

**WESTERN ASSESSMENT GROUP
ADDRESSING COMMERCIAL ISSUES ON A WEST-WIDE BASIS
DRAFT WHITE PAPER**

A. INTRODUCTION

A puzzle is made up of numerous pieces which, when assembled, form a complete picture. In much the same way, the electric power system in the West has many components that fit together to create one enormous, synchronized machine. The geography encompassed by this enormous machine is referred to as the “Western Interconnection.”

Issues affecting the western power system are manifold. They may involve ownership, operation, system planning and expansion, reliability, regulation and oversight, commercial practices (including terms, conditions, and rates for service), cost recovery, standard-setting, and facility siting. Over time, numerous agencies and institutions have formed (sometimes with overlapping purposes and activities) to address subsets of these issues.¹

Governors and premiers, industry leaders, regulators, energy offices, and stakeholder representatives have long considered and debated how best to address and harmonize the broad range of technical, economic, and policy issues that affect the development, operation, and use of the West’s electric power system. Recent discussions have focused on identifying those issues that, by their nature, bear on the power system as a whole and therefore call for comprehensive, integrated solutions or processes.

The Western Governors’ Association (“WGA”) is keenly focused on electricity policy. At the December 3, 2004 WGA Board meeting, the WGA adopted the following resolution:

“To ensure adequacy and affordable supplies of electricity, Western Governors believe the region must develop and sustain the capability to address and resolve regional electric power issues on its own. This requires ensuring that states and provinces in the Western Interconnection have the capability to help shape solutions appropriate to the region. *It also means that the Western electric power industry needs to have in place effective institutions to address both reliability and commercial regional electric power issues.*” (Emphasis added.)

¹ Attachment A to this white paper identifies and briefly describes many of these agencies and institutions. Other attachments describe the agencies’ and organizations’ current activities related to the topics discussed in this white paper.

The Western Electricity Coordinating Council (“WECC”) already addresses West-wide reliability issues effectively. Identifying the best means to address West-wide commercial issues begins with two fundamental questions:

1. Which aspects of planning, building, operating, or providing services over the West’s electric power system should be addressed on a West-wide basis?
2. What are the best processes or institutions to address these West-wide issues?

B. IDENTIFICATION OF WEST-WIDE ISSUES

As discussions of West-wide issues have progressed, interested parties have identified a number of areas in which they seek more timely, effective solutions. These areas are briefly summarized below and discussed in more detail in attachments to this white paper.

1. Transmission Expansion Planning

The West’s current regional and subregional transmission planning process is fragmented. There is a wide gap between evolving merchant needs on the resource side (regional) and existing grid plans (local and subregional) on the transmission side.² Many analysts concur that growth in electricity demand has far outstripped growth in transmission capacity in recent decades. Among the reasons that have been cited for lagging transmission investment are:

- Cost risks associated with planning, analyzing, siting, and permitting new transmission projects make it difficult to obtain sufficient funding and participation;
- Benefits and beneficiaries are often widely distributed;
- The process of identifying and allocating multi-system and multi-state costs, benefits, and transmission rights is complex;
- Jurisdictional responsibility is often unclear and can involve multiple states and provinces, as well as FERC;
- Efforts to expand the system encounter increasing legislative and political challenges at the federal, state, and local level;
- Transmission investors face risks from unstable market rules; and
- There can be “free-rider” problems under current financing methods.³

² See the WGA’s August 2001 “Conceptual Plans for Electricity Transmission in the West” at 11, www.westgov.org/wga/initiatives/energy/transmission_rpt.pdf.

³ See, for example, Presentation to North American Energy Summit, April 14-16, 2004, (prepared through the SSG-WI Planning Work Group) at slide 6, [www.ssgwi.com/documents/363-North Am Energy Summit LCD Presentation ver311_ja_final_040904.pdf](http://www.ssgwi.com/documents/363-North%20Am%20Energy%20Summit%20LCD%20Presentation%20ver311_ja_final_040904.pdf).

Transmission expansion planning (along with resource adequacy) presents a quintessential blend of technical and policy issues. The technical issues center on assessing (a) how the existing system functions under an infinite variety of conditions and (b) what capabilities will be needed in the future. Policy determinations require balancing competing objectives: (i) avoiding unreasonable risk of outage, (ii) providing services at reasonable prices, (iii) supporting economic development, resource diversity, and generator access, (iv) environmental stewardship, and (v) managing limited rights of way for siting transmission facilities.

Even though operational responsibility is divided among numerous owners and operators, these individual parties cannot act independently. Their activities must be coordinated and cooperative, because the western power system is a single, integrated machine across which electricity travels at the speed of light. Planning for system expansion must recognize the fundamental principle that modifications to any main grid facilities have consequences for the rest of the system.

a. What Is Being Done Now?

Current transmission planning activities are taking place through

- the Seams Steering Group - Western Interconnection ("SSG-WI");
- the Rocky Mountain Area Transmission Study ("RMATS"), which provided the foundation for a four-state memorandum of understanding among the governors of California, Nevada, Utah, and Wyoming (announced April 4, 2005);
- the Southwest Area Transmission Study ("SWATS");
- the Southwest Transmission Expansion Plan ("STEP");
- the Colorado Coordinated Planning Group ("CCPG");
- the Northwest Power Pool ("NWPP"), primarily through the Northwest Transmission Assessment Committee ("NTAC"); and
- the California ISO.

The NWPP also has formed a Transmission Adequacy Steering Committee to work on voluntary transmission adequacy guidelines. In addition, the Alberta Electric System Operator has procedures to identify and address transmission needs on its system.

The WECC has recently amended its bylaws so that it is not expressly precluded from playing a role in transmission expansion planning. (Any future WECC role in transmission expansion planning would be as directed by the WECC Board and membership). The WGA has issued reports on conceptual plans and financing for electricity transmission in the West. The Committee for Regional Electric Power Cooperation ("CREPC"), with members from regulatory commissions and energy offices from 11 western states and three Canadian

provinces, as well as the Northwest Power and Conservation Council (“NWPPCC”), participates actively in efforts to address West-wide transmission issues.

Additional information about current transmission expansion planning activities, as well as participating organizations and agencies, is provided in Attachment B to this white paper.

b. What Do We Want to Accomplish?

An effective process or institution for West-wide transmission expansion planning would:

1. develop a West-wide transmission plan with recommended solutions; **Plan (assessment) to identify problems and opportunities is generally supported, but recommended solutions is not.**
2. develop transmission adequacy criteria for determining when new facilities are needed; **Northwest has an ongoing process to develop transmission adequacy standards for the Northwest.**
3. develop region-wide criteria for prioritizing transmission projects; **PCC does not support this item.**
4. identify beneficiaries of new projects and provide mechanisms to obtain funding, allocate costs, and assign transmission rights; **PCC does not support this item.**
5. provide “operational certainty” for project sponsors (knowing new facility ratings in advance) and for owners of existing facilities (avoiding impairment of existing facility ratings); **PCC believes this is already done. Path Rating Process protects accepted ratings. Operational certainty is only provided if the operating conditions are the same as the study conditions. There are no guarantees.**
6. develop and maintain a publicly accessible, validated region-wide database that supports West-wide analysis, including transmission expansion; **PCC believes this is the SSG-WI (or similar) database providing the term validated references the input data, not the output results. Publicly available, subject to CEI restrictions. Production cost database needs to be merged with the transmission topology (base cases). There is general support from PCC, but there is concern regarding some of the details.**
7. promote and enhance modeling capabilities on a consistent, region-wide basis; **What type of modeling capability does this refer to? Does it reference the modeling in item 6 or a broader set of models? The natural outcome of any effort of the PCC is to develop and enhance the models necessary to complete the work.**
8. coordinate subregional plans; **There is support for coordinating plans, but concern/question as to what is meant by coordinate. Coordination of assumptions and understanding interactions is supported. Telling specific subregions what to do or what can't be done is not supported.**

9. address siting issues, and in particular the challenges of securing approvals from states and provinces that do not derive direct financial benefits from facilities that cross their boundaries; **PCC does not support this item.**
10. develop a new queuing process with a region-wide approach for dealing with multiple transmission requests; and
11. explore how technologies such as phase shifters could be used to reduce transmission congestion.

2. Resource Adequacy

Like transmission expansion planning, resource adequacy is rooted in an interwoven mixture of technical, economic, commercial, legal, regulatory, and environmental issues. All of these issues have important policy implications. The Western Interconnection enjoys a diverse inventory of power resources, in both kind and location. Generating plants may be hydro-powered, wind-powered, or thermal; thermal plants may be fueled by coal, gas, nuclear reactors, or alternative fuels sources, and electricity may also be generated from solar power.

One cannot assume that generating plants will operate continuously and perpetually, and one cannot control or perfectly predict fuel costs and water availability over time. The characteristics and locations of generating plants have enormous impacts on the use and stability of the transmission facilities that link the generators to the loads they serve. There are tradeoffs among different resource options, as well as between risk of shortage on the one hand and overbuilding on the other. The operational, economic, and environmental implications of these tradeoffs concern policymakers and consumers across the West and the nation.

a. What Is Being Done Now?

In general, resource adequacy is a state-by-state process. Even within a single state, not all power system participants are subject to the same obligations and oversight. Typically, vertically integrated investor-owned utilities are accountable to state regulatory authorities and must develop integrated resource plans to serve their “native” loads. But end-use consumers also rely on federal power marketing agencies, municipal power systems, independent power producers, generation cooperatives, and even state agencies to plan for and meet their current and future electric power needs.

The western power crisis of 2000-2001 was an ample reminder that, while resource planning has in general been within the purview of state bodies, the consequences of a power shortage in one state or subregion can have operational and economic consequences across the entire Western Interconnection. CREPC and the NWPCC are addressing resource adequacy on a

multi-state basis, but do not exercise regulatory approval authority. The WECC has begun to consider how it might play a constructive role, but more needs to be done.

Additional information on current activities related to resource adequacy, as well as organizations and agencies that are involved in these activities, is provided in Attachment C to this white paper.

b. What Do We Want to Accomplish?

An effective process or institution to address resource adequacy would:

1. respect and support state and provincial oversight mechanisms; **PCC supports.**
2. develop clear and consistent policies that establish
 - a. who is responsible for meeting resource adequacy requirements, and **State/local/regulatory should address**
 - b. how policymakers and those responsible for meeting resource adequacy requirements determine whether the applicable criteria have been met (with respect to both current and future power supplies);
3. provide means for collecting, maintaining, and analyzing comprehensive, accurate data related to the West's power resource needs and inventory (current and future); **PCC supports (L&R subcommittee)**
4. integrate resource and transmission adequacy assessments to reflect the unique geographical and operational characteristics of the Western Interconnection; and **PCC supports this item. PCC accepted this as part of the L&R TF recommendation (RAWG Report)**
5. mesh the tools for assuring resource adequacy with implementation of policy objectives related to resource diversity, reliability, economic development, and environmental considerations. **PCC supports the meshing of the tools, but WECC is not responsible for the implementation of all of these policy objectives (resource diversity, economic development).**

3. Market Monitoring

Reports exploring the causes and consequences of the western power crisis of 2000-2001 have pointed to a number of contributing factors. Most agree that market manipulation may have exacerbated adverse supply and operating conditions.

Even before the power crisis, policymakers and industry participants were debating how to protect markets and consumers from gaming and unfair exercise of market power. Among the challenges for West-wide market

monitoring are the predominance of bilateral trading arrangements,⁴ the need for funding mechanisms, and workable means to obtain necessary data without compromising commercially sensitive information.

a. What Is Being Done Now?

The Cal ISO is the only independent transmission system organization in the West that has a market monitoring unit. Under the auspices of the SSG-WI Market Monitoring Work Group, there have been ongoing discussions about West-wide market monitoring, which have included state and provincial regulators and representatives of the Federal Energy Regulatory Commission (“FERC”). These discussions have led to a recent proposal for a West-wide market monitoring pilot program.

Additional information about West-wide market monitoring discussions, as well as the participating organizations and agencies, is provided in Attachment D to this white paper.

b. What Do We Want to Accomplish?

An effective market monitor must be independent of market participants, highly capable, and a zealous guardian of fairness and integrity in the markets and investigatory processes for which it is responsible. There must be clear lines of accountability that enhance the capabilities of the organizations and governmental bodies charged with protecting consumers, but they should not impose unreasonable burdens on market participants or subject them to unwarranted adversarial processes.

An effective West-wide market monitor would need comprehensive access to information from all parties that operate electric power facilities and participate in bilateral and centralized transmission and power markets. When circumstances warrant investigations or actions to remedy or prevent market abuses, the market monitor would facilitate fair and efficient solutions.

4. Commercial Practices

The follow sections provide brief summaries of other commercial issues that might benefit from West-wide solutions.

a. Pricing

As the electric power industry has moved toward more competitive means to supply new generation resources, the effects of transmission “rate pancaking”

⁴ The Cal ISO and the Alberta Electric System Operator operate centralized hourly energy markets.

have become more important. Rate pancaking generally refers to paying embedded cost charges for multiple systems to facilitate a power transaction. This can affect the ability of generating resources in one location to compete with resources in other locations, but rather than reflecting production costs (or even costs related to the need for particular transmission facilities), results can be driven instead by the coincidence of multiple ownership boundaries between the generating resource and its intended market. Many parties have called for West-wide approaches to reduce rate pancaking where its consequences are arbitrary or inefficient.

b. Unscheduled Flow and Congestion Management

Today in the West, transmission congestion (which occurs when requested uses across a given set of transmission facilities exceed available capacity) is generally managed by refusing new service once capacity limits are reached. If transmission facilities begin to overload within an operating day, service to customers relying on affected facilities is "curtailed," which typically means that customers' energy schedules are reduced and they must scramble to find alternate sources of power. Problems with congested facilities can be exacerbated by unscheduled or "loop" flow, which occurs when actual power flows on the system do not match scheduled power flows (generally because of the ways that "scheduled" transactions on one part of the system result in power flows on other parts of the system).

Many policymakers and industry participants believe that current tools for managing congestion leave much to be desired. They may not provide the most cost-effective or equitable outcomes. Moreover, schedule changes do not always relieve real-time overloads. Because main grid facilities function as a single integrated machine, effective long-term solutions may require a system-wide approach.

c. Western Influence at the National Level

Just as many aspects of the electric power industry are West-wide in nature, many similar challenges arise at the national level. While the Western Interconnection is electrically separate from the systems that serve the rest of the United States, Canada, and Mexico, national policies and processes have consequences for the western system and its component parts. The West must have an effective voice in national organizations that promulgate policies the West must implement. One such organization is the North American Energy Standards Board ("NAESB"). NAESB is an industry forum for the development and promotion of standards to enable a seamless marketplace for wholesale and retail natural gas and electricity.

The Market Interface Committee of the WECC has a task force to work on NAESB coordination issues. Now may be the time to examine whether there is

more that the West should do to participate effectively in NAESB or in other national organizations, such as the North American Electric Reliability Council (“NERC”).

C. OPTIONS FOR WEST-WIDE ISSUES

If we maintain the *status quo*, the West will continue to rely on existing institutions to provide solutions for commercial issues (West-wide or otherwise). Influencing processes at the national level will depend on the individual efforts of western parties participating at the FERC-, NAESB-, and NERC-level. Policymakers and industry participants who seek more effective tools to address commercial issues on a West-wide basis have identified a number of options, including:

- expanding the scope of the WECC to address most or all of the West-wide issues identified in this white paper;⁵
- creating a new organization to address West-wide commercial issues; and
- creating an umbrella “policy council” that oversees and integrates West-wide activities through an adequacy planning group, a reliability planning group, and an implementation group.

D. NEXT STEPS

The purpose of this white paper is to encourage policymakers and industry leaders to

- consider whether the issues identified in section B of this white paper are the rights ones;
- flesh out and evaluate the options identified in section C and consider whether other options should be added; and
- decide how to move forward with the best option for addressing electric power issues on a West-wide basis.

⁵ This option might require changes to WECC’s structure and bylaws.

ATTACHMENT A

Brief Descriptions of Agencies and Organizations Engaged in Activities Related to Electric Power in the West

Cal ISO (California Independent System Operator):

The Cal ISO is an independent transmission system operator for California. The Cal ISO's mission is to (i) plan and operate a safe and reliable electric system; (ii) provide open and non-discriminatory electric transmission services; and (iii) facilitate appropriate investment in electric transmission and generation infrastructure. More information about the Cal ISO is available at www.caiso.com/aboutus/index.html.

CCPG (Colorado Coordinated Planning Group):

The CCPG is a joint, high voltage transmission system planning forum for the purpose of assuring a high degree of reliability in the planning, development, and operation of the high voltage transmission system in the Rocky Mountain Region, in accordance with a set of Joint Transmission Access Principles and an Electric Transmission Service Policy Statement dated December 16, 1991. For the WECC's Rocky Mountain Region, the CCPG provides a technical forum to complete reliability assessments, develop joint business opportunities, and accomplish coordinated planning under a single-system planning concept.

CREPC (Committee for Regional Electric Power Cooperation):

The Western Interstate Energy Board (WIEB), together with the Western Conference of Public Service Commissioners, formed CREPC in 1984 to enable collaboration among states and provinces on regional electric power issues. All public utility commissions, state and provincial energy agencies, and siting agencies in the states and provinces in the Western Interconnection are eligible to participate. CREPC is a forum for interstate collaboration. CREPC has no regulatory powers and acts only by unanimous consent. The level of participation in CREPC activities varies among the states and provinces. CREPC's activities are primarily funded by dues to the WIEB, federal grants, and a contribution from the Western Conference of Public Service Commissioners. The WIEB provides staff for CREPC.

More information about CREPC is available at www.westgov.org/wieb/site/subpages/crepcpage/index.htm.

FERC (Federal Energy Regulatory Commission):

FERC is an independent federal agency that regulates the interstate transmission of natural gas, oil, and electricity. FERC has adopted a number of policies, decisions, and rules since the passage of the Energy Policy Act of 1992 aimed at enhancing wholesale energy markets and the nation's energy infrastructure. More information about FERC is available at www.ferc.gov/about/about.asp.

NAESB (North American Energy Standards Board):

NAESB is an industry forum for the development and promotion of standards to enable a seamless marketplace for wholesale and retail natural gas and electricity. More information about NAESB is available at www.naesb.org/aboutus.asp.

NERC (North American Electric Reliability Council):

NERC was formed in 1968 in the aftermath of the November 9, 1965 blackout that affected the northeastern United States and Ontario, Canada. NERC's mission is to promote the reliability of the electricity supply for North America. NERC implements its mission by (i) reviewing the past for lessons learned, (ii) monitoring the present for compliance with policies, criteria, standards, principles, and guides, and (iii) assessing the future reliability of the bulk electric systems. More information about NERC is available at www.nerc.com.

NWPCC (Northwest Power and Conservation Council):

The NWPCC develops and maintains a regional power plan and a fish and wildlife program to balance the Northwest's environment and energy needs. The NWPCC's three tasks are to:

- develop a 20-year electric power plan that will guarantee adequate and reliable energy at the lowest economic and environmental cost to the Northwest;
- develop a program to protect and rebuild fish and wildlife populations affected by hydropower development in the Columbia River Basin; and
- educate and involve the public in the NWPCC's decision-making processes.

More information about the NWPCC is available at www.nwppc.org.

NWPP (Northwest Power Pool):

The NWPP serves as a forum in the electrical industry for reliability and operational adequacy issues in the Northwest, both through a transition period of restructuring and in the future. The NWPP promotes cooperation among its members to achieve reliable operation of the electrical power system, coordinate power system planning, and assist in transmission planning in the Northwest Interconnected Area. More information about the NWPP is available at www.nwpp.org/about.html.

NWPP NTAC (NWPP Northwest Transmission Assessment Committee):

The NTAC, which was formed in 2003 under the NWPP Transmission Planning Committee, is an open forum to address forward looking planning and development for a robust and cost effective NWPP area transmission system.

RMATS (Rocky Mountain Area Transmission Study):

RMATS encompasses Wyoming, Utah, Montana and Colorado. The purpose of RMATS is to identify, in an open and public process, potential generation projects in the WECC's Rocky Mountain subregion and the electric transmission needed to support these projects. With broad stakeholder involvement, this framework for regional collaboration is intended to help improve the Western Interconnection by identifying technical, financial and environmentally viable projects for siting, investment, and development in the near future. The process will also identify any potential obstacles to prudent development of these needed facilities. RMATS provided the foundation for a four-state memorandum of understanding among the governors of California, Nevada, Utah, and Wyoming (announced April 4, 2005) to develop the new "Frontier Line." More information related to the Frontier Line is available through <http://psc.state.wy.us/htdocs/subregional/home.htm>.

SSG-WI (Seams Steering Group - Western Interconnection):

SSG-WI activities began in 2001 at the urging of CREPC. SSG-WI was formalized through a December 2002 Memorandum of Understanding among the Cal ISO, the Interim Committee of WestConnect, and RTO West (now Grid West). SSG-WI serves as the discussion forum for facilitating the creation of a seamless western market and for proposing resolutions for issues associated with differences in transmission practices and procedures.

In addition to transmission planning and market monitoring, SSG-WI work groups have also addressed price reciprocity issues between transmission regions (i.e., waiving export fees), possible opportunities for shared

infrastructure investment (communications, back-up facilities, system infrastructure, etc.), and possible alignment of the proposed congestion management practices.

Further information about SSG-WI and its work groups is available at www.ssg-wi.org.

SSG-WI Market Monitoring Work Group

The SSG-WI Market Monitoring Work Group was set up in 2002 to develop a workable proposal for a single West-wide market monitoring entity that would monitor the California ISO, Grid West, and WestConnect markets and satisfy the Order 2000 market monitoring requirements for western RTOs. The SSG-WI Market Monitoring Work Group has developed a straw proposal for a West-wide market monitoring function in the West. At present, the work group is focused on developing a “pilot program” that would test the viability of its proposal.

SSG-WI Planning Work Group:

The goal of the SSG-WI Planning Work Group is to provide a forum to further development of a robust interstate transmission system in the West, capable of supporting a competitive and seamless West-wide wholesale electricity market. The SSG-WI Planning Work Group developed a transmission report that it presented to the Western Governors’ Association in 2003 and most recently has been working on a 2005 expansion planning database.

STEP (Southwest Transmission Expansion Plan):

The STEP geographic area covers southern California, southern Nevada and western Arizona. STEP has developed two processes: a coordination process and a study process. The coordination process allows sponsors of projects to use the STEP forum to coordinate the development of their projects. The STEP study process is an open study process to develop a transmission expansion plan for the STEP area.

SWATS (Southwest Area Transmission Study):

The SWAT geographic area covers Arizona, New Mexico, and parts of southern California, west Texas, southern Nevada, and southern Colorado. The goal of SWAT, as set forth in the SWAT Purpose and Vision Statement, is to promote regional planning in the Desert Southwest. SWAT is composed of transmission regulators and other governmental entities, transmission users, transmission owners, transmission operators, and environmental organizations.

WAG (Western Assessment Group):

The Western Assessment Group consists of representatives from different sectors of the electric industry in the West. These representatives have come together to consider which aspects of planning, building, operating, or providing services over the West's electric power system should be addressed on a West-wide basis and to explore what processes or institutions would be best suited to address West-wide issues.

WECC (Western Electricity Coordinating Council):

The WECC was formed in April 2002 through the merger of the Southwest Regional Transmission Association, the Western Systems Coordinating Council, and the Western Regional Transmission Association. The WECC is the largest of the ten member councils operating under NERC. The WECC's mission is to (i) maintain a reliable electric power system in the Western Interconnection that supports efficient competitive power markets, and (ii) assure open and non-discriminatory transmission access among WECC members and provide a forum for resolving transmission access disputes between members.

The WECC serves the entire Western Interconnection. It accomplishes its mission through the donated labor of its 159 member organizations and a staff of 24. Membership in the WECC is open to any entity with an interest in the bulk electrical system of the Western Interconnection.

The WECC has five membership classes – Large Transmission Owners, Small Transmission Owners, Transmission Dependent Entities and Service Providers, End Users, and State and Provincial Regulators. Each class elects four members to the WECC Board of Directors, which has overall responsibility for management of the WECC.

The WECC has no statutory authority, but all WECC members are obligated to abide by its standards and policies. Many members have agreed by contract to self-report compliance with respect to certain standards and to incur monetary penalties for non-compliance.

More information about the WECC is available at www.wecc.biz.

WECC MIC (WECC Market Interface Committee):

The regional transmission organizations that used to operate in the West (the Northwest Regional Transmission Association, the Southwest Regional Transmission Association, and the Western Regional Transmission Association), together with Western Systems Coordinating Council, created the Western

Interconnection Coordination Forum (WICF) in the late 1990's. Under WICF they formed a Western Market Interface Committee to provide a forum for discussing and resolving commercial issues.

The Western Market Interface Committee created by WICF continues its existence today as the WECC Market Interface Committee.

WGA (Western Governors' Association):

The WGA is a non-profit corporation consisting of 21 Western states, including all the states in the Western Interconnection. The mission of the WGA is to address important policy and governance issues in the West, advance the role of the western states in the federal system, and strengthen the social and economic fabric of the region. The WGA develops policy and carries out programs in the areas of natural resources, the environment, human services, economic development, international relations and state governance. The WGA acts as a center of innovation and promotes shared development of solutions to regional problems.

Following the 2000-2001 western electricity crisis, western governors have increased their focus on electricity issues. The WGA has, among other things:

- adopted electricity-related policies and directed the Western Interstate Energy Board or CREPC to help implement the policies;
- asked western industry leaders to institutionalize proactive transmission planning
- lobbied Congress on federal reliability legislation;
- asked the WECC for a plan to implement reliability legislation;
- asked SSG-WI, the WECC, and CREPC to address electric and related natural gas resource adequacy;
- worked to implement the Western Renewable Energy Generation Information System and a robust renewable energy credit market; and
- launched a "clean and diversified energy" initiative to add 30,000 MW of clean energy by 2015 and improve electricity efficiency by 20% by 2020.

The WGA is funded by state dues, federal grants on specific projects, and corporate contributions. Additional information about the WGA and its activities is available at www.westgov.org. WGA policies can be found at www.westgov.org/wga_all_resolutions.htm under "energy."

WIEB (Western Interstate Energy Board):

The WIEB is an organization of 12 western states, together with three western Canadian provinces that are associate members of the WIEB. The WIEB includes all the states and provinces with substantial territory in the Western Interconnection except Baja. The WIEB's purpose is to provide the instruments and framework for cooperative state efforts to enhance the economy of the West and contribute to the well-being of the region's people. The WIEB seeks to achieve this purpose through cooperative efforts among member states and provinces and with the federal government in the energy field. The WIEB serves as the energy arm of the WGA and is funded by state and provincial dues and federal contracts on specific projects.

Pursuant to an interstate compact that provides the legal basis for the WIEB, each governor of a participating state appoints a member to the WIEB. The compact does not give the WIEB regulatory powers; it has power only to foster cooperative action among the states and with the federal government.¹

Additional information about the WIEB is available at www.westgov.org/wieb.

¹ The compact, the Western Interstate Nuclear Compact, does require signatory states to provide mutual assistance in the event of a nuclear incident.

ATTACHMENT B

Information About Current Transmission Expansion Planning Activities in the West

A. Overview of Current Efforts

Transmission planning activities in the West currently involve:

- the California ISO;
- the Colorado Coordinated Planning Group (“CCPG”);
- the Committee for Regional Electric Power Cooperation (“CREPC”), operating under the auspices of the Western Interstate Energy Board which is the energy arm of the Western Governors’ Association;
- the Northwest Power and Conservation Council (“NWPPCC”)
- the Northwest Power Pool (“NWPP”), including the Northwest Transmission Assessment Committee (“NTAC”) and the Transmission Adequacy Steering Committee;
- the Rocky Mountain Area Transmission Study (“RMATS”);
- the Planning Work Group of Seams Steering Group - Western Interconnection (the “SSG-WI Planning Work Group”);
- the Rocky Mountain Area Transmission Study (“RMATS”);
- the Southwest Area Transmission Study (“SWATS”);
- the Southwest Transmission Expansion Plan (“STEP”); and
- the Western Electricity Coordinating Council (“WECC”).

B. SSG-WI Planning Activities

2005 Work Plan Proposal

The SSG-WI Planning Work Group’s 2005 work plan proposal calls for policy-level discussions to institutionalize the regional planning work that SSG-WI is currently performing on a voluntary, *ad hoc* basis. The desired result is a regional planning process that:

- is rigorous, objective, and transparent;
- integrates transmission and resource planning;
- covers economically viable alternatives throughout the Western Interconnection;
- considers energy policy goals, requirements and standards;
- builds and maintains an up-to-date, well-coordinated, public data base;
- provides conceptually and technically sound economic modeling;
- ensures broad stakeholder participation; and
- occurs on a predictable, cyclical basis.

To evaluate the West-wide economic impact of major projects planned for the Western Interconnection, the SSG-WI Technical Support Group has identified the following projects for evaluation in the 2005 SSG-WI study program:

- New Mexico wind integration
- RMATS Recommendation 2
- Canada to U.S. – Northern Lights DC Project
- Tehachapi Wind Project
- Gas price sensitivity
- Load forecast sensitivity
- Hydro generation sensitivity
- Northwest Power and Conservation Council resource case
- Achieving the clean energy goals (e.g., 30,000 MW) set by western governors

California PUC request of SSG-WI

The California Public Utilities Commission (CPUC) is evaluating the Tehachapi Wind Project, a 4000 MW project in California. The CPUC has requested that, as part of its 2005 scenario analyses, the SSG-WI Planning WG perform production cost studies for the Tehachapi Project to determine the West-wide economic benefits as well as the benefits to California consumers. The SSG-WI Technical Support Group intends to evaluate the CPUC's request.

2003 SSG-WI Study

As reported in the October 2003 SSG-WI Transmission Report, the SSG-WI Planning Work Group studied three resource scenarios – gas, coal, and renewable – emphasizing resource development of each resource type. The study identified transmission needed to alleviate transmission congestion associated with each scenario. (The 2003 SSG-WI Transmission Report lists the specific projects that were added for each scenario.)

Economic analysis included calculation of Locational Marginal Prices (LMP) for selected busses for each scenario. The LMP cost represents the cost of the next increment of energy to serve demand at the specified bus or area. From these calculations, it was found that major project additions affect the cost of energy throughout the Western Interconnection. (RMATS work has also pointed to the same conclusion.)

In the studies undertaken for the 2003 SSG-WI Transmission Report, Interconnection-wide production cost studies showed how the subregions throughout the West are affected by differing resource and transmission development strategies. The estimates of economic impacts that the

production-cost modeling process produced assumed a real-time competitive market in which pricing is on an hourly, LMP basis. These markets do not exist today in the West, although the California ISO's market design is moving in this direction. Because of this, the actual distribution or sharing of the benefits between consumers and owners of generation in each region would vary from the distribution calculated by the models.

The 2003 SSG-WI studies calculated the following LMPs for 2013 under average hydro, high gas price conditions:

LMP at Load Bus - Scenario

<u>Area</u>	<u>Gas</u>	<u>Coal</u>	<u>Renewable</u>
Idaho	\$44.24	\$42.12	\$42.05
Arizona	46.40	43.91	44.76
San Diego	47.19	47.14	46.20
PAC East	44.78	39.27	42.60

The calculated LMP values illustrate that within a resource scenario, there are variations in LMP values throughout the Interconnection because of transmission congestion. The LMP values also illustrate that differing resource and transmission scenarios affect LMP prices differently within a given subregion.

C. Western Governors' Actions and Guidance

The Western Governors' Association ("WGA") Website states that the Western Governors launched a new era in transmission planning with the release of the report [Conceptual Plans for Electricity Transmission in the West](#). They explored related financing issues in a separate report, [Financing Electricity Transmission Expansion in the West](#).

The Western Governors have indicated the importance they place on establishing a regional transmission planning function in the West.

- According to a 2004 WIEB staff report:

"Western Governors have typically addressed complex regional issues by emphasizing the need for collaborative solutions developed through government and private sector partnerships. Governors also believe that the best solutions are those that are developed by parties in the West. Since the 2000-2001 Western electricity crisis, Governors have systematically applied these

approaches to foster the development of solutions that will avoid a repeat of the crisis.”

- In WGA Resolution 03-19, the Western Governors “urge the industry, states, provinces to implement immediately a pro-active Western Interconnection transmission planning process.”
- In 2003, the Governors of Wyoming and Utah launched the RMATS subregional transmission planning effort to kick start proactive transmission planning in that area.

WIEB staff has expressed concern that the current regional and subregional planning processes in the West are *ad hoc*. It is unclear who, if anyone, will follow up on planning recommendations with necessary additional studies and development proposals. No organization assures institutional memory for the planning work that has been done. Regulatory agencies and other subregional planning efforts do not have a designated contact for questions about completed analyses. This *ad hoc* approach also makes it difficult to identify potential improvements to existing processes and assess whether devoting additional resources to make improvements will have long-term benefits.

Siting and Permitting Related to Transmission Planning

In summer 2002, 12 western Governors, representatives of the U.S. Departments of Interior, Agriculture, and Energy, and the Council on Environmental Quality signed a protocol governing the siting and permitting of interstate electric transmission lines. In 2004, the Premier of Alberta signed the protocol.

The protocol instituted a coordinated joint review process for the siting and permitting of transmission lines. In relation to regional transmission planning, Policy Position 4 of the protocol states that “when linked with a pro-active regional transmission planning and implementation process that considers transmission and non-transmission alternatives and appropriate systems for financing new transmission and alternatives, a coordinated, interstate joint review of proposed interstate transmission facilities will enable identification and consideration of interstate needs, facilitate the construction of needed transmission, and ensure that the public interest is protected.”

The implementation section of the protocol (Section D) further provides that the “Project Team shall evaluate assessments of the need for the project developed through regional transmission planning processes and other processes and shall provide the assessments and their evaluation as necessary to any agency.”

D. Subregional Planning Group Efforts

Subregional transmission planning activities currently underway are described below:

CCPG

The CCPG is a joint, high voltage transmission system planning forum for the purpose of assuring a high degree of reliability in the planning, development, and operation of the high voltage transmission system in the Rocky Mountain Region. The CCPG provides a technical forum to complete reliability assessments, develop joint business opportunities, and accomplish coordinated planning under a single-system planning concept.

NWPP NTAC

The NWPP NTAC is an open forum to address forward looking planning and development for a robust and cost-effective NWPP area transmission system.

RMATS

RMATS encompasses Wyoming, Utah, Montana and Colorado. The purpose of RMATS is to identify, in an open and public process, potential generation projects in the WECC's Rocky Mountain subregion and the electric transmission needed to support these projects. With broad stakeholder involvement, this framework for regional collaboration is intended to help improve the Western Interconnection by identifying technical, financial, and environmentally viable projects for siting, investment, and development in the near future. The process will also identify any potential obstacles to prudent development of these needed facilities. RMATS provided the foundation for a four-state memorandum of understanding among the governors of California, Nevada, Utah, and Wyoming (announced April 4, 2005) to develop the new "Frontier Line." More information related to the Frontier Line is available through <http://psc.state.wy.us/htdocs/subregional/home.htm>.

The September 2004 RMATS report identified major transmission projects in the 2013 time frame that would enable export 3900 MW of power from the Rocky Mountain region to higher-cost markets in the West, including California. (The specific projects are listed in RMATS Recommendation 2). Recommendation 2 requires construction of two major 500 kV transmission lines from the eastern system to the western system (Northwest and /or California) and upgrades to the backbone system in the RMATS region. These projects were found to have significant economic benefits outside the Rocky Mountain region as shown below. For example, the reduction in cost to serve regional load (Load Benefit)

for the projects in Recommendation 2 compared to the IRP based reference case suggested the following subregional benefits (See Table 3-10 in RMATS Report):

<u>Region</u>	<u>Annual Load Benefit (million \$)*</u>
Rocky Mountain	750
Northwest	517
Canada	207
Mexico	20
California	646
Desert Southwest	286

*Based on LMPs, which are driven by fuel prices, loads, generation levels and other variables. LMPs are not necessarily a reliable predictor of where benefits will fall.

Recommendation 2 produces significant consumer benefits throughout the West, with significant benefits in the Rocky Mountain region and in California. These benefits would require investment in transmission and resources of an estimated \$14.3 billion and annualized fixed costs of \$1,828 million.

The RMATS report concluded, "RMATS recommends that further work on Recommendation 2 should be coordinated with California transmission planners and the SSG-WI's west-wide planning process. Planning for cost allocation and cost recovery for Recommendation 2 should be on a basis broader than the RMATS footprint in recognition of the distribution of potential benefits."

RMATS has also recommended that SSG-WI use RMATS export case analyses in the development of an interconnection-wide "realistic" generation scenario that would be studied in late 2004 and early 2005.

STEP

The STEP geographic area covers southern California, southern Nevada and western Arizona. STEP has developed two processes: a coordination process and a study process. The coordination process allows sponsors of projects to use the STEP forum to coordinate the development of their projects. The STEP study process is an open study process to develop a transmission expansion plan for the STEP area.

SWAT

The SWAT geographic area covers Arizona, New Mexico, and parts of southern California, west Texas, southern Nevada, and southern Colorado. The goal of SWAT, as set forth in the SWAT Purpose and Vision Statement, is to promote regional planning in the Desert Southwest. SWAT is composed of transmission regulators/governmental entities, transmission users, transmission owners, transmission operators, and environmental organizations.

E. WECC Activities Related to Planning

The WECC's bylaws were recently modified to remove a prohibition against the WECC performing transmission expansion studies. To date, the WECC has not performed any transmission expansion planning. The WECC's future role in performing transmission planning studies will be guided by the membership and Board of the WECC.

The WECC supports regional planning conducted by individual WECC members and subregional planning groups. This support includes providing data sets for modeling planned projects, administering WECC planning processes (described below), and providing maps of existing and planned facilities in the Western Interconnection.

The WECC has an agreement with General Electric that allows the WECC to provide GE's PSLF program to WECC members. PSFL is a software tool for modeling the interconnected electrical network. It is used to perform powerflow and stability studies to assess the reliability impacts of planned projects. The WECC provides technical support to members for this program. The WECC also plans to include funds in its 2006 budget for additional personnel and software to assume responsibility for maintaining a Transmission Planning Database (developed by SSG-WI and PacifiCorp), which will enhance members' ability to conduct regional planning.

The WECC administers three processes related to transmission planning – a Regional Planning Project Review process, the Project Rating process and the WECC Progress Report process.

- The purpose of the **Regional Planning Project Review** process is to inform others of opportunities to participate in or review a project, and to solicit project participation at the conceptual stage. The goal is to avoid duplicate projects and allow a new project to integrate other needs by mutual consent.
- The goal of the **Project Rating** process is to integrate new projects (with pre-determined ratings) into the existing system while

recognizing protected ratings of other facilities. It is designed to ensure that new projects will meet reliability standards for the region.

- The **WECC Progress Report** process allows project sponsors to report significant additions and changes to the interconnected system. Potentially affected parties are then able to review and comment on these additions or changes. This is a process through which a new project can demonstrate that it will meet reliability standards for the region.

The processes described above are intended to:

1. Provide procedures for WECC members and others to report on planned projects and to work together to expand the interconnected system capability according to member and stakeholder needs;
2. Provide project sponsors with an agreed-upon procedure that has industry recognition, and that, when completed, can be used to demonstrate that proposed projects have complied with appropriate planning procedures (which may be required to obtain necessary regulatory approvals);
3. Specify policies and procedures for required notifications and reliability assessments related to projects planned within the WECC electric system;
4. Provide agreed-upon methods for rating transmission facilities and protecting existing facility ratings;
5. Ensure reliable and coordinated integration of existing and new projects so that system use is maximized for all participants.

The WECC coordinates with NTAC, STEP, SWAT, RMATS, CCPG, and the SSG-WI Planning Work Group. The WECC provides reports at planning coordination meetings to foster communications among all planning entities.

The WECC is not involved in transmission facilities siting and does not evaluate projects for merit.

ATTACHMENT C

Information on Current Activities Related to Resource Adequacy in the West

A. CREPC Activities Related to Resource Adequacy

The Committee on Regional Electric Power Cooperation (CREPC) has formed a West-wide Resource Assessment Team (WRAT) to address resource adequacy issues for the states. WRAT is working closely with the WECC to develop a resource adequacy program and related criteria/targets. The WRAT developed a set of proposed “next steps” for resource adequacy work for CREPC, the Western Governors’ Association (WGA), and the Western Electricity Coordination Council (WECC). These “next steps” were approved by consensus at the October 21, 2004 CREPC meeting. They include a recommendation to use a voluntary targets approach to resource adequacy.

The WRAT has developed seven proposed elements to include in any resource adequacy proposal for the Western Interconnection, which have been presented to the WECC Reliability Subcommittee. The seven elements concern:

- Data and information standards;
- Level of geographic detail (often at the control area level);
- Submission of information;
- Metrics;
- Guidelines/targets;
- Time horizon; and
- Oversight.

B. NWPCC Activities Related to Resource Adequacy

The Northwest Power and Conservation Council (NWPCC) is responsible for developing a 20-year electric power plan that will guarantee adequate and reliable energy at the lowest economic and environmental cost to the Northwest.

In December 2004 the NWPCC issued a draft of its fifth 20-year power plan. The plan is scheduled to be released in final form in spring 2005. The draft plan recommends setting up a process to establish adequacy targets for the Northwest and the rest of the Western Interconnection. The draft plan also recommends that the region:

- Increase and sustain its efforts to secure cost-effective conservation;

- Develop demand-response programs;
- Incorporate more than 1,100 MW of new wind capacity; and
- Secure options (siting and permitting) for development of new resources.

The complete text of the NWPCC's fifth power plan is available at www.nwppc.org/energy/powerplan/draftplan/Default.htm.

C. WECC Activities Related to Resource Adequacy

The WECC currently does not have a standard for measuring resource adequacy and is not responsible making resource adequacy determinations. The WECC does conduct two resource assessments for the Western Interconnection – an annual Power Supply Assessment and a twice-yearly (summer and winter) Reliability Assessment. The WECC is working closely with CREPC to improve and refine WECC assessments. The WECC also publishes an annual Ten-Year Coordinated Plan Summary, which looks forward to facilities additions and load growth on a regional and subregional level.

- The WECC **Power Supply Assessment** is designed to answer this question: “What is the *supply margin* or resource capacity remaining after meeting the total demand plus an assumed reserve margin, and after de-rating generation for scheduled maintenance, inoperable generation, and assumed forced outages, and after considering transmission constraints in calculating potential transfers from surplus zones to deficit zones?”

Supply margin is defined as the amount of resource capability (including imports) in excess of the demand requirements, after applying specified adjustments to both demand and resources. Specified adjustments are determined by the Reliability Subcommittee.

- The **Reliability Assessment** answers the question: “What is the *reserve margin* after meeting the firm demand, and after de-rating generation for scheduled maintenance and inoperable generation, and after applying the reported transfers?”

Reserve margin is defined as capacity over and above anticipated firm peak demands, maintained for the purpose of providing operational flexibility and for preserving system reliability. Reserve margins cover for planned and unplanned outages of generation and/or transmission facilities.

The WECC prepares reports on its Power Supply Assessments and Reliability Assessments based on loads and resources data collected from each WECC

control area shortly after the end of each year. The WECC collected the following data from control areas:

- Existing generation capabilities by unit;
- Planned generation capabilities by unit;
- Transmission and other facilities additions;
- Firm peak demand;
- Non-firm peak demand (interruptible or controllable);
- Aggregate generation capabilities by type;
- Largest risk;
- Second-largest risk;
- Reserve margin requirement;
- Scheduled maintenance;
- Inoperable generation;
- Firm transfers;
- Planned purchases;
- Planned sales;
- Joint plant imports;
- Joint plant exports;
- Firm energy load (actual and projected ten years out);
- Non-firm energy load (actual and projected ten years out);

At its March 2005 meeting, the WECC Planning Coordination Committee approved a motion to move resource adequacy responsibility to a newly formed Loads and Resources Task Force. The Loads and Resources Task Force will have responsibility for implementing the WECC Board's resource adequacy goals. The Task Force will work with local, state, and provincial regulators to develop approaches for resource adequacy guidelines or targets.

D. The California Public Utilities Commission

On October 28, 2004, the California Public Utilities Commission (CPUC) issued an order that establishes resource adequacy requirements for those load-serving entities under the CPUC's jurisdiction.

ATTACHMENT D

Information About West-Wide Market Monitoring Discussions

Most recent work on West-wide market monitoring has been conducted under the auspices of the SSG-WI Market Monitoring Work Group. The goal of the Market Monitoring Work Group is to develop a workable proposal for a West-wide market monitoring entity that would monitor West-wide markets and interface with local market monitoring entities.

The Market Monitoring Work Group is currently focused on developing a proposal for a West-wide market monitoring pilot project.

The main object of the pilot project would be to demonstrate that West-wide market monitoring is:

- Doable (effective monitoring can be accomplished, including monitoring of bilateral markets);
- Beneficial (value added/wide range of beneficiaries – market participants to regulators);
- Cost effective (can be properly scoped so not duplicative of local market monitoring); and
- Results in greater transparency of Western Interconnection markets.

The proposed duration of the pilot project is two years. The project would be staged for different activities in each year.

One possible approach the Market Monitoring Work Group has been considering is to hire market monitoring consultant to prepare a market power evaluation for Western Interconnection (similar to MISO State of Market Report). The evaluation would rely on available information but could also identify other data that would be helpful.

One advantage of a pilot project is that it would be limited in scope and duration. Industry participants may be more receptive to this approach than they would be to an effort to implement West-wide market monitoring without a test run.

Members of the Market Monitoring Work Group are also exploring how the development of a pilot program proposal, as well as subsequent implementation of the program, could be funded.