

May 28, 2007

**Part 1**  
**WestConnect Strawman Regarding Compliance**  
**with the Nine Planning Principles from Commission Order 890**

**A Introduction**

The parties to the WestConnect Amended and Restated Memorandum of Understanding, effective February 14, 2007, are participating in and committing resources to joint efforts to identify, develop and implement cost-effective wholesale market enhancements on a voluntary basis that add value for wholesale users of the Western Grid in transmission accessibility, wholesale market efficiencies and reliability.<sup>1</sup>

As part of these joint efforts, WestConnect participants have initiated the coordination of certain sub-regional transmission planning work conducted by the Colorado Coordinated Planning Group (CCPG), the Southwest Area Transmission Planning Group (SWAT), and the transmission providers in the Sierra Nevada region in order to produce an annual coordinated transmission plan for the WestConnect Footprint. The WestConnect parties invite participation in this coordinated planning process from other interested parties in these sub-regions that are not WestConnect members. The coordinated WestConnect sub-regional planning processes are then further coordinated with the Western Electricity Coordinating Council Transmission Expansion Planning Policy Committee (WECC TEPPC) regional transmission planning process.<sup>2</sup>

In this Strawman, WestConnect participants will show how coordination of these transmission planning activities, initiated on a voluntary basis, comply with the nine principles for coordinated, open and transparent transmission planning now mandated by the Commission in Order 890.<sup>3</sup> The Strawman will also identify additional procedures that the participants will need to develop in order to fully comply. The following documents, which are attached to this filing and posted on WestConnect's website at [www.westconnect.com](http://www.westconnect.com), are the source materials for this Strawman:

- WestConnect-SWAT-CCPG Principles for Sub-Regional Planning, effective February 26, 2006. These principles address coordination of

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<sup>1</sup> The WestConnect parties and other transmission providers in the WestConnect Footprint who are participants in this Strawman are listed in Appendix 1.

<sup>2</sup> The WECC TEPPC regional transmission planning process is set forth in Parts 2 and 3 of this WestConnect Strawman.

<sup>3</sup> See *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶61,199 (2007) at ¶¶426-602.

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planning cycles, base case development and sharing of information by WestConnect, SWAT and CCPG to support development of a transmission plan that addresses all transmission needs across the WestConnect Footprint.

- WestConnect Objectives and Procedures for Regional Transmission Planning, effective August 24, 2006. These objectives and procedures set forth the procedures for WestConnect participants to provide resources for and active participation in an open, transparent and alternatives-based sub-regional planning process that develops a coordinated transmission plan for the WestConnect Footprint.
- WestConnect Project Agreement for Sub-Regional Transmission Planning, is currently being executed and is expected to be effective on or before June 1, 2007. This agreement addresses the obligation of the WestConnect participants, and other interested parties that are not WestConnect members, to secure and pay for contract services for project management, report writing, transmission analysis and communications to support coordination of sub-regional transmission planning work by CCPG, SWAT and other sub-regional planning efforts taking place in the WestConnect Footprint for development of an annual transmission plan for the WestConnect Footprint. The agreement also requires the participants to follow the WestConnect Objectives and Procedures for Regional Transmission Planning, effective August 24, 2006.
- Appendix C – WECC Dispute Resolution Procedures, Bylaws of the Western Electricity Coordinating Council, dated April 18, 2002, last revised April 26, 2006. The Appendix contains WECC's dispute resolution procedure for use for disputes between WECC members and disputes between a WECC member and WECC, regarding (in general) the application, implementation, interpretation, or fulfillment of any guidelines, criteria, standards, policies, procedures or Bylaws of WECC or NERC. The procedure includes the use of mediation and arbitration.
- Charter of the Transmission Expansion Planning Policy Committee of WECC. This document sets forth the responsibilities, committee composition, and governance of this WECC Board committee, which was established to help meet the Western Interconnection's need for regional economic transmission planning and analyses by providing impartial and reliable data, public process leadership, and analytical tools and services.
- Draft WECC TEPPC 2007-08 Study Plan, dated April 17, 2007. This draft study plan sets forth the Transmission Planning Framework, TEPPC's Adaptive Study Cycle Process, Study Plan Elements, and Overlay of Federal Corridor Designations.

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- Maps depicting the areas covered by the sub-regional planning groups and geographically oriented sub-committees.

### Planning Groups:

CCPG and SWAT are two long-standing sub-regional transmission planning groups that have been active and functioning for many years within the WestConnect Footprint. Coordination of transmission planning among several transmission providers in the Sierra Nevada region has also been conducted for many years and represents long standing relationships. Those activities may be formalized as another sub-regional planning group within the WestConnect Footprint in the future.

CCPG came about in 1991 as a result of the Colorado-Ute Electric Association (Colorado Ute) bankruptcy. Colorado-Ute filed bankruptcy proceedings in 1990 and a joint workout plan was submitted by Public Service Company of Colorado (PSCo), Tri-State Generation and Transmission Assoc., Inc. (Tri-State) and PacifiCorp to take over the assets and operation of Colorado-Ute. As a part of the approval process, the Colorado Public Utilities Commission (PUC) had to approve the transfer of the Colorado-Ute assets to PSCo and Tri-State. The Colorado PUC indicated that they planned to address coordinated planning, transmission access, and state-wide economic dispatch during the asset transfer case. Therefore, as part of the required filing (and the associated filing by PSCo with the Federal Energy Regulatory Commission) Tri-State and PSCo developed an initial Electric Transmission Service Policy Statement<sup>4</sup> and formed CCPG.

The CCPG is a forum to bring reliability study ideas for joint study purposes. CCPG meetings are open to any interested parties, which may participate in CCPG meetings. See their website at: [www.ccpq.basinelectric.com](http://www.ccpq.basinelectric.com)

Transmission provider participants in CCPG include: PSCo, Tri-State, Western Area Power Administration-Rocky Mountain Regional Office, Colorado Springs Utilities, Platte River Power Authority, Basin Electric Power Cooperative, Black Hills Power, Inc., and Aquila Networks-WEC. . Additionally, 29 Colorado municipal electric utilities and other interested stakeholders participate in CCPG. Please see Appendix 2 for the e-mail distribution list for CCPG.

SWAT is comprised of transmission regulators and governmental entities, generators, transmission marketers, transmission users, transmission providers, and environmental entities. Since its inception, SWAT meetings are open to any interested parties, which may participate in SWAT meetings.

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<sup>4</sup> See Joint Transmission Access Principles and Electric Transmission Policy Statement dated December 16, 1991, filed with the Commission in Docket No. EC92-8-000. *Public Service Company of Colorado*, 58 FERC ¶ 61,322 (1992).

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The goal of SWAT is to promote regional planning in the Desert Southwest (New Mexico, Arizona, southern Nevada, west Texas, and Imperial Valley of California). The SWAT developed from what was initially known as the Central Arizona Transmission Study (CATS) group, which was formed in 2000. The SWAT regional planning group includes six main geographically based subcommittees and two footprint wide subcommittees, which are overseen by the SWAT Oversight Committee:

- SWAT Arizona-New Mexico Regional Transmission Group
- SWAT Colorado River Transmission Group
- SWAT Central Arizona Transmission EHV Group
- SWAT Central Arizona Transmission HV Group
- SWAT New Mexico Transmission
- SWAT Southern Arizona Transmission System Group

- SWAT Short Circuit Working Group
- SWAT Black Start and Restoration Working Group

These Study Groups address transmission planning issues within the geographic area indicated by the name. See: [www.azpower.org/swat](http://www.azpower.org/swat)

Transmission provider participants in SWAT include: Arizona Public Service Company, El Paso Electric Company, Imperial Irrigation District, Nevada Power Company, Public Service Company of New Mexico, Sacramento Municipal Utility District, Salt River Project, Sierra Pacific Power Company, Southwest Transmission Cooperative, Tri-State Generation and Transmission Association, Inc., Tucson Electric Power Company, and Western Area Power Administration--Desert Southwest and Sierra Nevada Regional Offices. Please see Appendix 3 for the e-mail distribution list for SWAT.

**B Order 890 Principles for Coordinated, Open and Transparent Transmission Planning**

**1. Coordination**

The rule requires transmission providers to meet with all of their transmission customers and interconnected neighbors to develop a transmission plan on a non-discriminatory basis.

**WestConnect Strawman for Coordination:**

Objectives of the WestConnect participants, with regard to regional and sub-regional transmission planning, include:

- Promoting the coordination of regional transmission planning for the WestConnect Footprint through formalizing a relationship among WestConnect, SWAT, CCPG and other sub-regional planning efforts in order to develop a ten year coordinated transmission plan on an annual basis that best meets all transmission needs across the WestConnect Footprint;
- Utilizing an open, transparent and alternatives-based transmission planning process to facilitate comment, input and exchange of information by all interested stakeholders during all phases of development of the WestConnect annual transmission planning process; and
- Promoting the integration of the WestConnect annual regional transmission planning process with other sub-regional and regional transmission planning efforts within the Western Interconnection and with the WECC.

Communication with transmission customers and interconnected neighbors on regional transmission planning efforts within the WestConnect Footprint is currently done by CCPG and SWAT through web postings, mailings and e-mail distribution lists. These CCPG and SWAT meetings are open to all interested parties.

The SWAT Oversight Committee meets five times per year, including one joint meeting with CCPG. The meeting dates, times, locations, agendas and meeting notes are posted on the SWAT and WestConnect websites (see [www.azpower.org/swat/meetings](http://www.azpower.org/swat/meetings) and [www.westconnect.com](http://www.westconnect.com) calendar). SWAT has implemented a standard meeting location rotation and objectives target for each meeting. SWAT Subcommittees have separate meetings with their own notices, postings, and distribution lists.

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They provide updates to and receive acceptance from the Oversight Committee.

CCPG currently meets three times per year. Meeting notices and agendas are posted on the CCPG website (see [ccpg.basinelectric.com](http://ccpg.basinelectric.com)). CCPG schedules its meetings in Denver, Colorado.

In order to augment coordination and enhance these open processes, WestConnect participants have recently retained the services of a consulting firm whose responsibilities will include, in relevant part, developing an annual calendar for sub-regional transmission planning activities that affect the WestConnect Footprint; taking meeting notes at main CCPG and SWAT meetings; coordinating note taking for other applicable CCPG and SWAT subcommittee and working group meetings; developing and updating distribution lists for communication of WestConnect annual transmission planning information; producing meeting announcements and agendas; distributing WestConnect transmission planning meeting announcements with sufficient advanced notice, information and meeting notes through use of distribution lists; and working with the WestConnect website administrator to keep the transmission planning section of the website accurate and up-to-date with postings of meeting information, meeting notes, reports, etc.

Participation and comments by all interested parties is invited for all phases of the planning process, and WestConnect's oversight thereof, for the WestConnect Footprint. The WestConnect participants have committed to utilize and make available to all study participants and interested parties the planning standards, planning objectives, assumptions and base cases developed by SWAT and CCPG for the WestConnect transmission planning process, subject to all applicable WECC procedures governing release of base case information and reports to stakeholders and consistent with the Federal Energy Regulatory Commission's (FERC) Critical Energy Infrastructure Information (CEII) procedures.

It is the goal of the WestConnect participants to review and approve on an annual basis a WestConnect transmission plan, produced through SWAT, CCPG and other planning efforts, that identifies combinations of projects that are common to all or the most likely planning scenarios and that best meet all transmission needs of the WestConnect parties and other stakeholders.

The WECC TEPPC and its Technical Advisory Subcommittee (TAS) have also retained the services of a consultant whose responsibilities include, in part, development and communication of an annual calendar for TEPPC planning activities.

## **2. Openness**

The rule requires that transmission planning meetings be open to all affected parties including, but not limited to, all transmission and interconnection customers, state commissions and other stakeholders. Additionally, the rule requires transmission providers, in consultation with affected parties, to develop mechanisms, such as confidentiality agreements and password-protected access to information, in order to manage confidentiality and CEII concerns.

### **WestConnect Strawman for Openness:**

Many of the WestConnect Strawman provisions for Coordination in Section B.1 above address this Openness Principle and are incorporated herein.

As described in Section B.1, the SWAT and CCPG sub-regional transmission planning groups have for many years held open meetings to which all interested parties are invited to attend and participate. The meeting announcements, agendas and other materials are distributed broadly and posted on the planning groups' respective websites.

To formalize these long-held practices, the WestConnect participants believe that SWAT and CCPG may need to draft and adopt formal charters that will, in part, include provisions that meet the Openness Principle.

The WECC TEPPC Charter states that TEPPC will conduct its planning process in an impartial, inclusive, and transparent manner that ensures broad stakeholder participation. This is to ensure that the economic transmission expansion planning process is impartial, transparent, properly executed and well communicated. Additionally, TEPPC has formed the TAS, which is a stakeholder advisory group that is open to all interested parties or stakeholders to ensure participation in the TEPPC planning process from regional experts and stakeholders, including state/provincial energy offices, regulators, resource and transmission developers, transmission customers, load serving entities, and environmental and consumer advocate stakeholders.

WestConnect participants adhere to the WECC procedures managing the release of CEII data. These procedures comply with FERC CEII procedures and will include the use of confidentiality agreements and password-protected access to confidential information. The WECC confidentiality procedures are available to all stakeholders through its website: [www.wecc.biz](http://www.wecc.biz).

### **3. Transparency**

The rule requires transmission providers to disclose to all customers and other stakeholders the basic criteria, assumptions, and data that underlie their transmission system plans. In addition, transmission providers will be required to reduce to writing and make available the basic methodology, criteria, and processes they use to develop their transmission plans, including how they treat retail native loads, in order to ensure that standards are consistently applied.

#### **WestConnect Strawman for Transparency:**

Again, the objective of the WestConnect participants with regard to regional transmission planning is to promote an open, transparent and alternatives-based transmission planning process to facilitate comment, input and exchange of information by all interested stakeholders during all phases of development of the WestConnect annual transmission planning process.

In support of the WestConnect transmission planning goals, SWAT and CCPG have agreed to coordinate base case development for the WestConnect region and coordinate and share information regarding planning efforts between CCPG and SWAT, and subsequently with WestConnect.

The WestConnect participants will utilize and make available to all interested parties the planning standards, planning objectives, assumptions and base cases, including how they will treat native load, developed by SWAT, CCPG and other joint planning efforts for the WestConnect transmission planning process. These standards, objectives, assumptions and base cases will be available through CCPG, SWAT and WECC, subject to FERC CEII procedures where appropriate. It is anticipated that the SWAT and CCPG study work will address the following considerations:

- Meeting WestConnect participant load requirements, including forecasted load growth;
- Compliance with and adherence to applicable reliability criteria;
- Consideration of wholesale market perspectives and identification of transmission system expansions that will facilitate competition and reliability objectives;



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- The reliable and efficient use and expansion of bulk transmission facilities within the WestConnect Footprint and avoidance of unnecessary duplication of facilities;
- Simultaneous import studies;
- The legal and regulatory obligations of WestConnect participants with regard to electric transmission, including conformance with applicable state and local renewable portfolio standards, resource adequacy requirements, and other similar programs;
- Evaluation of a broad range of assumptions and alternatives. This evaluation may address various strategies and scenarios that entities within the WestConnect Footprint may encounter, and development of a study plan that analyzes the defined range of assumptions and alternatives, comparing how each proposed project and scenario performs with respect to the base cases;
- Participation and comment by all interested parties in all phases of the WestConnect planning process, and WestConnect's oversight thereof, for the WestConnect Footprint; and
- Coordination and cooperation with WECC TEPPC to work with federal agencies to identify congestion and national interest electric transmission corridors, pursuant to Section 216 of the Federal Power Act.

One of the three main functions of the WECC TEPPC is to guide the analysis and modeling for Western Interconnect economic transmission expansion planning. TEPPC will accomplish this function through:

- Steering decisions on key assumptions and the process by which economic transmission expansion planning data are collected, coordinated and validated;
- Approving study plans, including study scope, objectives, priorities, overall methods/approach, deliverables, and schedules;
- Steering decisions on analytical methods and on selecting and implementing production cost and other models found necessary; and
- Ensuring the economic transmission expansion planning process is impartial, transparent, properly executed and well communicated.

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TEPPC, in consultation with stakeholders and technical experts, will adopt an analytical methodology and modeling tools for WECC's regional economic transmission expansion planning, and will conduct the planning process in an impartial, inclusive, and transparent manner that ensures broad stakeholder participation.

TEPPC will present its findings to the WECC Board for comment and approval. Data, analyses and findings also will be provided to members, sub-regional study groups, and policy makers for further consideration.

#### **4. Information Exchange**

The rule requires network transmission customers to submit information on their projected loads and resources on a comparable basis (e.g., planning horizon and format) as used by transmission providers in planning for their native load. The rule further requires that point-to-point customers be required to submit any projections they have of a need for service over that planning horizon and at what receipt and delivery points. Transmission providers, in consultation with their customers and other stakeholders, must develop guidelines and a schedule for the submittal of information. The information must be made available at regular intervals to be identified in advance.

#### **WestConnect Strawman for Information Exchange:**

Again, the objective of the WestConnect participants with regard to regional transmission planning is to promote an open, transparent and alternatives-based transmission planning process to facilitate comment, input and exchange of information by all interested stakeholders during all phases of development of the WestConnect annual transmission planning process.

The consultant recently retained by WestConnect to provide project management services for the annual transmission planning process will work with WestConnect, CCPG, SWAT and TEPPCTAS to fully develop the information exchange guidelines and schedules to facilitate submission of the required information by network and point-to-point transmission customers on a comparable basis as required under this Information Exchange Principle.

## **5. Comparability**

The rule requires that each transmission provider, after considering the data and comments supplied by market participants, develop a transmission system plan that (1) meets the specific service requests of its transmission customers and (2) otherwise treats similarly-situated customers (e.g., network and retail native load) comparably in transmission system planning. The rule further requires that that customer demand resources should be considered on a comparable basis to the service provided by comparable generation resources where appropriate.

### **WestConnect Strawman for Comparability:**

WestConnect participants have agreed that the ten year plan for the WestConnect Footprint and other studies will be derived from SWAT, CCPG and other sub-regional planning efforts that best meet all transmission needs across the WestConnect Footprint. That would include the transmission needs of retail native load, network service load, interconnecting generators requesting transmission service and long-term point-to-point transmission service customers. WestConnect planning objectives and procedures recognize that SWAT and CCPG will need to address transmission system requirements to meet applicable state and local renewable portfolio standards, resource adequacy requirements, and other similar regulatory programs that could include treatment of customer demand resources.

The WestConnect participants believe that WestConnect will need to augment its planning objectives and procedures to more clearly address the Comparability Principle, and that SWAT and CCPG may need to draft and adopt formal charters that will, in part, include provisions that meet this Comparability Principle.

Customer demand resources will be considered on a comparable basis. One example of this comparable treatment is already embedded within TEPPC's Charter, which states that its analyses and studies will evaluate the economics of resource and transmission expansion alternatives on a regional, screening study basis. Resource and transmission alternatives may be targeted at relieving congestion, minimizing and stabilizing regional production costs, diversifying fuels, achieving renewable resource and clean energy goals, or other purposes. Alternatives may draw from state and local energy plans, integrated resource plans, large regional expansion proposals, sub-regional plans and studies, and other sources such as individual control areas, if relevant in a regional context.

## **6. Dispute Resolution**

The rule requires transmission providers to develop a dispute resolution process to manage disputes on both procedural and substantive planning issues that arise from the Final Rule's planning process. Those seeking to rely on an existing dispute resolution process must specifically address how its procedures will be used to address planning disputes. The Commission encourages transmission providers, customers, and other stakeholders to utilize the Commission's Dispute Resolution Service to help develop a three step dispute resolution process, consisting of negotiation, mediation, and arbitration.

### **WestConnect Strawman for Dispute Resolution:**

WestConnect's transmission planning objectives and procedures require that any dispute relating to any study or information required to be provided to SWAT or CCPG for inclusion in the WestConnect transmission planning process and other agreed upon study work, including disputes regarding the scope of additional studies and the costs of providing such studies or information, be resolved through utilization of the WECC Dispute Resolution Process.

The WECC Dispute Resolution Process (attached) includes mediation and arbitration steps, but does not specifically include a negotiation step. Additionally, the WECC process is not specifically applicable to disputes that may arise between a WECC member and an entity that is not a WECC member, or disputes that do not involve WECC procedures, guidelines, policies, etc.

WestConnect, SWAT and CCPG will work to revise their dispute resolution mechanisms in order to meet this Dispute Resolution Principle.

## **7. Regional Participation**

The rule requires each transmission provider to coordinate with interconnected systems to: (1) share system plans to ensure that they are simultaneously feasible and otherwise use consistent assumptions and data, and (2) identify system enhancements that could relieve “significant and recurring” transmission congestion.

### **WestConnect Strawman for Regional Participation**

WestConnect is a regional effort. The electric systems of WestConnect participants, the “WestConnect Footprint”, are located in Arizona, New Mexico, the Imperial Valley of California, far west Texas, Colorado, Nevada, parts of Wyoming and the Sierra Nevada region of California. WestConnect efforts to coordinate regional transmission planning span this seven state region and involve CCPG and SWAT, sub-regional transmission planning groups that have been active for many years.

Objectives of the WestConnect participants, in regard to regional and sub-regional transmission planning, include:

- Promoting the coordination of regional transmission planning for the WestConnect Footprint through formalizing a relationship among WestConnect, SWAT, CCPG and other sub-regional planning efforts in the footprint in order to develop a ten year coordinated transmission plan on an annual basis that best meets all transmission needs across the WestConnect Footprint;
- Utilizing an open, transparent and alternatives-based transmission planning process to facilitate comment, input and exchange of information by all interested stakeholders during all phases of development of the WestConnect annual transmission planning process; and
- Promoting the integration of the WestConnect annual regional transmission planning process with other sub-regional and regional transmission planning efforts within the WECC.

The WestConnect participants have agreed to utilize and make available to all study participants and stakeholders the planning standards, planning objectives, assumptions and base cases, including how they will treat native load, developed by SWAT and CCPG for the WestConnect transmission planning process. These standards, objectives, assumptions and base cases will be available through CCPG, SWAT and WECC, subject to CEII procedures where appropriate. It is anticipated that the

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SWAT and CCPG study work will address, in part, wholesale market perspectives and identification of transmission system expansions that will facilitate competition and reliability objectives. The WestConnect annual transmission plan, produced through SWAT and CCPG, will include combinations of projects that are common to all or the most likely planning scenarios and that best meet all transmission needs of the WestConnect participants and other stakeholders.

Regional participation principles are not new to WECC. For example, the WECC Policies and Procedures for Regional Planning Project Review, Project Rating Review, and Progress Reports:

- Provide procedures for WECC members and others to report on planned projects and to work together to expand the interconnected system capacity according to member and stakeholder needs;
- Inform others of the opportunity to participate in or review a project, and solicit participation to avoid duplicate projects and allow a new project to integrate others' needs by mutual agreement;
- Provide agreed upon methods applicable to rating of transmission facilities; and
- Ensure reliable and coordinated integration of existing and new projects such that the use of the system is maximized for all participants and protected ratings of other facilities are recognized.

Other policies for regional participation in transmission planning have been put in place through state programs.

**Arizona:** The Arizona Corporation Commission (ACC) has implemented a Biennial Transmission Assessment (BTA) program pursuant to state statute:

“The (Ten-Year) plans shall be reviewed biennially by the commission and the commission shall issue a written decision regarding the adequacy of the existing and planned transmission facilities in this state to meet the present and future energy needs of this state in a reliable manner.”  
A.R.S. §40-360.02.E

The ACC recently completed its Fourth BTA and found, in part:

“As evidence of the collaborative long-term planning and expansion process taking place in Arizona, at least eight major projects in the ten year filing period have multiple utility

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sponsors. Collaborative long-term planning studies were also conducted by the utilities; including a study of the collective impact of individual transmission owner expansion plans in the Central Arizona region. A collaborative study approach was used to determine the 2006 Phoenix area RMR requirements. Collaborative planning efforts are also leading to expanded delivery capability from Arizona to southern California across Path 49, as defined by WECC. . . .” See Arizona Corporation Commission Fourth Biennial Transmission Assessment – 2006-2015, Docket No. E-00000D-05-0040, pp. 4-5.

**Colorado:** In 1991, the CCPG was established when the Colorado (PUC) required utilities in Colorado to formalize principles to conduct coordinated transmission planning within the state. The CCPG principles state, in part:

“To promote effective utilization of existing and future transmission capacity and to more fully utilize the regional transmission system, the Parties agree to conduct coordinated transmission planning with an emphasis on reliability planning, the efficient use and operation of existing transmission systems, and the construction of enhancements to the transmission system to accommodate transmission service contracts. These studies are intended to supplement, not duplicate, existing coordinated planning efforts by the affected Parties. Such planning requirements necessitate the exchange of information about each Party's existing and future electric system plans to satisfy the Parties that the operation and capability of that system are accurately understood.” See Joint Transmission Access Principles and the Electric Transmission Service Policy Statement dated 12/16/91<sup>5</sup>

Colorado entities coordinate with CCPG as required and where prudent to meet state requirements, including Least Cost Resource Plans, renewable resource accommodation, and the identification of Energy Resource Zones.

**New Mexico:** The New Mexico legislature established the Renewable Energy Transmission Authority in March 2007. One of the functions of the Authority is to

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<sup>5</sup> The Principles and Policy Statement were also filed with the Commission in Docket No. EC92-8-000. See footnote 4, *infra*.



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“ . . .orchestrate multistate, multielectric utility negotiations to facilitate the development of New Mexico transmission infrastructure for renewable energy development and export.”  
[www.emnrd.state.nm.us/main/documents/HB-188-RETA-fact-sheet-07.pdf](http://www.emnrd.state.nm.us/main/documents/HB-188-RETA-fact-sheet-07.pdf)

## **8. Economic Planning Studies**

The rule requires transmission providers to take into account both reliability and economic considerations in transmission planning. The rule accords stakeholders the right to request a defined number (e.g. five to 10) of high priority studies annually to address congestion and/or the integration of new generation resources or loads on an aggregated or regional basis. The studies must be posted on the transmission providers' OASIS. The rule requires each transmission provider to comply with the requirement to perform economic planning studies both as to its own transmission system and as to a regional study process.

### **WestConnect Strawman for Economic Planning Studies**

All phases of the WestConnect planning process are open for participation and comment by all interested parties. The WestConnect parties have committed to utilize and make available to all study participants and interested parties the planning standards, planning objectives, assumptions and base cases developed by SWAT and CCPG for the WestConnect transmission planning process. These standards, objectives, assumptions, and base cases will be available through CCPG, SWAT and WECC, subject to CEII procedures where appropriate. The SWAT and CCPG study work will encompass, among other factors, the consideration of wholesale market perspectives and identification of transmission system expansions that will facilitate competition and reliability objectives, and the results of simultaneous import studies.

There are a variety of studies that can be used to provide economic analyses, such as production cost modeling that identifies the location and cost of congestion, and economic studies that are not production cost model studies that identify and develop cost estimates for projects to address the congestion. WestConnect, SWAT and CCPG will work to further develop mechanisms for stakeholders to request a defined number of high priority studies in order to address regional and sub-regional congestion and/or the integration of new generation resources or loads on a regional and sub-regional basis, as required under this Economic Planning Studies Principle. Pursuant to these mechanisms, CCPG, SWAT, or a WestConnect transmission provider that has received requests for economic studies will work with WestConnect to determine what analysis is appropriate to evaluate the request.

Production cost modeling requires extensive modeling tools and expertise, and will be done at WECC. The primary provider of production cost modeling for economic planning studies on a Western Interconnection-wide basis will be WECC TEPPC and its Technical Advisory Subcommittee (TAS). One of TEPPC's main responsibilities is to guide

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the analysis and modeling for Western Interconnection economic transmission expansion planning. Through the TAS, TEPPC will consolidate input and develop a synchronized study plan, including study leads, clustering of studies, and relative priority of studies. WECC will post economic planning studies performed through the TEPPC TAS on its website, subject to CEII procedures as appropriate.

The TEPPC TAS has recently developed a draft of its first study plan (see attached). The preparation of the study plan considers: (1) model improvements that have become available since the formation of the last study plan; (2) recommendation for issues to be considered and methodology improvements to be made as a result of evaluating the results of the last study program; and (3) study issues that stakeholders have requested be considered in the next study plan. It is anticipated that TEPPC and the TAS will work to further develop mechanisms for stakeholders to request a defined number of high priority studies in order to address regional congestion and/or the integration of new generation resources or loads on a regional basis, as required under this Economic Planning Studies Principle.

## **9. Cost Allocation for New Projects**

The principle requires that the transmission planning process must address the allocation of costs of new facilities. This cost allocation principle is intended to apply to projects that do not fit under the existing structure, such as regional projects involving several transmission owners or economic projects that are identified through the study process described above. The proposal should identify the types of new projects that are not covered under existing cost allocation rules and, therefore, would be affected by this cost allocation principle.

### **WestConnect Strawman for Cost Allocation for New Projects**

The WestConnect Objectives and Procedures for Regional Transmission Planning, effective August 24, 2006, state that the process for cost allocation for new projects developed pursuant to the WestConnect transmission planning process will, to the maximum extent practical, use open season solicitation, multiparty transmission ownership, and the potential co-existence of both physical and financial transmission rights. This approach for development, construction, ownership and operation of bulk power facilities has been used successfully in the entire Western Interconnection for 30+ years.

This approach to soliciting interest and participation in development of new bulk power facilities in the West is also incorporated in the WECC Policies and Procedures for Regional Planning Project Review, Project Rating Review, and Progress Reports. Those policies and procedures include mechanisms (1) for WECC members and others to report on planned projects and to work together to expand the interconnected system capacity according to member and stakeholder needs, and (2) to inform others of the opportunity to participate in or review a project, and solicit participation to avoid duplicate projects and allow a new project to integrate others' needs by mutual agreement.

**Appendix 1  
Entities Participating in the WestConnect Sub-regional  
Transmission Planning Strawman**

**Colorado Coordinated Planning Group Transmission Providers**

Aquila Networks-WEC  
Basin Electric Power Cooperative  
Black Hills Power, Inc.  
Colorado Springs Utilities  
Platte River Power Authority  
Public Service Company of Colorado  
Tri-State Generation and Transmission Association, Inc.  
Western Area Power Administration-Rocky Mountain Regional Office

**Southwest Area Transmission Planning Group Participants**

Arizona Public Service Company  
El Paso Electric Company  
Imperial Irrigation District  
Nevada Power Company  
Public Service Company of New Mexico  
Sacramento Municipal Utility District  
Salt River Project  
Sierra Pacific Power Company  
Southwest Transmission Cooperative, Inc.  
Tri-State Generation and Transmission Association, Inc.  
Tucson Electric Power Company  
Western Area Power Administration-Desert Southwest and Sierra Nevada Regional  
Offices

**Signatories to the WestConnect Amended and Restated Memorandum of  
Understanding, effective February 14, 2007**

Arizona Public Service Company  
El Paso Electric Company  
Imperial Irrigation District  
Nevada Power Company  
Public Service Company of New Mexico  
Sacramento Municipal Utility District  
Salt River Project  
Sierra Pacific Resources–Nevada Power Company and Sierra Pacific Power  
Company

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Southwest Transmission Cooperative, Inc.  
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**Part 1 – WestConnect Sub-regional Transmission Planning Strawman**

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## **Part 2 Strawman for Western Transmission Planning Process**

### **Introduction**

For some years, the Western Interconnection has been developing an integrated planning process that includes features that address both system-wide issues and more localized issues at a sub-regional level. The West has long recognized the challenge of planning for west-wide transmission needs, specifically the difficulty of developing projects that cross boundaries between transmission providers and may also involve the interests of more than one state and/or sub-regional group. The need to consider the economic impacts of regional planning was brought into sharp focus by the energy shortages of 2000-2001. With impetus provided by the Western Governors, several wide-area transmission congestion studies have been undertaken since 2001. Based on that experience, a decision was made in 2005 to formalize the study process under WECC. WECC organized the Transmission Expansion Planning Policy Committee (TEPPC) to provide west-wide study and data services for congestion analysis, process coordination and transmission planning leadership across the Western Interconnection.

At the same time, the need for a more localized focus on the West's sub-regions was also recognized. As a result sub-regional planning groups have also formed (or are being formed) to provide for more formalized and detailed planning at the sub-regional level with TEPPC providing a forum for collaboration among the sub-regional planning groups.

In February of 2007, FERC included a set of transmission planning requirements in Order No. 890.<sup>6</sup> An Attachment K, "Transmission Planning Process," is to be added to the Open Access Transmission Tariffs (OATT) of the transmission providers in compliance filings to be made by October 11, 2007. FERC also required transmission providers to post a strawman of their proposed planning process by May 29, 2007 on their OASIS website. The strawmen posted will be used as the basis for discussion during the FERC Technical Conferences scheduled for June 13 in Park City, UT and June 26 in Phoenix, AZ. The documents to be filed October 11, 2007, Attachment K and associated planning protocols, will be prepared based on the guidance obtained from FERC Staff during these two Technical Conferences.

In comments filed during the rulemaking that resulted in Order No. 890, many Western parties argued that the Western planning process embodied in TEPPC and the sub-regional planning groups could meet FERC's planning principles. The issuance of FERC's final order reinforced the desire of the Western transmission providers to make use of the existing institutional structure,

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<sup>6</sup> Order No. 890 was published in the Federal Register on March 15, 2007.  
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May 28, 2007

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enhanced as necessary, to provide an integrated Western Transmission Planning Process that meets the nine principles of Order No. 890.



## **White Paper on Western Transmission Planning Process**

### **1. Introduction**

This paper describes the elements of the Western Transmission Planning Process which is proposed to meet the Federal Energy Regulatory Commission's (FERC) Order No. 890 transmission planning requirements. The proposed process uses existing institutions, adapted as necessary, to meet FERC's nine planning principles. This paper covers the role for the Western Electricity Coordinating Council (WECC) and the role of sub-regional groups in this overall planning process. It also describes the use of a synchronized study cycle to provide unity and cohesion to transmission planning within the West.

### **2. The WECC Role**

#### **2.1 Background**

WECC has long recognized the need for an interconnection-wide approach to transmission expansion planning. Since the major interconnections were completed in the 1960s and 1970s, the Western Interconnection has operated as a single system. The development of the transmission rating process is an example of a west-wide approach to transmission system planning and operations. Development of a coordinated approach to the operation of phase shifting transformers<sup>7</sup> is another example of an interconnection wide approach to reliability planning. Many other examples could also be cited of a regional approach to reliability planning in the West.

In recent years, it has become apparent that the economic dimensions of the transmission planning process need to be examined beyond the boundaries of any single company or control area. The energy shortages that occurred in 2000-2001 clearly showed the extent of economic interdependence within the region. The difficulties of any sub-region clearly affect the entire interconnection. In the wake of these difficulties, the Western Governors Association<sup>8</sup> provided the impetus for a series of economic studies of the transmission system. These were ad hoc efforts, organized to meet a then current need.

These activities made it apparent that an ongoing planning process was needed that included economic evaluation of transmission expansion needs. During 2005 and early 2006, WECC organized the Transmission Expansion Planning

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<sup>7</sup> Also called phase angle regulators or PARS.

<sup>8</sup> The Western Governors have been concerned with both the reliability and the economic performance of the Western Interconnection, particularly how adequate transmission infrastructure can be put in place to meet system needs.

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Policy Committee (TEPPC) to provide west-wide study and data services, process coordination and transmission expansion planning leadership across the Western Interconnection. TEPPC became a formal committee of the WECC board in April, 2006. The database developed for the SSG-WI<sup>9</sup> effort was transferred to WECC for use in the TEPPC study effort.

In its Order No. 890, FERC adopted a requirement for transmission service providers to participate in a regional transmission planning process, to be described in an Attachment K to the transmission provider's Open Access Transmission Tariff. Many of the organizations that make up the Western Interconnection offered comments in the rulemaking that led to Order No. 890. Based upon their experience and the formation of TEPPC, those organizations indicated that they believed FERC's planning principles could best be implemented through existing organizations in the West. The proposed strawman for a Western Transmission Planning process uses such existing organizations in a layered planning structure, with WECC providing the "glue" for integrating the layers into a cohesive regional approach to transmission planning that includes the coordination of sub-regional processes.

### **2.2 TEPPC and Region-wide Services**

TEPPC's role in the Western transmission planning process is to provide region-wide services in three areas described in the TEPPC Charter:

- (1) Overseeing development and management of a common database for economic analysis of transmission needs,
- (2) Providing policy and management of the regional planning process across the region and
- (3) Guiding analyses and modeling for Western Interconnection economic transmission expansion planning.

The TEPPC database was initiated by the transfer of the SSG-WI database to WECC. TEPPC is in the process of updating the database for its 2007 study program. The database contains publicly available information for economic inputs to avoid confidentiality issues consistent with the openness and transparency principles of Order No. 890.<sup>10</sup> The database will not only be used for TEPPC's own regional studies, but will be available for use by sub-regional planning groups, individual transmission providers and other stakeholders. The TEPPC database will provide an open, transparent starting point for the latter more specialized studies.

TEPPC's second major role is to provide policy guidance and management of the regional planning process. TEPPC seeks to foster an impartial and transparent

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<sup>9</sup> Seams Steering Group – Western Interconnection (SSG-WI).

<sup>10</sup> The TEPPC database includes information on transmission infrastructure, loads, load shapes, unit heat rates, fuel costs, etc. needed for production cost simulation studies.

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process that evaluates the economic benefits of transmission expansion alternatives and provides integration among the sub-regional planning efforts. The TEPPC process is open to all interested stakeholders, including transmission providers, generators, load-serving entities, federal and state/provincial energy departments and regulatory bodies, tribal governments, end-users and environmental groups. Because the process is new, TEPPC has built adaptive features into its process that will refine and improve the study results from year to year. More detail on this adaptive self-improvement process is provided below in the description of a proposed synchronized study cycle.

The third TEPPC role is to provide guidance to analysis and modeling done for economic transmission planning within the Western Interconnection. As described in its charter, TEPPC is to both conduct actual studies and to provide tools and improved models for these and other similar studies. TEPPC studies will make an assessment of congestion and congestion costs and evaluate the economics of resource and transmission alternatives, with both wire and non-wire options considered. TEPPC's focus is on region-wide screening studies. Evaluation of alternatives may include concepts for relieving congestion, reducing and/or stabilizing regional production costs, diversifying fuels or achieving renewable resource and clean energy goals.

While the models currently used for the study of transmission system economics provide valuable insights, there is a good deal of room for improvement in these models in order to meet the particular needs of the Western Interconnection. For instance, hydro-electric generation with significant storage capability is a major factor in Western system operations and economics, however in existing production cost models, the hydro system is typically modeled as either a simplified run-of-river or peak-shaving resource. To better represent the actual usage of major Western hydro systems, a more accurate hydro model is needed, particularly for use in congestion studies. Similar model improvements are needed in other areas as well, i.e., transmission constraints, wind generation, phase angle regulators, line losses, DC lines, etc. TEPPC has established a specific work group for prioritizing and improving these models each year as part of each annual study cycle.

### ***2.3 Regional Collaboration***

TEPPC also provides a forum for regional collaboration on major transmission projects; in effect TEPPC will act as an incubator for regional project development. By identifying needs and communicating those needs, projects can be developed by individual organizations or consortiums to meet identified transmission needs. The validity of this approach can be seen from the results of the SSG-WI studies which identified needs and project opportunities in the Western Interconnection. The SSG-WI studies contributed significantly to the wide array of announced potential projects currently under consideration.

While TEPPC's focus is on issues whose effects span the interconnection, TEPPC will also provide the setting for collaboration among the sub-regional planning groups. Using the synchronized study cycle described below, information will be flowing among the sub-regional groups through TEPPC activities. The formation of joint study and development efforts will be facilitated by information communicated to all TEPPC participants. Thus, the TEPPC forum will provide openness and transparency for inter-sub-regional planning activities. Consideration of project combinations or consolidation of efforts to jointly meet transmission needs will be facilitated both by TEPPC's communications activities and by the results of its study program.

#### **2.4 Linking Economic and Reliability Planning**

As TEPPC activities reveal transmission needs and projects are developed by the industry to meet those needs, these projects will naturally move from the realm of economic planning to the reliability planning activities that fall under WECC's Planning Coordination Committee (PCC). TEPPC will provide the economic intelligence needed by project developers, whether they be developers of demand-side services, builders of new resources or developers of new transmission, to develop a business plan, identify investors and customers, seek regulatory permits and approvals and finally construct, install and operate their equipment or facilities. As the projects move from the formative stage toward commitment of capital, projects will enter the existing WECC Regional Planning Process which leads to consideration of stakeholder needs and potential participation by other parties before the project configuration is finalized. After that, the WECC Three Phase Rating Process, for path rating and progress report review, leads to identification of transmission capacity ratings and reliable operating conditions.<sup>11</sup>

### **3. The Role of the Sub-regional Groups**

#### **3.1 Addressing Both Regional and More Localized Needs**

Given the geographic scale of the Western Interconnection, no single regional activity could address the needs of all participants. The West's geography

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<sup>11</sup> The procedures for project rating review and progress reports address the reliability impacts of transmission projects. The phases of the process are shown in Figure 1 of the PCC Handbook (<http://www.wecc.biz/modules.php?op=modload&name=Downloads&file=index&req=getit&lid=215>). After regional planning review, a project that is to be part of a formally rated transfer path enters a three phase process that results in an approved capacity rating for the project prior to its operation. The studies conducted by the project sponsor as part of the planning process include power flow and transient stability analysis. The study results are subjected with peer review through PCC and its Technical Studies Subcommittee (TSS) to determine that when operating within the approved capacity rating, the project will be in compliance with NERC and WECC planning standards.

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imposes an inherent sparsity on the transmission network, and there is a wide diversity in both climate and resource concentration across the West. What members of a sub-regional planning group may see as a high priority concern may not have sufficient impact across the region to warrant study by a regional group. For this reason, the formation of TEPPC did not lessen the need for more locally focused sub-regional groups. The proposed Western Transmission Planning Process endeavors to capture the best of both worlds.

The sub-regional planning groups were organized (or are being organized) to address common issues on a more localized basis. These organizations are much closer to the loads being served and to smaller load serving organizations, such as municipal or rural electric cooperative systems, thereby increasing participation of such organizations in transmission planning. The West's layered approach of TEPPC and sub-regional planning groups, serves to broaden rather than restrict overall participation. Each of the sub-regional groups will have an open, transparent planning process that will be linked to the TEPPC process. The development of joint projects that meet specific needs for more localized transmission is much more likely at the sub-regional level than it would be if only a single regional organization existed. The sub-regional planning groups may also perform reliability studies. Sub-regional groups will develop transmission alternatives and make technical and economic evaluations of those alternatives. They will form study groups based upon the natural topology of the transmission system and long standing relationships. In some sub-regions the majority of the transmission enhancements and upgrades that occur result from sub-regional planning activities.

### **3.2 The Sub-Regional Groups**

The sub-regional planning groups anticipated for the Western Transmission Planning Process are:

- (1) NTAC – Northwest Transmission Assessment Committee of the Northwest Power Pool (NWPP) is an open forum to address forward looking planning and development for a robust and cost effective NWPP area transmission system. NTAC was formed in 2003 after the Transmission Planning Committee elected to expand its "scope of activities to include expansion planning at a broad conceptual level." Membership includes NWPP members and other interested parties.
- (2) ColumbiaGrid – ColumbiaGrid was formed in 2006 to improve the operational efficiency, reliability, and planned expansion of the Northwest transmission grid. ColumbiaGrid has substantive responsibilities pursuant to a series of Functional Agreements with Members and other Qualified Non-Member Parties. These agreements relate to planning, reliability, OASIS, and other

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development services. ColumbiaGrid’s sub-regional planning responsibilities are set out in the Planning and Expansion Functional Agreement (“PEFA”), which coordinates planning activities on a regional basis through a single-system approach. Participation in the PEFA is open to all qualified non-member parties as defined in the PEFA, which includes Northwest transmission providers, transmission customers, and others. In addition to ColumbiaGrid, the current parties to the PEFA (“Planning Parties”) include Avista Corporation, Bonneville Power Administration, Chelan County Public Utility District, Grant County Public Utility District, Puget Sound Energy, Inc., the City of Seattle, acting by and through its City Light Department, Snohomish County Public Utility District, and the City of Tacoma, Department of Public Utilities, Light Division (dba Tacoma Power). The Planning Parties include transmission owners subject to the Commission’s ratemaking jurisdiction (i.e., public utilities with an OATT), as well as those that are not). The planning process outlined in the PEFA relies heavily on the use of study teams that are open to all stakeholders and interested parties. The process also requires notification of affected parties and requires that adverse impacts from projects be identified and mitigated.

- (3) NTTG – The Northern Tier Transmission Group is comprised of transmission owners serving the Northwest and Mountain states. They are committed, with the active cooperation of state governments and open participation of affected stakeholders, to improving the operations of and charting the future for the grid that links their service territories. Participants in NTTG are committed to increase efficient use of the grid and to develop the infrastructure needed to deliver new renewable and thermal power resources to consumers. NTTG’s participating utilities are Deseret Power Electric Cooperative, Idaho Power, NorthWestern Energy, PacifiCorp and Utah Associated Municipal Power Systems with additional members of the steering committee from the Idaho Public Utilities Commission, the Oregon Public Service Commission, the Utah Public Service Commission, the Montana Public Service Commission, the Montana Consumer Counsel and the Wyoming Public Service Commission.
  
- (4) WestConnect – WestConnect is comprised of utility companies providing transmission of electricity in the southwestern United States, working collaboratively to assess stakeholder and market needs and develop cost-effective enhancements to the western wholesale electricity market. WestConnect has three planning areas: Southwest Area Transmission (SWAT), the Colorado Coordinated Planning Group (CCPG) and the Sierra area. The

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transmission owners of WestConnect are Arizona Public Service, El Paso Electric, Imperial Irrigation District, Nevada Power, Sierra Pacific Power, Xcel (Public Service of Colorado), Public Service of New Mexico, Sacramento Municipal Utility District, Southwest Transmission Cooperative, Tri-State Generation and Transmission, Tucson Electric Power and the Western Area Power Administration (Desert Southwest Office, Rocky Mountain Office, and Sierra/Nevada Office).

- (5) California – A sub-regional planning organization is being formed that will include the California ISO and other transmission service providers within California.

### ***3.3 The Sub-Regional Planning Group Requirements***

WECC/TEPPC will promote openness and transparency at a regional level, while the sub-regional planning groups will promote openness and transparency within their defined geographic and electrical foot prints. The sub-regional planning groups will meet the FERC requirements for openness, transparency, etc. and will hold regularly scheduled meetings that are open to all stakeholders and that are fully compliant with the Standards of Conduct. Such meetings will provide a forum for open discussion of transmission needs concerns, plans, and issues. The sub-regional planning groups will participate in TEPPC, and in turn TEPPC maintains a list of sub-regional groups with links to the relevant websites of sub-regional groups. The sub-regional groups will continue to encourage participation by local, state and federal agencies within the scope of their portion of the interconnected network.

## **4. A Cohesive Approach to Congestion Studies**

### **4.1 The Congestion Study Principle**

One of the new requirements imposed on transmission providers in Order No. 890, is compliance with the congestion study principle. The FERC found that:

“... to represent good utility practice and provide comparable service, the transmission planning process under the *pro forma* OATT must consider both reliability and economic considerations.”<sup>12</sup>

They further observed that:

“The purpose of this principle [congestion studies] is to ensure that customers may request studies that evaluate potential upgrades or other investments that could reduce congestion or integrate new resources and loads on an aggregated or regional basis (e.g., wind developers), not to assign cost responsibility for those investments or otherwise determine whether they should be implemented.”<sup>13</sup>

The Commission directed that in the planning process to be described by Attachment K, stakeholders be given a right to request a defined number of high priority studies annually. Transmission providers were also directed to consult with their stakeholders during the development of Attachment K to develop a means to allow transmission providers and stakeholders to cluster or batch requests for the economic planning studies for efficient performance of such studies.<sup>14</sup>

The study activity provided for in Order No. 890 is separate from the OATT studies specified for transmission service requests and generator interconnection requests, which will continue to be done under the appropriate provisions of the OATT. The congestion studies described by Order No. 890 provide stakeholders with information which they can use for: developing transmission expansion policies, identifying needs for demand-side resources, establishing transmission needs for alternative energy sources (e.g., wind or solar), making requests for transmission service, identifying best locations for generator interconnection, developing potential transmission projects or non-wire alternatives for congestion relief, etc.

### **4.2 Synchronizing the Study Cycle**

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<sup>12</sup> FERC Order No. 890, ¶542, p.310.

<sup>13</sup> FERC Order No. 890, ¶544, pp 311-312.

<sup>14</sup> FERC Order No. 890, ¶¶546-547, pp. 313-314.



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Implementing the congestion study requirement on a provider-by-provider basis would be very costly and would likely result in a great deal of duplication. Further, congestion issues are typically a product of system-wide dispatch and not solely of dispatch within a single provider's transmission facilities. Performing production cost congestion studies at the regional or sub-regional level is therefore both more effective and more efficient. At the same time, because far more entities have an interest in regional studies, a balance must be struck between the desires of all stakeholders for information and the cost of producing that information. The proposed approach to meeting that balance is to include an annual synchronized study cycle in the Western Transmission Planning Process. The annual synchronized study cycle is proposed to have the following elements:

- a) The WECC/TEPPC database is the starting point for studies by TEPPC, sub-regional groups and transmission providers. This database will use publicly available information for expansion plans, such as state Integrated Resource Plans, and economic inputs from public sources to avoid confidentiality issues regarding data transparency.
- b) Each year a request window<sup>15</sup> would be open during which stakeholders could submit requests for economic transmission expansion planning studies. The requests could be submitted to TEPPC, to one of the sub-regional groups or to individual transmission providers.
- c) At the close of the window, TEPPC would convene an open meeting, or set of meetings, for developing the synchronized study plan. All requests received from whatever source, would be combined into a single list. Possible clustering or combinations of requests would be considered in open discussion as well as the relative priority of studies. Based on these open discussions, proposals would be made for the studies to be performed and the organization best suited to lead each study would be identified. Each organization will need to determine the number of studies its resources can undertake for each cycle.
- d) Once the list of studies is consolidated, leads for each study would be assigned based upon the principle of matching expertise and scope of interest to find the best organization to lead each study. For instance, TEPPC could take the lead for studies with west-wide impacts or perhaps where the nature of the study was such that it could best be addressed by TEPPC. Requests dealing with more localized network issues, such as loops around a metropolitan area or upgrade of facilities in a specific restricted area, might best be addressed by a sub-regional group. A request so specific that it involved only the facilities of a single transmission provider might best be led by that transmission provider.

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<sup>15</sup> The window could be open for a few months following the release of reports from the previous study cycle, or it could be continuously open window with a cut-off date for consideration of a request for the next annual study cycle.

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- e) The sub-regionally led studies might cover different time intervals than those being considered by TEPPC, or they may be follow-up to the previous results of TEPPC studies. The overriding principle is to assign the study requests, suitably clustered, to the organization best able to address the request based on stakeholder input and on the lead organization's technical expertise and knowledge of the issues.
- f) The development of the study program and assignment of project leads would also consider the best use of available resources for completing the studies. This would involve the prioritization of the study requests. Prioritization may be simplified by the clustering of studies or combining of like requests, but if the volume of requests exceeds study resources, the priority and order of studies will need to be part of the study plan development discussions.
- g) The resulting set of assignments would become the Western study program for that year's study cycle. By conducting this processing and prioritization of requests in an open forum, stakeholders will be a party to the discussions and fully informed regarding the choices made to develop a study program that can be efficiently and effectively performed.
- h) At each quarterly meeting of TEPPC, or more often if required, the lead organization for each study in the program would report on its progress, indicating whether further coordination/collaboration is needed. For instance a sub-regional group might discover that they need the participation of one or more of the other sub-regional groups to complete an assigned study. By providing this regular forum for coordination of study work, the resulting set of studies will be more cohesive than they would be in the absence of the synchronized study cycle.

### **4.3 Illustrating the Synchronized Cycle**

To demonstrate how a synchronized study cycle would work, we can examine the cycle being use for TEPPC's 2007 studies and consider the changes needed for it to synchronize the studies of both TEPPC and the subregional groups. The TEPPC Study Cycle is show in Figure 1. The process is designed to be adaptive, that is, it has feedback loops which enable TEPPC to learn from both the study results and stakeholder experience to make changes to subsequent cycles. These changes may be alterations of the process, new models and methodology to improve the quality of results, or they may reflect new needs that develop as circumstances change over time.

In Figure 1, the feedback information from previous studies goes into the development of the next cycle study plan (the left most box). Two activities are triggered by the study plan – historical analysis of congestion events and

congestion studies using production-cost simulation with database preparation being a prerequisite to the congestion studies. Once prepared, the database is available to TEPPC, sub-regional groups and others wishing to do their own studies. In addition to the study work, there will be ongoing development and improvement of models. These three information feeds (historical analysis, congestion study results and reports on model improvements) are evaluated and the study report for the cycle is prepared.

**Figure 1**  
***The Annual TEPPC Study Cycle***  
*An Adaptive Process*

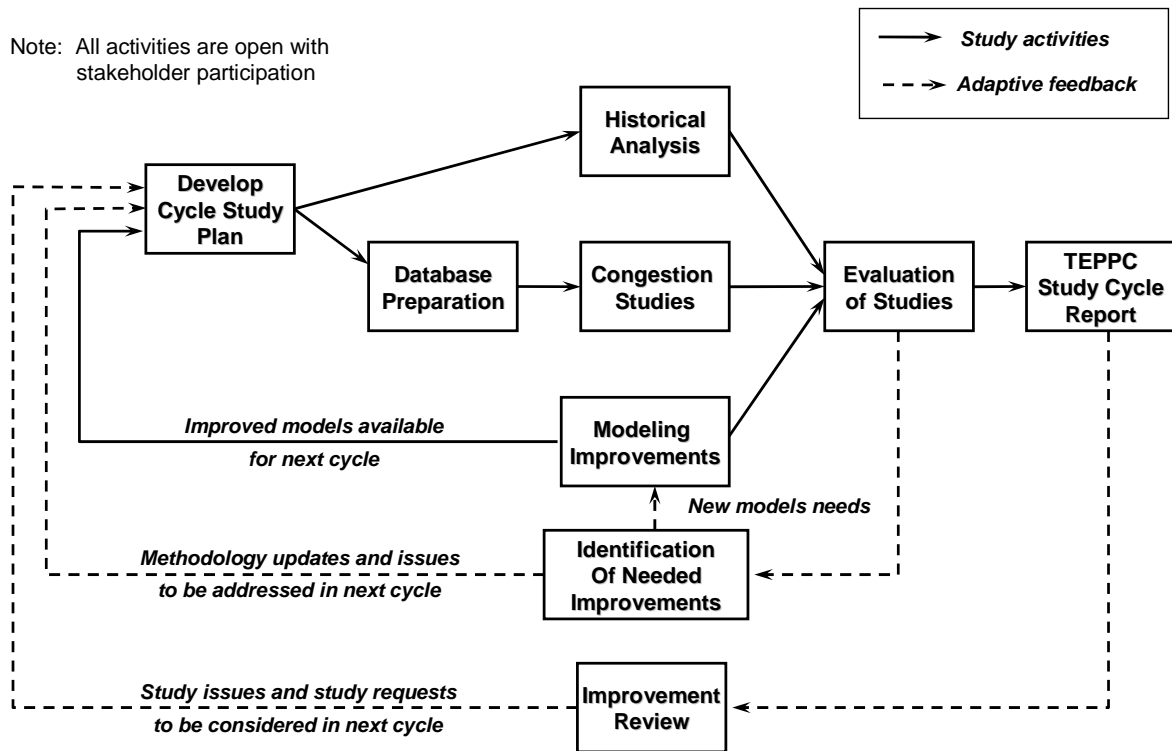
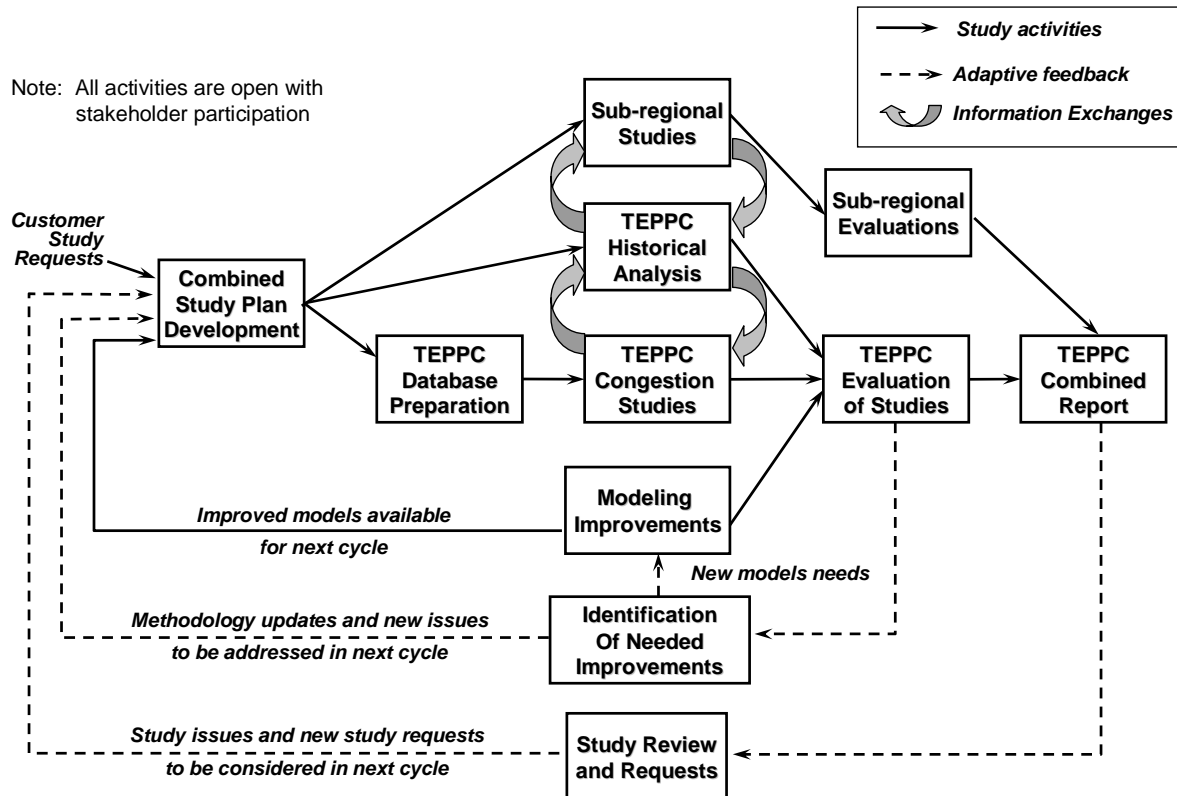


Figure 1 also shows two evaluation activities flowing out of the study evaluation and report. The first is a TEPPC review of technical and process issues to identify needed improvements in the conduct of congestion studies and historical analysis. This produces changes in methodology to be implemented in the next cycle and additional model improvement needs. The second evaluation process is made by stakeholders to determine issues to be considered for study in the next cycle and for producing new study requests. The outcome of these two evaluations and any new models available for the next cycle of studies is fed into the development of the next study plan, completing the annual process.

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This TEPPC process can be adapted quite simply, as shown in Figure 2, to implement a synchronized study cycle for implementing the congestion study principle of Order No. 890. Instead of developing a TEPPC Study Plan, a Combined Study Plan is developed with assignments for study leads. The inputs to the combined plan development would include customer study request required under Order No. 890. The combined plan would include a clustering and evaluation of all requests received by TEPPC, sub-regional groups and transmission providers. TEPPC would still be responsible for data base preparation and would be the lead for its study assignments and historical analysis.

**Figure 2**  
*An Annual Synchronized Study Cycle*



At the same time the sub-regional groups would perform their study work. Information exchanges among the study activities would occur at TEPPC meetings, subcommittee meetings and monthly coordination calls. Both TEPPC and the subregional groups would evaluate their study results. Those results

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could then be merged into a single combined report.<sup>16</sup> The same feed back activities would occur, except that they would include broader participation than a TEPPC-only study cycle might entail.

This approach, open to all stakeholders, would gather and disperse information to stakeholders in all layers of the planning process – WECC/TEPPC, the subregional groups, transmission providers, state IRP processes, etc.. While each organization may have specific study responsibilities, the information transfer between them is designed to produce an integrated, cohesive study result.

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<sup>16</sup> The TEPPC report will provide full details for TEPPC studies. The results of sub-regional studies may be reported in full or reported as summaries depending upon the level of interest for each of the sub-regionally led studies. Where summaries were provided, links would be provided for access to the full sub-regional reports.

**Part 3**  
**Planning Protocol:**  
**Transmission Expansion Planning Policy Committee**

**Note:** This is a proposed form provided for discussion purposes to illustrate the concept of a TEPPC planning protocol and to obtain feedback from FERC staff on the proposed structure for regional transmission planning in the Western Interconnection. Expansion of the outline and writing of the actual protocol will occur after the FERC Technical Conference to be held in June 2007.

**1 Purpose and Objectives**

This Protocol shall govern the process by which WECC/TEPPC shall support preparation of data, transmission studies and collaborative efforts among sub-regional planning groups to facilitate expansion planning in the Western Interconnection

**2 Conformity with NERC and Other Applicable Criteria**

- a) Affirmative statement of compliance with various criteria
- b) Requirement to publish all criteria in a convenient place

**3 Organization**

**3.1 Governance**

- a) WECC Board
- b) WECC Membership

**3.2 Transmission Expansion Planning Policy Committee (TEPPC)**

- a) TEPPC Charter
- b) Organization
  - (1) Balanced Committee composition
  - (2) WECC Staff support
  - (3) Facilitator
- c) Open meetings
  - (1) Public calendars
  - (2) Meeting notice
  - (3) Document posting procedures, etc.
- d) TEPPC's functional roles:
  - (1) Data management

### **Part 3 – Western Transmission Planning Strawman – TEPPC**

- i. Single database for interconnection using publicly available expansion and economic data for a data test case and network data drawn from WECC the reliability database.
    - ii. Distribution of the database in a portable format to facilitate broad usage
  - (2) Planning Process Management
    - i. Fostering sub-regional collaboration
    - ii. Report on congestion, expansion projects
  - (3) Guide Analysis and Modeling
    - i. Study program coordination
      - 1. Cluster requests from customers and stakeholders in the scoping of the combined study program
      - 2. Conduct TEPPC studies and make diagnosis of system congestion and potential congestion
      - 3. Evaluate generic approaches to resolve congestion
    - ii. Historical analysis to provide perspective to study program
    - iii. Modeling improvements to improve results for successive study cycles.
- e) Limitations on TEPPC activities
  - (1) Charter restrictions
  - (2) A support to transmission providers
  - (3) Cost allocation outside WECC/TEPPC activity scope
- f) Adaptive nature of planning process with annual review procedures
- g) Reporting relationship to Board

### **3.3 Technical Advisory Subcommittee (TAS)**

- a) What it does (conducts studies and writes reports)
- b) Reports to TEPPC
- c) Subcommittee membership is open to all stakeholders
- d) WECC Staff and TEPPC Facilitator provide support
- e) Open meetings
  - a. Public calendars
  - b. Meeting notice
  - c. Document posting procedures, etc.

## **4 TEPPC Study Plan**

### **Part 3 – Western Transmission Planning Strawman – TEPPC**

- a) Specific provisions for plan development
  - a. Annual activity cycle
    - i. Data collection
    - ii. Study programs
    - iii. Model improvement
    - iv. Process evaluations
  - b. Scope of studies
    - i. Issues addressed by TEPPC
    - ii. Disclosure of assumptions, criteria, etc.
  - c. Data management
    - i. Obligations to supply data
    - ii. Access to data – transparency and CEII provisions
  - d. Development of Study Plan with sub-regional groups
    - i. Requests from participants (customers) for desired studies
    - ii. Clustering of study request to address common questions
      - 1. Which studies best performed by TEPPC
      - 2. Which studies best directed by an sub-regional group
      - 3. Which studies responsibility of transmission provider
      - 4. Posting and comments on results
  - e. Annual report on congestion and expansion case studies
    - i. Study program
    - ii. Historical analysis
    - iii. Projects reported and discussion of current and future concerns addressed
    - iv. Recommendations for next cycle

#### **4.1 Data**

- a) Region-wide database maintained by TEPPC

##### **4.1.1 Collection of data**

- a) Who supplies:
  - b) Loads
  - c) Generators
  - d) Network
  - e) Production costs

##### **4.1.2 Data assumptions**

- a) Types:
  - o Basis underlying the load forecasts
  - o New resources and transmission deemed committed
  - o Etc...
- b) Sources:



### ***Part 3 – Western Transmission Planning Strawman – TEPPC***

- WECC
- State IRP
- Sub-regional organizations
- Transmission providers
- Etc...

#### **4.1.3 Data access**

- a) Confidentiality and disclosure agreements will be addressed through WECC Board approved disclosure policies.
- b) To be used by sub-regional groups and others
- c) Supplied in a public data format

#### **5 Communication and Collaboration**

- a) Information portal for major projects
- b) Workshops, webinar
- c) Coordination of study cycles

#### **6 Annual Transmission Planning Process**

- a) Annual study cycle with biennial transmission project reporting.
- b) Purpose is to serve as a project incubator
- c) Relationship of plan to WECC reliability process, e.g, path rating, etc.
- d) Begins with assembly of committed sub-regional and transmission provider plans
- e) Economic studies used to identify potential congestion problems
- f) Determination of the potential problems addressed by planned or announced projects
- g) Identification of congestion not addressed by planned projects of sub-regional groups, transmission providers or transmission developers
- h) Economic evaluation of conceptual solutions to potential problems – demand side, local generation, transmission expansion, etc.

#### **7 Cost allocation**

***Part 3 – Western Transmission Planning Strawman – TEPPC***

- a) Allocation of project costs is not covered by WECC/TEPPC. The sub-regional planning groups' agreements and transmission providers will address project cost allocation.

**8 Relationship to Transmission Provider Open Access Transmission Tariff**

- a) Support to transmission providers' obligations under Attachment K.

**Part 4 – Tri-State Generation and Transmission Association, Inc. (Tri-State)  
Planning Strawman**

June 1, 2007

**Part 4**

**Tri-State Generation and Transmission Association, Inc. (Tri-State)  
Strawman Regarding Compliance with the Nine Planning Principles from  
Commission Order 890**

**A Introduction**

Tri-State is a member of the Western Electric Coordinating Council (WECC), WestConnect, the Southwest Area Transmission (SWAT) Planning Group and the Colorado Coordinated Planning Group (CCPG). Tri-State is actively involved in regional and sub-regional planning within each of these groups.

In December 2004, Tri-State was an initial signatory to the WestConnect Memorandum of Understanding. Tri-State is also signatory of the WestConnect Project Agreement for Subregional Transmission Planning and has assigned a representative to the WestConnect Regional Planning Work Group.

Tri-State is usually the host and therefore always attends the scheduled CCPG meetings. Tri-State has a representative assigned to the SWAT Oversight Committee, the Arizona-New Mexico Subcommittee of SWAT and the New Mexico Area Subcommittee of SWAT.

Tri-State participates in the WECC Transmission Expansion Policy Planning Committee (TEPPC) through the Technical Advisory Subcommittee (TAS) and is active within the WECC working groups to ensure proper coordination and accurate modeling of the transmission system and transmission plans throughout the Western Interconnection planning processes.

Tri-State has a long history of joint planning and project development with other regional utilities including the Western Area Power Administration (Western). The base load generating stations in western Colorado (Yampa Project) and in Wyoming (Missouri Basin Power Project) were jointly planned and are jointly owned by regional utilities. In the mid 1970-1980's, transmission planning efforts were usually associated with reliably integrating jointly owned generation units into the existing transmission system. Recently Tri-State successfully planned, permitted, constructed and placed in-service, a 130 mile, 230 kV transmission line from Walsenburg, Colorado to Gladstone, New Mexico to support existing load and growth in northeastern New Mexico. Tri-State is currently planning, jointly with Western, over 1000 miles of 500 kV and 230 kV transmission lines in eastern Colorado. Planned in-service date for these facilities is in the 2012 and 2013 timeframe. Tri-State is a member of the Electric Power Research Institute (EPRI) and participates extensively with EPRI and other EPRI members in the

**Part 4 – Tri-State Generation and Transmission Association, Inc. (Tri-State)  
Planning Strawman**

development of new software directed at developing advanced methods for power system planning.

**B Order 890 Principles for Coordinated, Open and Transparent Transmission Planning**

**1. Coordination**

**Tri-State Strawman for Coordination Principle:**

In addition to participating in the WestConnect sub-regional planning process, Tri-State satisfies the Order No. 890 Coordination Principle at the individual transmission provider level through the following activities:

- Tri-State has quarterly meetings each year with Western to coordinate various operations and planning issues that are common to both entities. This process allows for a more efficient use of the existing system and provides an opportunity to optimize the future utilization of the system.
- Each year Tri-State prepares a Ten-Year Transmission Capital Construction Plan and coordinates that plan with the future plans of each forty-four cooperative organizations making up the ownership of Tri-State. The plan is coordinated with the Foothills Planning Group (FPG), with the CCPG and SWAT which meets three or more times during the year, and with the WECC throughout the year to ensure proper coordination of plans and accurate representation of the Tri-State transmission facilities.

**2. Openness**

**Tri-State Strawman for Openness Principle:**

In addition to participating in the WestConnect sub-regional planning process, Tri-State satisfies the Order No. 890 Openness Principle at the individual transmission provider level through the following activities:

- All Tri-State transmission projects are coordinated Member Cooperative systems and, with the sub-regional planning groups. The sub-regional planning group meetings are open to all interested parties.

**Part 4 – Tri-State Generation and Transmission Association, Inc. (Tri-State)  
Planning Strawman**

**3. Transparency**

**Tri-State Strawman for Transparency Principle:**

In addition to participating in the WestConnect sub-regional planning process, Tri-State satisfies the Order No. 890 Transparency Principle at the individual transmission provider level through the following activities:

- Tri-State provides and participates in transparency in ATC which is assured by posting on the Tri-State OASIS which is consistent with that presented during WestConnect Stakeholder meetings on ATC to demonstrate methods, changes and additions.
- Tri-State's transmission plans, on an annual three-year rolling requirement, are presented to the Colorado PUC and are open to stakeholder comment during this process.

**4. Information Exchange**

**Tri-State Strawman for Information Exchange Principle:**

- Ten-year load projections by delivery point are developed consistently with forecast development required by the Rural Utilities Services. The forecasts along with any changes and additions to resources are developed. These plans are coordinated and submitted to WECC for base case development and study programs.

**5. Comparability**

**Tri-State Strawman for Comparability Principle:**

- Tri-State satisfies this principle through the WestConnect sub-regional planning process.

**6. Dispute Resolution**

**Tri-State Strawman for Dispute Resolution Principle:**

- Tri-State satisfies this principle through the WestConnect sub-regional planning process.

**Part 4 – Tri-State Generation and Transmission Association, Inc. (Tri-State)  
Planning Strawman**

**7. Regional Participation**

**Tri-State Strawman for Regional Participation:**

Tri-State satisfies this principle through the WestConnect sub-regional planning process.

**8. Economic Planning Studies**

**Tri-State Strawman for Economic Planning Studies Principle:**

Tri-State satisfies this principle through the WestConnect sub-regional planning process.

**9. Cost Allocation for New Projects**

**Tri-State Strawman for Cost Allocation for New Projects Principle:**

Tri-State satisfies this principle through the WestConnect sub-regional planning process.