



# Seams Projects Policy Paper

Date Published  
Seams Steering Committee



---

## Revision History

---

Date or Version Number	Author	Change Description	Comments
<b>5/16/2014</b>	Sam Loudenslager	1 <sup>st</sup> Draft	
<b>5/23/2014</b>	Sam Loudenslager	2 <sup>nd</sup> Draft	
<b>6/13/2014</b>	Sam Loudenslager	3 <sup>rd</sup> Draft	
6/23/2014	Sam Loudenslager	4 <sup>th</sup> Draft	
6/30/2014	Sam Loudenslager	5 <sup>th</sup> Draft	
<b>7/17/14</b>	Sam Loudenslager	6 <sup>th</sup> draft	

## Table of Contents

<b>Revision History</b> .....	<b>1</b>
<b>Section 1: Introduction</b> .....	<b>3</b>
Purpose.....	3
Definitions.....	3
<b>Section 2: Sources of Seams Projects</b> .....	<b>4</b>
Seams Projects from Tariff Processes .....	4
Seams Projects from a Non-Order 1000 Seams Planning Process .....	4
Joint Special Study .....	5
<b>Section 3: Joint Study Process</b> .....	<b>5</b>
Scope Development .....	5
Benefit Metrics.....	6
Timeline .....	6
Deliverable .....	6
<b>Section 4: Seams Project Criteria</b> .....	<b>7</b>
<b>Section 5: SPP Regional Review Process</b> .....	<b>7</b>
Regional Review Process Objectives.....	7
Scope Development .....	8
Determining Transmission Project Objective(s).....	8
Projects Addressing Reliability Issues.....	8
Criteria.....	8
Analyses .....	8
Study Assumptions.....	8
Model Development.....	8
Stakeholder Process .....	9
Projects Addressing Economic Issues .....	9
Criteria.....	9
Description of Analyses .....	9
Assumptions Development .....	9
Stakeholder Process .....	10

Projects Addressing Public Policy Issues .....	10
Criteria.....	10
Description of Analyses .....	10
Assumptions Development .....	10
Stakeholder Process .....	11
Projects Addressing Multiple Issues.....	11
Timing.....	11
Deliverable.....	11
<b>Section 6: Allocation of Transmission Capacity .....</b>	<b>11</b>
<b>Section 7: Cost Sharing and Cost Allocation.....</b>	<b>12</b>

---

## Section 1: Introduction

---

### **Purpose**

In 2012, the Federal Energy Regulatory Commission (FERC) issued Order No. 1000 (Order 1000). Order 1000 included requirements to evaluate potential interregional projects and to develop interregional cost allocation methodologies. However, Order 1000 only requires coordination with neighboring planning regions, some neighboring planning regions only agreed to cost allocation for a specific class of projects (e.g. 345kV), and some neighboring planning regions are not subject to FERC jurisdictional authority. Therefore, there is a gap that needs to be addressed in order to evaluate and approve Seams Projects that are identified outside of an Order 1000 process or that do not meet Order 1000 criteria; and for assigning costs to parties engaged in a shared cost seams project. This white paper is intended to address this gap.

### **Definitions**

**Benefits:** Benefits are calculated based on the metrics agreed to by SPP and its Seams Partner. The Benefits as referenced in this policy paper are the benefit values included in the Seams Project report.

**Cost Sharing:** The percentages of a Seams Project cost that will be assessed to SPP and a Seams Partner.

**Regional Review Process:** The regional review process is the analysis performed by SPP as described in Section 5.

**Seams Partner:** One or more non SPP transmission owner or another transmission provider with which SPP is considering a Seams Project.

Southwest Power Pool, Inc.

**Seams Project:** A transmission project which meets the criteria as defined Section 4 in this paper.

**SPP:** Southwest Power Pool, Inc., the planning authority for the SPP region.

---

## Section 2: Sources of Seams Projects

---

A Seams Project may be identified through any one of the following processes:

1. The Tariff Processes;
2. Seams Projects from a Non-Order 1000 Seams Planning Process; or
3. Joint Special Study.

In any process above, for a transmission project to qualify as a Seams Project there should be an agreement between SPP and the Seams Partner on Cost Sharing. If there is not agreement between SPP and the Seams Partner on Cost Sharing, the project may be approved in any study process above. However, a Cost Sharing agreement specifying the percentages of costs shared between the parties to each Seams Project must be in place prior to any related stakeholder recommendation developed by the Markets and Operations Policy Committee (MOPC) or approved by the SPP Board of Directors (Board).

### **Seams Projects from Tariff Processes**

The Integrated Transmission Plan (ITP) Near Term (ITPNT), ITP10, or other Tariff planning processes may identify a Seams Project. Because these processes are part of SPP's regional planning process, these Seams Projects will not be required to go through a separate SPP stakeholder approval process.

### **Seams Projects from a Non-Order 1000 Seams Planning Process**

A Seams Project may also be identified through a study performed pursuant to one of SPP's non-Order 1000 seams planning processes.<sup>1</sup> These studies are not performed under the direction of SPP's regional working groups. Since the SPP working groups are not involved in the seams planning process study, a Seams Project resulting from the seams planning process study will need to be evaluated by the applicable SPP stakeholder working groups.

After a Seams Project(s) has been identified in a seams planning process, the Seams Project(s) must be evaluated in the Regional Review Process as described in Section 5.

---

<sup>1</sup> The SPP-MISO JOA is an Order 1000 compliant process. The SPP-AECI JOA is not.

Southwest Power Pool, Inc.

## **Joint Special Study**

Since SPP does not have a preexisting seams planning process with all neighboring utilities, specifically those who are members of a neighboring RTO, it may be necessary to develop a joint study process to evaluate a Seams Project with a Seams Partner where there is no preexisting seams planning process. This joint study will be performed by SPP and the Seams Partner with coordination and input from the affected SPP stakeholders and the Seams Steering Committee (SSC). This is consistent with the Interregional Planning Stakeholder Advisory Committee (IPSAC) utilized in the existing SPP Joint Operating Agreements (JOA).

The assumptions, data inputs, models, analyses, etc. will be negotiated between SPP and the Seams Partner. The guidelines for how this joint study will be performed are discussed in Section 3.

After a Seams Project(s) has been identified in a joint study with a Seams Partner, the Seams Project(s) must be evaluated in the Regional Review Process as outlined in Section 5.

If a Seams Project is the result of an Order 1000 interregional planning process but is not approved for Cost Sharing by the Seams Partner, the Seams Project may be further evaluated with the applicable Transmission Owner pursuant to this section.

---

## **Section 3: Joint Study Process**

---

The purpose of the joint study is to evaluate the effectiveness of a proposed Seams Project and to identify the costs and benefits of the Seams Project. If SPP and a Seams Partner have a predefined joint study process then that process shall be used to evaluate any proposed Seams Projects. If such a joint study process does not exist the following shall be used.

### **Scope Development**

At the beginning of a Seams Project study SPP and the Seams Partner will develop a scope specific for that seams project study. SPP will review the draft scope for the seams project study with the SSC. The scope will include a description of the types of seams project studies that will be performed. The seams project studies will be used to determine the magnitude of the issue(s) being analyzed, to test potential solutions, to identify the preferred solution, and to determine the Benefits of the solution(s). The types of issues identified and the metrics used to measure the Benefits of solutions will help guide the types of seams project studies that should be included in the scope.

**Comment [SL1]:** Needs to be better defined/worded.

As different seams project studies require different types of assumptions, the scope will guide what assumptions need to be developed. The following list provides examples of the types of assumptions that will need to be agreed to by SPP and the Seams Partner. This list is not meant to be all-inclusive and additional assumptions not included in the list below may be used depending on the type of analysis being performed.

- Environmental and public policy criteria
- Emissions
- System topology
- Generation parameters

Southwest Power Pool, Inc.

- Fuel prices
- Hurdle rates
- Load forecasts
- Market structure
- System dispatch
- Footprint and voltage levels in study
- Voltage, Thermal, and Stability Thresholds (criteria such as SPP Criteria 3)
- NERC Standards
- Future generation
- Study horizon

Seams Partners must agree to the models used in the joint study. The model(s) will be available for stakeholder review, subject to appropriate confidentiality requirements.

### **Benefit Metrics**

Benefit metrics and the calculation methodologies used for evaluating the Benefits of a Seams Project, for purposes of Cost Sharing, must be agreed upon by SPP and the Seams Partner. The Benefit value used in the analysis will be the Net Present Value of the annual Benefits over a period of time as defined in the scope of the seams project study. SPP may use all or a subset of metrics from the list of current metrics used in SPP's regional planning process. The current list of Benefit metrics are:

- i. adjusted production costs,
- ii. emission rates and values;
- iii. ancillary service needs and production costs;
- iv. avoided or delayed reliability projects,
- v. capacity cost savings due to reduced on-peak transmission losses;
- vi. benefits of mandated reliability projects;
- vii. benefits from meeting public policy goals;
- viii. mitigation of transmission outage costs;
- ix. increased wheeling through and out revenues; and
- x. marginal energy losses benefits.

### **Timeline**

The scope will include a timeline for the seams project study, including the due date for all deliverables and when the results will be published. The timeline will be developed to be commensurate with the scope, however the timeline for the Seams Project evaluation shall not exceed 18 months from the date of scope approval by both SPP and the Seams Partner.

### **Deliverable**

The deliverable for the seams planning process will be a seams project study report. The report will include the recommended solution(s) and supporting detail. The SPP stakeholders will be presented with the results of the seams project study report and provided the opportunity to offer feedback on the report. The seams project study report should contain sufficient information that stakeholders are able to make an informed decision regarding the merits of the seams project study and the results.

Southwest Power Pool, Inc.

After review by the stakeholders, a recommendation for project approval will be submitted to the Board.

---

## Section 4: Seams Project Criteria

---

To be considered a Seams Project, projects will meet the following criteria:

- 100KV and above solutions that are beneficial to SPP and one or more Seams Partners. Solutions may include interconnections between SPP and the Seams Partners or wholly contained within the service area of SPP or a Seams Partner;
- Minimum total project cost of \$5 million;
- Need date within 10 years;
- SPP regional B/C ratio of 1.0, however the RCAR process may continue to consider a Seams Project which does not meet this criteria;
- Based on the agreed upon metrics, a Seams Project should provide a minimum of 5% Benefits to SPP and each Seams Partner; and
- SPP and the Seams Partners must agree to the Cost Sharing.

---

## Section 5: SPP Regional Review Process

---

### **(Intend to cite existing document and reduce this section)**

The Regional Review Process outlined below was reviewed by the ESWG and TWG and approved by the MOPC in January 2014. The Regional Review Process was developed to outline how to review and approve in the SPP stakeholder process an Order 1000 project. The Regional Review Process will also apply to Seams Projects.

### **Regional Review Process Objectives**

This methodology reviews how SPP will evaluate and approve a Seams Project. The primary objectives of the Regional Review Process are as follows:

- Evaluate a Seams Project using SPP developed assumptions and analyses;
- SPP stakeholder review through the applicable stakeholder groups; and
- Provide for an approval process.



## **Scope Development**

A unique study scope will be developed for each evaluation of a Seams Project or group of projects. The scope must include at a minimum the following sections:

- Assumptions: planning horizon, dispatch scenarios, load forecasts, capacity forecasts, modeling footprint, etc.;
- Models;
- Analyses; and
- Stakeholder process.

The regional review study scope will be approved by the TWG for the evaluation of Seams Projects that address reliability issues. The regional review study scope will be approved by the ESWG for Seams Projects addressing economic issues. If a Seams Project addresses public policy issues or addresses multiple issues, the scope shall be approved by both the TWG and the ESWG.

## **Determining Transmission Project Objective(s)**

The nature of the initial issue being addressed by a Seams Project will be used to identify if the Seams Project is addressing reliability, economic, or a public policy issues. A Seams Project may also provide multiple types of value. The objective of the Seams Project will help determine the applicable stakeholder working groups and the appropriate analysis to evaluate the Seams Project.

## **Projects Addressing Reliability Issues**

### **Criteria**

A Seams Project addressing a reliability issue will be evaluated using the criteria identified in the most recent ITPNT study scope. The criteria will be used to determine if the Seams Project addresses the reliability issue and provides sufficient reliability benefit to SPP.

### **Analyses**

The regional review study scope will determine what types of analyses will be performed. These analyses will be based on the issue that is being addressed by the Seams Project. At a minimum a steady state N-1 analysis will be performed. If needed, the scope will also include directives to perform stability and/or dynamic analyses. Additional analyses can be performed if needed and directed by the TWG.

### **Study Assumptions**

The model(s) and assumptions used for the evaluation of the Seams Project will be based on either the current or most recent ITPNT or the current or most recent ITP10 as determined by the TWG taking into consideration the expected need date. If the expected need date is within six years the ITPNT should be used. If the expected need date is greater than six years the ITP10 should be used. The following assumptions will be based on the applicable ITP process: planning horizon, dispatch, load forecast, generation capacity, and modeling footprint.

## **Model Development**

The latest ITPNT model will be the basis for the model used to evaluate the reliability issue and the Seams Project. Updates necessary to reasonably evaluate the Seams Project will be made on top of

Southwest Power Pool, Inc.

the ITPNT model. If the dispatch scenario is based off of the most recent ITP10 model, than the ITP10 model will be the basis. The transmission topology will be updated to include any additional projects which have been issued an NTC but are not yet reflected in the model.

Stability and dynamic models will be developed only if they are required to evaluate the Seams Project. If a stability and/or dynamic model is needed, the most recent model developed in either the ITPNT or ITP10 will be used as determined by the TWG.

### **Stakeholder Process**

The TWG and the SSC will be the primary stakeholder groups that will direct the Regional Review Process of Seams Projects that address reliability issues. Additionally, the TWG is responsible for approving the regional review study scope. Both the TWG and SSC will be asked to make a recommendation to the MOPC on approval of the Seams Project.

The MOPC will be provided an update on the Regional Review Process. At the conclusion of the Regional Review Process, the MOPC, giving consideration to the recommendation of the TWG and SSC, will determine whether or not to recommend approval of the Seams Project(s) to the Board.

The Board also will be provided an update on the Regional Review Process as it is in progress. At the conclusion of the Regional Review Process the Board will determine whether or not to approve the Seams Project(s).

### **Projects Addressing Economic Issues**

#### **Criteria**

A Seams Project that addresses an economic issue will be evaluated on a Benefit to cost basis with a Benefit to cost ratio (B/C) requirement of 1.0. The Benefits used for the Benefits portion of the B/C will be based on the metrics used in the current or most recent ITP10. It is not necessary that all of the metrics used in the ITP10 be used in the evaluation of the seams transmission projects; a subset may be used as determined by the ESWG. At a minimum Adjusted Production Cost (APC) savings will be used. The costs used for the B/C analysis will only be the costs that are proposed to be assigned to the SPP region.

#### **Description of Analyses**

The analyses that will be performed will be based on the Benefit metrics that will be used as determined by the ESWG. At a minimum a security constrained unit commitment /security constrained economic dispatch analysis will be utilized for the calculation of APC. Additional analyses will be included in the regional review scope based on the ESWG's decision on what metrics to utilize.

#### **Assumptions Development**

The latest or current ITP10 model(s) and assumptions from the business as usual future will be used unless the ESWG determines that adjustments are needed due to a significant change in expected conditions. These assumptions will include load forecast, generation plan (capacity forecast, retirements, public policy requirements, etc.), fuel prices, emission rates and prices, modeling footprints, constraints, and transmission topology. The transmission topology will be updated to

Southwest Power Pool, Inc.

include any additional projects which have been issued an NTC but are not yet reflected in the model.

The planning horizon for a Seams Project will not exceed 10 years.

### **Stakeholder Process**

The ESWG and the SSC will be the primary stakeholder groups that will direct the Regional Review Process for Seams Projects addressing economic issues. Both of these groups will receive updates at their normal stakeholder meetings. The TWG will review the projects to verify that there are no negative impacts to reliability. Additionally, the ESWG is responsible for approving the seams study scope. Both the ESWG and SSC will be asked to make a recommendation to the MOPC on approval of the Seams Project.

The MOPC will be provided an update on the Regional Review Process as it is in progress. At the conclusion of the regional review analysis, the MOPC, giving consideration to the recommendation of the ESWG and SSC, will determine whether or not to recommend approval of the Seams Project(s) to the Board.

The Board also will be provided an update on the Regional Review Process as it is in progress. At the conclusion of the Regional Review Process the Board will determine whether or not to approve the Seams Project(s).

### **Projects Addressing Public Policy Issues**

#### **Criteria**

A Seams Project that addresses a public policy issue will be evaluated to determine whether the project is a cost effective solution to meeting the applicable public policy requirement(s). The specific criteria used to evaluate a public policy project will be based on criteria in the latest ITP10.

#### **Description of Analyses**

Public policy projects will be evaluated to determine whether or not the Seams Project will aid in meeting the applicable public policy requirement, and if so, if it is more cost effective than a regional solution. The analysis will use a security constrained economic dispatch and unit commitment model to perform a curtailment and dispatch study. Additional analyses performed in the latest ITP10 may also be utilized as determined by the ESWG and TWG.

#### **Assumptions Development**

As with the evaluation of economic projects, the latest or current ITP10 model(s) and assumptions from the business as usual future will be used unless the ESWG or TWG determines that adjustments are needed due to a significant change in expected conditions or as needed to model the public policy requirement(s). These assumptions will include load forecast, generation plan (capacity forecast, retirements, public policy requirements, etc.), fuel prices, emission rates and prices, modeling footprints, constraints, and transmission topology. The transmission topology will be updated to include any additional projects which have been issued an NTC but are not yet reflected in the model.

Southwest Power Pool, Inc.

### **Stakeholder Process**

The ESWG, TWG, and the SSC will be the primary stakeholder groups that will direct the Regional Review Process of Seams Projects addressing public policy issues. These groups will receive updates at their normal stakeholder meetings. Additionally the ESWG and TWG are jointly responsible for approving the seams study scope. The ESWG, TWG, and SSC will be asked to make a recommendation to the MOPC on approval of the Seams Project.

The MOPC will be provided an update on the Regional Review Process as it is in progress. At the conclusion of the Regional Review Process, the MOPC, giving consideration to the recommendations of the ESWG, TWG, and SSC, will determine whether or not to recommend approval of the Seams Project(s) to the Board.

The Board will also be provided an update on the Regional Review Process as it is in progress. At the conclusion of the region review analysis the Board will determine whether or not to approve the Seams Project(s).

### **Projects Addressing Multiple Issues**

Many proposed Seams Projects are expected to provide multiple types of Benefits. Studies will be performed based on the types of expected Benefits. If a Seams Project is expected to provide both economic and reliability Benefits, the study scope would include the necessary evaluations as described in each respective section of this methodology document. For Seams Projects addressing multiple issues (economic, reliability, and/or public policy) both the ESWG and TWG, in addition to the SSC will guide the study.

### **Timing**

For a Seams Project to be approved, both SPP and the Seams Partner must approve the project within six months of the completion of the joint evaluation. Upon agreement between SPP and the Seams Partner an extension may be granted to allow for additional time. This extension may be utilized to allow for SPP's quarterly Board of Directors cycle.

### **Deliverable**

The regional review will conclude with a report that reviews the study assumptions, analyses, results, and benefit calculations. The report will include a recommendation on whether or not the SPP Board should approve the proposed Seams Project(s).

---

## **Section 6: Allocation of Transmission Capacity**

---

SPP and the Seams Partner(s) will be allocated the additional transmission capacity based on the same percentages that are used to calculate Cost Sharing for each party for the entire Seams Project. Capacity of a Seams Project includes both the capacity of the project and also the change in capacity of any existing flowgates affected by the Seams Project

Southwest Power Pool, Inc.

Either SPP or the Seams Partner will have the right to interconnect to the Seams Project. The parties requesting such interconnection will negotiate the terms and conditions with SPP and the Seams Partner.

Comment [ABB2]: Under discussion

Comment [JBH3]: How does this relate to contract path?

---

## Section 7: Cost Sharing and Cost Allocation

---

SPP has adopted a set of principles to be used to negotiate Cost Sharing of Interregional Projects with neighboring Planning Regions. Similar principles should be used for sharing the costs of Seams Projects between SPP and Seams Partners.

### Cost Sharing of Proposed Seams Projects

The principles to be used in arriving at an equitable cost sharing methodology for Seams Projects between SPP and Seams Partners include:

- Shared costs should be at least roughly commensurate with total Benefits to SPP and each Seams Partner;
- Neither SPP nor a Seams Partner shall share costs without receiving Benefits;
- Cost sharing methodologies used and the identification of Benefits must be transparent ;
- Different cost sharing methodologies may be applied to different types or different portions of transmission facilities. This principal recognizes that transmission may be needed for different reasons;
- SPP and its Seams Partners will quantify and, if possible, monetize Benefits. However, non-monetized and non-quantified Benefits may also be recognized in assessing overall reasonableness of proposed Seams Project cost sharing; and
- The share of Benefits to SPP and its Seams Partners should be sufficient to support the Seams Projects' approval through each party's internal planning process

SPP and a Seams Partner could negotiate any advancement of the in-service date for a Seams Project. SPP and the Seams Partner would determine how the cost of advancing the in-service date would be allocated.

### Cost Allocation

SPP Seams Project costs for Seams Projects greater than 300kV will be recovered according to the approved highway/byway cost allocation methodology. Subject to approval of the RSC the costs of all Seams Projects less than 300kV will be recovered regionally through "highway" funding.

Approved Seams Projects will be considered in the SPP Regional Cost Allocation Review (RCAR) process.

### **Additional Items**

Responsibility for construction  
Which Transmission Owner Selection Process