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 1st 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 – 1st Quarter 2011