
**NET CONFERENCE**  
• M i n u t e s •

**Agenda Item 1 – Administrative**

Jody Holland called the meeting to order at 1:05p.m. A list of attendees is attached at the end of these Minutes. Jody reviewed the agenda and anti-trust guidelines.

**Agenda Item 2 – Review Past Action Items**

Jody Holland reviewed the Action Items from the March 4<sup>th</sup> meeting. Jody reported that the PSS/MUST subsystems and output spreadsheets had been posted on both the SPP TWG website and Entergy's OASIS for completion of the first two action items. Jody explained that the tariff states there is to be a total of 5 studies (High-Level and Detailed) performed each ESRPP cycle.

**Agenda Item 3 – Process Overview**

Tim McGinnis presented the 2010 ESRPP overview. There were no questions or comments.

**Agenda Item 4 – 2010 ESRPP Study Scope**

Eric Burkey presented the 2010 ESRPP Study Scope. Matt McGee asked about the logic behind changing from project specific in 2009 Cycle and POR/POD transfers in the 2010 Cycle. Eric Burkey and Jody Holland gave some background and reasons for the change.

**Agenda Item 5 – Nominated Studies for 2010 ESRPP Study**

Tim McGinnis presented the Nominated Studies for 2010 ESRPP Cycle. Jody Holland mentioned that you could add a specific project with your nominated transfer. (EES/CLECO 1000MW Messick Auto 500/230kV)

**Agenda Item 6 – Other Discussion**

Jody Holland thought it was a good idea to discuss the Detailed Analysis more. Eric Burkey and Tim McGinnis explained in more detail the process for detailed studies.



## **Agenda Item 7 – Adjournment**

Jody Holland adjourned the meeting at 1:45p.m.

## **Attendance List**

<b>Company</b>	<b>Last Name</b>	<b>First Name</b>
Southwest Power Pool	Burkey	Eric
GDS Associates, Inc.	Cadar	Claudiu
Energy Consulting Group	Daniels	Calvin
Southwest Power Pool	Cook	English
Entergy	Daspit	Laurence
JP Morgan	Gerova	Stefka
Associated Electric Cooperative, Inc.	Gott	Tony
OXY	Harris	Brenda
Southwest Power Pool	Holland	Jody
Oklahoma Gas and Electric	Hyde	Travis
KGen Power	Lee	Tina
AEP	McGee	Matthew
Southwest Power Pool	McGinnis	Tim
AECC	Mueller	Michael
Paliza Consulting, LLC.	Paliza	Roberto
American Electric Power	Pasternack	Bernie
Entergy Services	Ralston	Alan
SMEPA	Quaid	Damien
Entergy Services, Inc.	Simoneaux Jr.	Paul
RRI	Simpson	John



**Helping our members work together  
to keep the lights on...  
today & in the future**



## SPP Antitrust Guidelines



## Prohibited Discussions

- **Pricing information, especially margin (profit) and internal cost.**
- **Information and participants' expectations as to their future prices or internal costs.**
- **Participant's marketing strategies.**
- **How customers and geographical areas are to be divided among competitors.**
- **Exclusion of competitors from markets.**

## Prohibited Discussions *cont.*

- **Boycotting or group refusals to deal with competitors, vendors or suppliers.**
- **No decisions should be made nor any actions taken during SPP activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants.**

## Permitted Discussions

- **Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.**
- **Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.**

## Permitted Discussions *cont.*

- **Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.**
- **Matters relating to the internal governance, management and operation of SPP, such as nominations for vacant committee positions, budgeting and assessments.**
- **Procedural matters such as planning and scheduling meetings.**
- **Any other matters that do not clearly fall within these guidelines should be reviewed with SPP's General Counsel before being discussed.**



<http://www.spp.org>  
General Inquiries: 501-614-3200  
[questions@spp.org](mailto:questions@spp.org)





**Southwest Power Pool, Inc. – Entergy**  
**ENTERGY SPP RTO REGIONAL PLANNING PROCESS MEETING**  
**April 20, 2010**  
**NET CONFERENCE**

- **Summary of Action Items** •


**No Action Items**



Entergy SPP RTO  
Regional Planning Process Meeting  
(ESRPP)

**2010 SPP Spring Planning Workshop (ESRPP)**  
May 27, 2010

SOUTHWEST POWER POOL 

 Process Overview

SPP.ORG 2

The slide features a red header bar with the text 'SOUTHWEST POWER POOL' and a small SPP logo icon. The main content area contains a large, faded SPP logo icon and the text 'Process Overview'. The footer consists of a red bar with 'SPP.ORG' on the left and the number '2' on the right.

## Background

- **FERC Order 890 – Regional Participation Planning Principle: identify system enhancements that could relieve “significant and recurring” transmission congestion**
- **Open Access Transmission Tariffs**
  - SPP OATT Attachment O
  - Entergy OATT Attachment K

## SPP OATT Attachment O Section X (10) Inter-regional Coordination

1. **The Transmission Provider shall undertake to coordinate any studies required to assure the reliable, efficient, and effective operation of the Transmission System with, at a minimum, first-tier adjacent interconnected systems. Such coordination shall include:**
  - a) **Sharing system plans to ensure that such plans are simultaneously feasible and otherwise use consistent assumptions and data; and**
  - b) **Identifying system enhancements that could relieve inter-regional congestion or integrate new resources on an aggregate basis.**
2. **The Transmission Provider shall undertake to coordinate any studies with other transmission providers primarily through participation in the agreements listed in Addendum 1 to this Attachment O.**
3. **On an annual basis, the Transmission Provider shall review the ongoing planning activities under the agreements specified in Addendum 1 to this Attachment O to determine the need for any additional inter-regional studies. The Transmission Provider shall share this review with the stakeholders at a planning summit and solicit input regarding additional inter-regional studies that should be initiated by the Transmission Provider.**

Entergy OATT Attachment K  
Section 13.1 Regional Planning

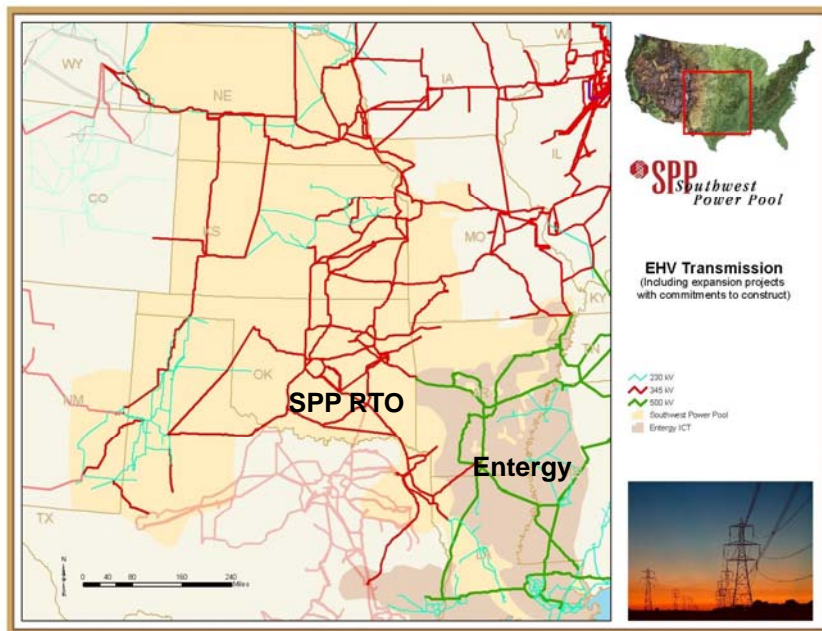
- **Regional Planning Parties (SPP & Entergy)**
  - **share system plans to ensure that they are simultaneously feasible and otherwise use consistent assumptions and data;**
  - **address requests for Regional Studies**
  - **identify any opportunities for regional optimization of the Construction Plan with the construction plans of the Regional Planning Parties.**

Entergy OATT Attachment K  
Section 13.1 Regional Planning

- **Joint Planning Committee (JPC) will be established to perform studies and coordinate stakeholder communication:**
  - **Request information from Regional Planning Parties as needed**
  - **Lead meetings**
  - **Ensure meetings conform with Standards of Conduct**
  - **Establish working groups to perform studies**
  - **Coordinate information exchange with outside agencies**
  - **Coordinate the various activities related to Regional Planning**
  - **Meet at least annually**
  - **Perform dispute resolution as needed**

## Eligible Voters (per Entergy OATT Attachment K, Section 13.1.5.3.1)

- A transmission customer, an eligible customer, or an interconnection customer under either Regional Planning Party's transmission tariff (including Entergy's wholesale merchant function) may request a Regional Study under the applicable Regional Planning Party's transmission tariff, through the LTTIWG, or through the TWG.



## Assessing Simultaneous Feasibility of System Plans and Consistent Use of Data and Assumptions

- **Each party will share system plans and associated data and assumptions, including models, data, maps, planned upgrades, expected in-service dates, long-term reservation information, reliability assessments, etc.**
- **Each party will assess the simultaneous feasibility of the expansion plans and the consistency of data and assumptions and report any inconsistencies or incompatibilities to the JPC.**

## Regional Studies

- **JPC will conduct stakeholder-requested studies intended to identify system enhancements that could relieve inter-regional congestion or integrate new resources on an aggregate basis.**
- **Step 1 studies will provide a high-level screening to identify constraints and needed upgrades, and approximate costs & timelines**
- **Based on the results of a Step 1 study, stakeholders may request a Step 2 study be undertaken in the following planning cycle which will provide detailed cost estimates and timelines.**

## Entergy OATT Economic Planning Studies

- **Entergy System Studies**
  - Customer-requested
  - ISTEP
- **Southeast Inter-Regional Participation Process (SIRPP)**
- **Entergy SPP RTO Regional Planning Process Regional Studies (ESRPP)**

## Stakeholder Meetings

- **1<sup>st</sup> Meeting – 4/20/2010 – Net conference**
  - Stakeholders review and discuss scope and nominated studies
- **2<sup>nd</sup> Meeting – 5/27/2010 – SPP Spring Summit**
  - Results of stakeholder vote are announced
- **3<sup>rd</sup> Meeting – August 11, 2010**
  - Progress Update for Step 1 and 2 studies
- **4<sup>th</sup> Meeting – 1<sup>st</sup> Quarter 2011 – Net conference**
  - Presentation and discussion of the final report

## Communications

- **Sign up for TWG or LTTIWG email exploders**
- **SPP distribution list for stakeholders to send comments to SPP and Entergy personnel**
  - [ESRPP@spp.org](mailto:ESRPP@spp.org)



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## 2010 ESRPP Cycle Study Scope

**2010 SPP Spring Planning Workshop (ESRPP)**  
May 27, 2010

### Overview of Study Assumptions

- **Upgrades will be evaluated through load flow analysis to determine their scope and benefit.**
- **Upgrades will be studied in a long-term Entergy/SPP RTO combined model.**
- **Upgrades will focus on EHV expansion, rather than upgrading the underlying system.**

## Powerflow Models

- **Base Model**
  - **SPP's 2010 Series STEP and Entergy's 2010 Series update 1**
    - **2016 Summer Peak Base Case Model**
- **Change Model**
  - **Add transfer and other study project requirements**
  - **Analyze transfer results**
  - **Develop and test upgrades to relieve constraints**

## Powerflow Models Contd.

- **Projects in the model**
  - **SPP**
    - **Balanced Portfolio Projects**
    - **Board of Directors approved STEP projects**
    - **Any project with an NTC issued**
  - **Entergy**
    - **2010-2012 Construction Plan (CP) projects (approved)**

## Contingency Scan

- **Monitored and Contingent Elements**
  - 115 kV and above elements within:
    - Entergy and SPP Zones adjacent to the Entergy/SPP Seam
  - All elements 345 kV and above in SPP and Entergy
- **Category A: The model will be evaluated under normal, system-intact conditions.**
- **Category B: N-1 Contingency Scan (no breaker-to-breaker scan)**
- **Category C: Limited Multiple Contingency Scan**

## General Study Assumptions for 2010 ESRPP Step 2 (Detailed Analysis) Studies

- **A 2009 Cycle project can be evaluated in more detail.**
- **Detailed cost estimates and timelines for the projects will be provided.**
- **A full AC contingency analysis (N-1) will be performed on the base and change models.**

## General Study Assumptions for 2010 ESRPP Step 1 (High-Level Analysis) Studies

- **The high-level project proposals for 2010 cycle should increase transfer capability between a control area in SPP and a control area in Entergy (including Entergy), specifying a transfer amount. (POR/POD, MW)**
- **Planning-level cost estimates and construction timelines**
- **MUST DC analysis of FCITC.**

## Other Information in Scope

- **ESRPP Background and Objectives**
- **2010 ESRPP Cycle Schedule**



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## ***Entergy SPP RTO Regional Planning Process***

### ***Study Scope***

*April 2010*

#### **Background**

In accordance with FERC Order 890, SPP OATT Attachment O, and Entergy OATT Attachment K, the Entergy SPP RTO Regional Planning Process (ESRPP) was created to identify system enhancements that may relieve regional congestion between Entergy and Southwest Power Pool. The process shares system plans to ensure that they are simultaneously feasible and otherwise use consistent assumptions and data.

The Joint Planning Committee (JPC) was established as part of ESRPP to perform these studies and coordinate regional stakeholder communication. Each party that is part of the JPC assesses the simultaneous feasibility of the expansion plans and the consistency of data and assumptions and reports any inconsistencies or incompatibilities to the JPC. The JPC will conduct stakeholder requested studies intended to identify system enhancements that may relieve regional congestion. Up to a total of five studies may be requested annually. Due to the expected scope of the requested studies and size of the geographical region encompassed, the JPC will perform up to five (5) studies annually, which could encompass both Step 1 and Step 2 evaluations. A Step 1 evaluation will consist of a high level screen of the requested transfer and will be performed during a single year's planning cycle. The high level screen will identify transfer constraints and likely transmission enhancements to resolve the identified constraints. The JPC will also provide approximate costs and timelines associated with the identified transmission enhancements to facilitate the stakeholders' determination of whether they have sufficient interest to pursue a Step 2 evaluation. Once a Step 1 evaluation has been completed for a particular transfer, the stakeholders have the option to request a Step 2 evaluation for that transfer to be performed during the subsequent year's process cycle. In the event that the stakeholders request a Step 2 evaluation, the JPC will then perform additional analysis, which may include additional coordination with external processes. The JPC will then develop detailed cost estimates and timelines associated with the final transmission enhancements. The Step 2 evaluation will ensure that sufficient coordination can occur with stakeholders and among the impacted Participating Transmission Owners.

The main objectives of the ESRPP are to improve regional transfer capability, improve regional optimization, and relieve constraining Flowgates. These objectives are combined in order to provide a more robust transmission system capable of more economic delivery of power across a regional transmission system.

## **Study Assumptions**

Upgrades will be evaluated through load flow analysis to determine their scope and benefit. Upgrades will be studied in a long-term Entergy/SPP RTO combined model. Approved Entergy Construction Plan projects and SPP RTO STEP projects will be included in the study models. Upgrades will focus on EHV expansion, rather than upgrading the underlying system. Upgrades will be designed as long-term solutions, though projects addressing constraints in the near term will also be considered. Stakeholder input will be considered during the study process.

### **Study Process**

#### **Project Recommendations**

##### **High-Level (Step 1)**

The high-level study proposals for 2010 cycle should increase transfer capability between a control area in SPP and a control area in Entergy (including Entergy), specifying a transfer amount. (POR/POD, MW)

##### **Detailed (Step 2)**

A 2009 Cycle project can be evaluated in more detail. Detailed cost estimates and timelines for the projects will be provided.

#### **Powerflow model analysis**

The base model will include the 2010-2012 Approved Entergy Construction Plan (CP) projects and Board Approved SPP RTO 2009 STEP projects.

##### **High-Level (Step 1)**

A full DC contingency analysis (N-1) will be performed on the base and change models. The contingency scan will include NERC Category A, B, and C events. Details on monitored elements and Category A, B, and C events can be found in the Contingency Scan section below.

##### **Detailed (Step 2)**

A full AC contingency analysis (N-1) will be performed on the base and change models. The contingency scan will include NERC Category A, B, and C events. Details on monitored elements and Category A, B, and C events can be found in the section Contingency Scan.

#### **Initial Results**

There will be a meeting in August 2010 in conjunction with the ICT Annual Transmission Planning Summit and the SPP RTO Fall Summit. At this meeting initial results of the selected studies will be presented. Stakeholders will be allowed to make comments or suggestions on initial study results.

#### **Documentation**

The LTTIWG and TWG will be updated when project results are made available. The final project summary report will be completed 1<sup>st</sup> Qtr 2011.

## **Model Assumptions**

### Powerflow Models

1. Base Model
  - A. 2016 Summer Peak Base Case Model (Entergy and SPP RTO MDWG)
  - B. Includes 2010-2012 Construction Plan (CP) projects (approved)
  - C. Includes Board Approved SPP RTO 2009 STEP projects
2. Change Model(s)
  - A. Add transfer and other study project requirements
  - B. Analyze transfer results
  - C. Develop and test transmission upgrades to relieve constraints

## **Contingency Scan**

### **High-Level & Detailed**

#### **Category A**

1. The model will be evaluated under normal, system-intact conditions.
2. Monitored elements must remain within the thermal limits specified in Entergy's Transmission Local Planning Criteria and SPP RTOs Planning Criteria for Category A.
3. Identify all elements that do not meet the Category A limits.

#### **Category B**

1. An N-1 contingency scan will be run on the models.
2. Monitored elements must remain within the thermal limits specified in Entergy's Transmission Local Planning Criteria and SPP RTOs Planning Criteria for Category B.

#### **Category C**

1. A limited multiple contingency scan will be run on the models.
2. Monitored elements must remain within the thermal and voltage limits specified in Entergy's Transmission Local Planning Criteria for Category B, currently flows less than 100% of RATEB; voltages between 0.92 and 1.05 per unit.
3. To address these Category C event conditions, projects are generally not required if there are systems or processes in place to prevent cascading outages on neighboring systems.

### **Monitored Elements**

1. Entergy Internal:
  - A. Transmission elements within Entergy's footprint (including embedded Areas) with nominal voltage 115 kV and higher.
  - B. Ties to outside Areas at 115 kV and higher.
2. SPP Internal:
  - A. Transmission elements in Control Areas adjacent to Entergy's footprint with nominal voltage 115kV and higher.
  - B. Transmission elements in Control Areas non-adjacent to Entergy's footprint with nominal voltage 345kV and higher.



## **Schedule**

1. Email Nominations: Stakeholders nominate studies via email to ESRPP@spp.org – April 9, 2010 to April 28, 2010
2. ESRPP Net Conference: Stakeholders review and discuss scope and nominated studies – April 20, 2010
3. Email Vote: Stakeholders vote for studies via email to ESRPP@spp.org – April 30, 2010 to May 14, 2010
4. ESRPP Meeting: Results of Stakeholder vote are announced – May 27, 2010
5. ESRPP Meeting: Initial Results of Step 1 and 2 Studies – August 2010
6. ESRPP Meeting: Presentation of Final Report – 1<sup>st</sup> Quarter 2011



Selected Studies for 2010 ESRPP Cycle

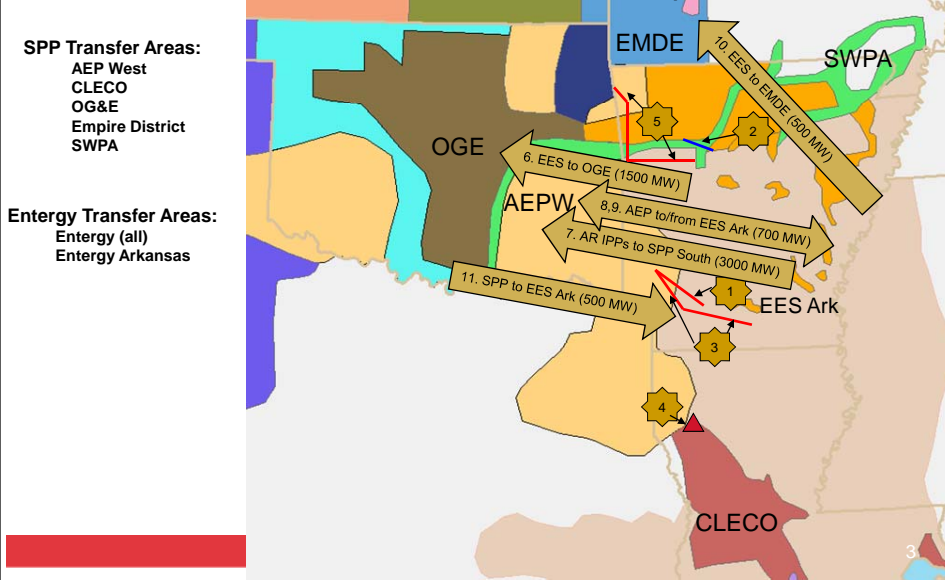
**2010 SPP Spring Planning Workshop (ESRPP)**

May 27, 2010

## Study Selection Criteria

- **2009 ESRPP Step 2 (Detailed Analysis) Studies**  
and/or
- **2010 ESRPP Step 1 (High-Level Analysis) Studies**
  1. Increase transfer capability between a control area in SPP and a control area in Entergy (including Entergy), specifying a transfer amount

## Nominated Studies Overview Map



## Nominated Studies

1. Turk-McNeil 345 kV
2. Spadra-Russellville 161 kV
3. Turk-Fulton-El Dorado 345 kV
4. Messick 500/230 kV Autotransformer
5. Flint Creek-Chamber Spr-Fort Smith-ANO 345 kV
6. From Entergy to OG&E for 1500 MW
7. Arkansas IPPs (Hot Springs, Magnet Cove, and PUPP) to SPP South (AEP and OGE) for 3000MW
8. From AEP to Entergy Arkansas for 700 MW
9. From Entergy Arkansas to AEP for 700 MW
10. From Entergy to EMDE for 500 MW
11. From SPP RTO to Entergy Arkansas for 500 MW



## Selected Studies

## Selected Studies

- **Composition of 2010 ESRPP Studies**
  - **2 Detailed studies selected from the 2009 ESRPP Studies**
    1. Messick 500/230 kV Autotransformer
    2. Turk-McNeil 345 kV Line
  - **3 new high-level studies**
    1. Arkansas IPPs (Hot Springs, Magnet Cove, and PUPP) to SPP South (AEP and OG&E) for 3000 MW
    2. AEPW to Entergy Arkansas for 700 MW
    3. Entergy Arkansas to AEPW for 700 MW

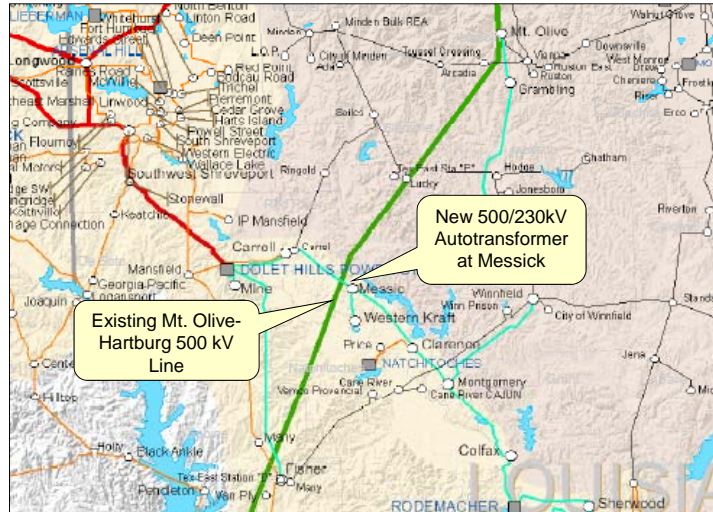
## Nominated Studies (Tallied Votes per Study)

1. Turk-McNeil 345 kV (6)
2. Spadra-Russellville 161 kV (0)
3. Turk-Fulton-El Dorado 345 kV (3)
4. Messick 500/230 kV Autotransformer (10)
5. Flint Creek-Chamber Spr-Fort Smith-ANO 345 kV (5)
6. From Entergy to OG&E for 1500 MW (2)
7. Arkansas IPPs (Hot Springs, Magnet Cove, and PUPP) to SPP South (AEP and OGE) for 3000MW (12)
8. From AEP to Entergy Arkansas for 700 MW (7)
9. From Entergy Arkansas to AEP for 700 MW (6)
10. From Entergy to EMDE for 500 MW (5)
11. From SPP RTO to Entergy Arkansas for 500 MW (4)



## Step 2 Detailed Studies

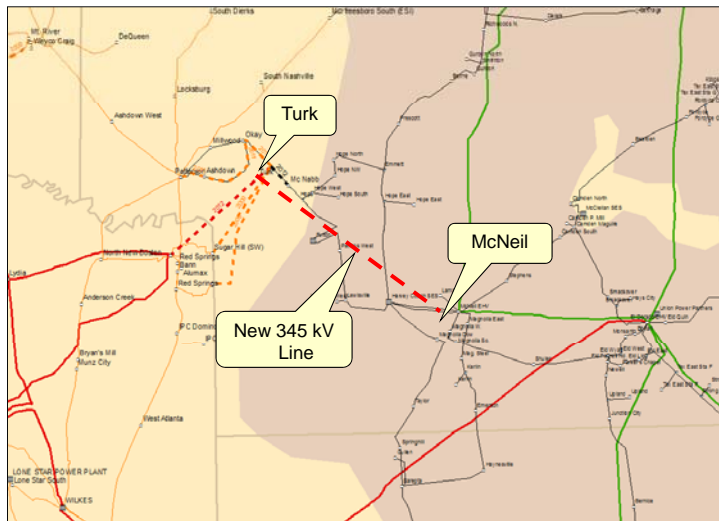
## (#1) Messick 500/230kV Autotransformer Map



## (#1) Messick 500/230kV Autotransformer Project Description

- **Substation Work**
  - **Messick Substation**
    - **500 kV Switching Station**
    - **500/230 kV Transformer**

## (#2) Turk – McNeil 345 kV

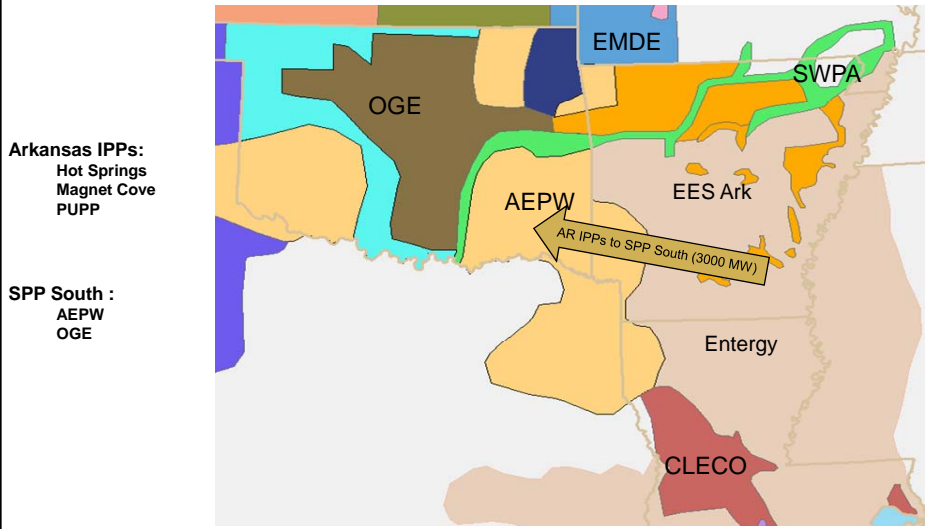


## Project Description

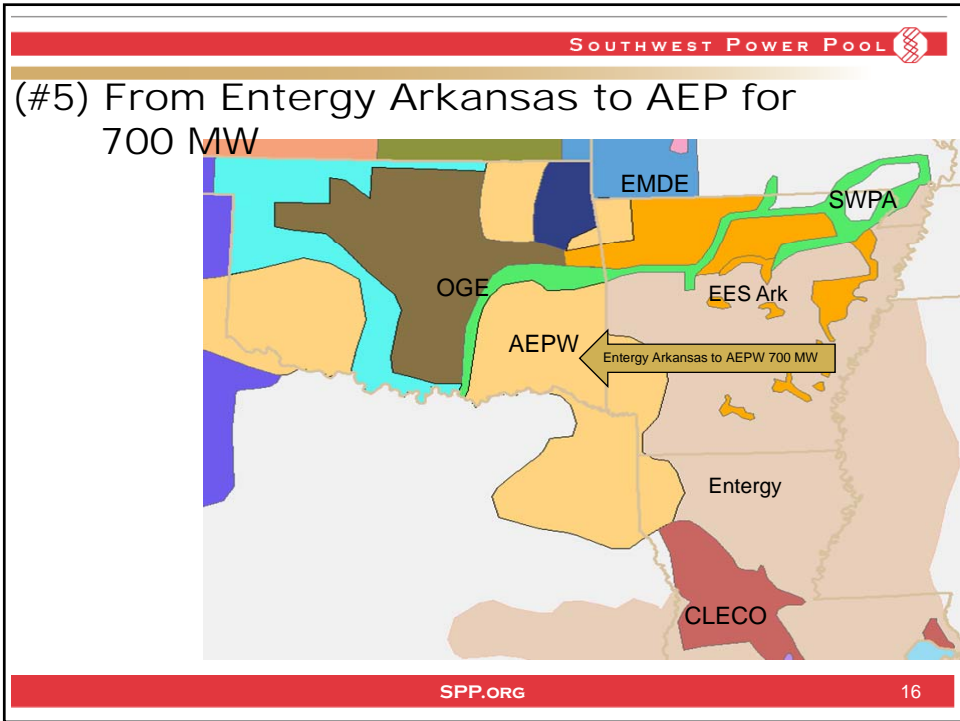
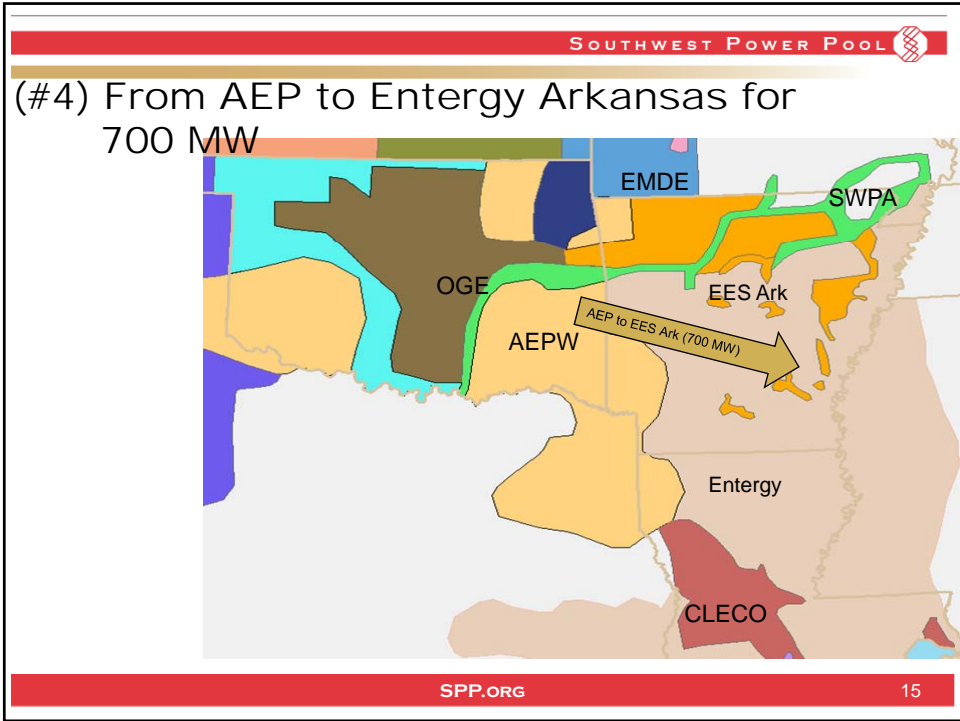
- **Transmission Line**
  - **Turk – McNeil 345kV Transmission Line**
    - **Approximately 45 miles direct**
- **Substation Work**
  - **McNeil Substation**
    - **500/345kV Transformer**
    - **New 345kV Switchyard**
  - **Turk Substation**
    - **345kV Terminal Equipment**

# Step 1 High-level Studies

## (#3) Arkansas IPPs to SPP South for 3000MW









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