LOGO

The Transmission Improvements Group (TIG) was formed in 2005 to identify solutions for a variety of transmission challenges within the geographic area covered by the Northwest Power Pool (NWPP). In developing solutions, TIG charter groups focused on actions that would use existing regional organizations wherever possible. The TIG charter groups also limited their proposals to options that would not alter fundamental relationships between utilities and their regulators or expand FERC's jurisdiction over non-FERC jurisdictional entities or transactions.

TIG proposes a series of steps the Northwest can take now to improve access to and the efficient operation of the region's transmission system. The overall goal of these proposals is to increase transmission reliability and efficiency at the least cost and as rapidly as possible.

Structure: TIG proposes the establishment of a flexible long-term contract structure for the exercise of regional control over coordinated improvements to the Northwest transmission system.

Charter Agreements: TIG proposes that transmission improvements be accomplished through multilateral contracts among entities with responsibility for providing for a function, or related group of improvements (Charter Agreements). The Charter Agreement parties would contractually commit to establish and fund a committee of customers and other interested parties to provide technical and policy input regarding the development of improvements.

TIG Coordinating Agreement: A TIG Coordinating Agreement, entered into by all of the Charter Agreement parties, would commit the signatories to coordinate implementation of the Charter Agreements. Pursuant to this agreement, a seven-member Executive Committee would be responsible for ensuring that improvements are achieved as contemplated in the Charter Agreements. Each group of the five Charter Agreement parties would elect a member of the Executive Committee. A Coordinating Committee with broad membership would be formed for the purpose of electing two members of the Executive Committee.

Flow-Based Approach: Transmission Providers would transition the region to a common and centralized flow-based approach for reliability, operations, planning and expansion, and, ultimately, the sale of new transmission rights. The transition would take place in incremental steps with clear decision points. Transmission Providers would arrange for independent staff to implement the flow-based approach. While the staff would not be BPA employees, they would be housed at Dittmer.

Transmission Planning and Expansion:

Northwest Transmission Planning Process: TIG proposes that a biennial regional transmission expansion plan be developed through a public planning process. To maximize system efficiency, reduce costs, and minimize environmental impacts, the plan

would take a "single utility" approach, as if one utility owned all relevant transmission facilities. The process for developing the plan would be open and proactive, and any interested party could participate, and it would include the analysis of non-transmission alternatives.

***Transmission Expansion Review Committee*:** TIG proposes the establishment of a mixed independent and stakeholder panel that would review and approve the biennial plan and provide guidance regarding its implementation. Transmission Owners would commit to following the plan, subject to dispute resolution and certain off-ramps.

Transmission System Reliability and Security: TIG proposes that Transmission Owners, Control Areas Operators, and the Pacific Northwest Security Coordinator (PNSC) would be provided with additional information through the creation of a regional database of pre-real time operational data. This database, together with the output of the flow-based model, will increase responsible entities' visibility of the system.

The PNSC's role would be expanded from a reliability backstop during real-time and pre-real time, to a reliability backstop during the day-ahead timeframe. The expanded role of the PNSC would be further supplemented by the voluntary consolidation of control areas. If consolidations occur, those entities with primary responsibility for reliability would have a greater understanding of operations across a broader area, as well as have access to more information regarding operations in that expanded area. In addition, Control Area operators would be provided an additional tool to clear congestion in the form of a Voluntary Redispatch Bulletin Board with multiple participants from wholesale markets.

Finally, reserve-sharing arrangements would be enhanced, and a reactive energy management program and a regulation-sharing program would be established. Responsible entities would implement these improvements using existing and future arrangements with the Northwest Power Pool.

Common Northwest OASIS: TIG proposes that Transmission Providers offering services through an OASIS implement a Common Northwest OASIS. A Common Northwest OASIS would provide a mechanism for Transmission Customers to purchase, redirect, or resell transmission, and connect new resources or loads to the region's transmission system. To the extent possible, Transmission Providers would develop common tariff terms and conditions, standardize business practices, and offer similar products. Ultimately, the common Northwest OASIS would post a region-wide ATC and act as a single common queue for transmission service and interconnection requests. TIG recommends that the Transmission Providers establish the Common Northwest OASIS through the existing Common Western OASIS platform.

Market Monitoring: TIG proposes that Transmission Owners hire and fund an Independent Market Monitor to monitor transmission and other relevant markets. The Independent Market Monitor would have direct relationships with state and federal regulatory, enforcement, and oversight entities. The Independent Market Monitor would

not have the ability to intervene in markets and remedy inappropriate behavior or market structure issues.

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Chapter I

Overview of Proposal

The Transmission Improvements Group (TIG) proposes a series of steps the Northwest can start now to improve access to and the efficiency of the region's transmission system. TIG was formed to identify concrete, low-cost, near-term solutions for a variety of known transmission challenges within the geographic area covered by the Northwest Power Pool (NWPP). While TIG proposals identified in this Report would be implemented in the near-term, the proposals contemplate a structure that would be place over the long-term and would be used by responsible entities to address Northwest transmission challenges and issues in the coming years.

TIG participants include: [To be inserted]

During April through July 2005, TIG charter groups developed a set of detailed proposals to improve the Northwest transmission system. These recommendations cover five main areas: regional transmission planning and expansion; a Common Northwest OASIS; a flow-based approach; reliability and security; and market monitoring. The overall goal of these proposals is to increase the reliability and efficiency of the electric and transmission system for the citizens of the Northwest at the least cost, and as rapidly as possible.

In developing these proposals, TIG charter groups focused on actions that would use existing organizations in the region, wherever possible, rather than establishing new organizations with new authorities. The TIG charter groups were also directed not to alter fundamental relationships between utilities and their regulators, and not to expand FERC jurisdiction. This approach ensures rapid implementation, low cost and risk, continued regional accountability, and broad participation by all transmission providers and users (non-FERC jurisdictional as well as FERC-jurisdictional).

The region now has the opportunity to evaluate TIG's proposals to improve the Northwest transmission system, as well as other proposed alternatives. In the coming months, TIG representatives look forward to discussing their recommendations more fully with all other parties in the region.

The TIG report describes each TIG proposal in detail, including discussions of the legal principles associated with making the recommended changes. In addition, the report contains an implementation schedule and a preliminary cost and staffing estimate. The report also contains the charters that were used to scope the TIG discussions. This chapter summarizes the principal features of the TIG proposal.

A. Structure

TIG suggests that transmission improvements be accomplished through multilateral contracts among responsible entities (Charter Agreements). These contracts would relate

to each of the five charter areas, although the contracting parties could decide to consolidate some of the agreements.

In addition to the five Charter Agreements, a TIG Coordinating Agreement would commit the signatories to coordinate the implementation of the Charter Agreements and development of improvements. The TIG Coordinating Agreement would establish a Coordinating Committee whose membership is those who have an interest in, use, or are impacted by the transmission system (at this time, TIG proposes to use the Northwest Regional Transmission Association membership classes). The Coordinating Committee would be responsible for electing two members of a policy-level Executive Committee *[note for Steering Committee -- any other role?]*.

The Executive Committee would be responsible for making sure that improvements are, in fact, achieved as contemplated in the Charter Agreements. To do this, the Executive Committee will facilitate coordination among the Charter Agreement implementation committees (Charter Committees) for each of the Charter Agreements, prepare an overall work plan, including milestones, time line, and allocation of responsibility among Charter Committees where issues overlap among or between committees. (Depending on the structure of each of the five functional or Charter areas, there may be more than one committee in any one Charter area.) In addition, the Executive Committee will, on its own initiative or due to input received from the Coordinating Committee, discuss and make recommendations regarding whether additional transmission improvements should be considered or undertaken by the responsible entities. The Executive Committee will also provide a facilitation role should impasses be reached within or among Charter Committees. The Executive Committee would have a minimum of five members, one chosen by the parties to each Charter Agreement. In addition, the Coordinating Committee could elect up to two additional Executive Committee members.

1. Benefits

[will be put into prose]

- Decision-making stays where it is
    - No changes in relationship between responsible entities and regulators
    - No expansion of FERC jurisdiction
    - Responsibility aligned with authority
- Maintains local/state/provincial oversight
- Works with existing rights
- Allows incremental steps and pacing
    - Hands-on improvements
    - Can make course corrections
    - No danger of mission creep
- Cost effective
    - Use what's already there

B. Regional Transmission Planning and Expansion

TIG proposes that a biennial regional transmission expansion plan be developed through an inclusive, public planning process (Northwest Transmission Planning (NTP) Process). The NTP Process would apply a single-utility planning concept to maximize system efficiency, reduce cost and minimize environmental impacts. A panel of stakeholder and independent members (Transmission Expansion Review Committee [TERC]) would review and approve the biennial plan and provide guidance regarding implementation, including cost allocation for reliability-driven transmission projects. Following TERC's decision, Transmission Owners may execute contracts to follow the guidance subject to dispute resolution, regulatory approval, and other off-ramps.

1. Northwest Transmission Planning Process

The NTP Process, facilitated by independent staff and supported by the Transmission Owners and Transmission Users, would prepare a regional biennial transmission expansion plan (the Plan). TIG proposes that, if possible, the NTP Process be housed at the NWPP. The NTP Process would develop Plans using a "single utility" approach: Plans would be developed as if a single utility owned all relevant transmission facilities in order to maximize system efficiency, reduce costs, and minimize environmental impacts. The NTP Process would be an open, proactive, least-cost public planning process. Any interested party could participate and provide input. The NTP Process would include the analysis of non-transmission alternatives.

The NTP and Participating Transmission Owner staff would develop common transmission planning criteria, assumptions, and guidelines. Current WECC and NERC planning standards would be used as minimum criteria and would be supplemented with any NWPP Transmission Adequacy Guidelines that have received TERC and state and local regulatory approval. The NTP staff and Participating Transmission Owners would review and update these criteria and standards every five years for approval by TERC, as well as by state and local regulators.

The NTP Staff would coordinate the preparation of the Northwest portion of base case models for submittal to WECC and for Northwest studies. They would perform an assessment of the ability of the system to serve load reliably and meet firm obligations for joint reliability planning areas, which would include information regarding local load areas. The NTP Staff would also develop potential transfer increase projects based on user input. They would study transmission service requests where there is insufficient ATC and perform generation interconnection studies. The NTP Staff would also coordinate with neighboring planning and operating entities, such as WECC and CAISO, as well as the other Transmission Owners and customers.

The Biennial Transmission Expansion Plan for the region's bulk transmission system and local planning areas would:

- Provide an overall assessment of the transmission system, including reliability concerns and emerging congestion problems, for the next 10 years.

- Identify four types of committed and potential projects for the 10-year period, including: joint reliability and firm obligation projects (to be approved by TERC); single utility local load service projects (for informational purposes); potential transfer increase projects, both open-season and committed projects (for informational purposes); and interconnection or transmission service projects that requestors have voluntarily chosen to pursue.

- Provide project costs, schedules, and sponsors for all committed projects where cost allocation has not been resolved among participants.

- Provide project costs and beneficiaries for all potential projects.

The NTP Staff, working with all interested parties, would endeavor to reach as much consensus as possible for the plans of service and cost allocations, but in the case of disagreements, the NTP Staff would make the final decision as to what is submitted to TERC. The NTP Staff would make its determination of the best solution, based on costs, beneficiaries, reliability improvement, and consistency with the Transmission Adequacy Standards. TERC would provide policy guidance throughout the planning process.

2. Transmission Expansion Review Committee

TIG further proposes the establishment of TERC to review and approve the biennial Plan and provide guidance regarding its implementation. TERC would include a panel consisting of stakeholder and independent members. TERC would be allowed to accept or reject transmission projects that the NTP has determined must be built for reliability purposes, and which transmission owners have not agreed to build. For those reliability projects that TERC has accepted, TERC would allocate the costs of construction and the responsibility for undertaking construction for these projects. The parties identified as responsible would then either agree to build the project or not. If they do not, the responsible entity may challenge the panel's decision in non-binding arbitration. If the responsible entity determines not to build the project, TERC or the affected party would file a complaint with FERC or another regulator with jurisdiction over the parties.

3. Benefits

A major benefit of the NTP process would be the establishment of an agreed-to regional transmission plan. NTP planners would focus on planning-specific issues and not on company-specific "political" considerations, which should result in the development of a credible regional plan from a technical perspective. In addition, the NTP process should enable a more focused decision-making process, with clarity on how to get to a final decision, including the next steps in the case of an impasse.

TERC would facilitate transmission expansion by providing additional mechanisms to prompt appropriate action. It would become the regional driver with respect to timeliness of decisions, and there would be a more consistent level of planning across the region, with consistent consideration of non-wires solutions. In sum, both the NTP Process and TERC would provide: a "one-stop shopping" approach; dedicated resources for regional transmission planning; and more opportunities for public input.

C. Common Northwest OASIS

TIG recommends Northwest Transmission Providers offering services through an OASIS implement a Common Northwest OASIS. A Common Northwest OASIS would provide seamless "one-stop shopping" for Transmission Customers to purchase transmission, redirect or resell transmission, and connect new resources or loads to Northwest transmission systems. The Common Northwest OASIS would display information common to all participating Transmission Providers and give individual Transmission Providers the ability to maintain their individual tariffs and business practices in a provider-specific area.

The Transmission Providers would specify a process through which they would identify and implement the needed OASIS features and attributes while accommodating the Transmission Providers' priority of compliance with applicable FERC OASIS standards. In addition, a Transmission Provider's authority over its tariff would be preserved. The Transmission Providers' goal would be to provide transmission services with common attributes; develop common tariff terms and conditions; develop common queues for requests for interconnection of new resources and for transmission service requests; and implement a flow-based model for determining ATC.

TIG recommends that the Transmission Providers establish the Common Northwest OASIS through the existing Common Western OASIS platform (i.e., wesTTrans.net). At the outset of this process, Transmission Providers would continue to provide service to their Transmission Customers under their current contract rights and operate under the terms and conditions of their individual transmission tariffs and business practices. As the process evolves and Transmission Providers agree to implement common products, attributes, and business practices, the new services would be included in the common portion of the Common Northwest OASIS.

1. Benefits

Implementation of the TIG Common Northwest OASIS proposal would:

- Provide Transmission Customers the ability to purchase transmission from multiple Transmission Providers at the same time and in the same place.

- Provide Transmission Customers with greater ability to see and choose among transmission product offerings, including unused transmission rights offered for sale by other Transmission Customers.

- Allow Transmission Providers to more easily manage transmission access and track redirect and resale activities of their Transmission Customers.

- Provide for fuller use of the Northwest transmission system.

D. Flow-Based ATC Approach

TIG proposes that Transmission Providers adopt a centralized flow-based methodology and modeling capability. Notwithstanding the adoption of a flow-based methodology, Transmission Providers would continue to preserve and honor existing contract-path transmission rights. (Existing contract-path rights would not be translated into flow-based rights. Transmission Customers may, however, be required to schedule with more specificity with respect to location and amounts of generation and load than is required at present.)

The NTP staff would be responsible for implementing the flow-based approach for purposes of planning and expansion. For all other purposes, Transmission Providers would provide and house independent staff at Dittmer pursuant to a hosting agreement with BPA (similar to the PNSC's current arrangement). Transmission Providers would use the flow-based modeling output for purposes of reliability, operations, operational and long-term planning and expansion, ATC[1] calculations, and the sale of new point-of-receipt to point-of-delivery transmission rights.[2] TIG proposes that the transition to a flow-based methodology for all purposes be staged with clear decision points.

Ultimately, Transmission Providers would post the output from the flow-based ATC calculator on the Common Northwest OASIS. TIG recommends the use of a regional tariff, filed at FERC on behalf of the FERC-jurisdictional Transmission Providers, to sell new rights. The use of such a tariff would not subject the non-FERC jurisdictional Transmission Providers or transactions on their systems to FERC jurisdiction. Notwithstanding this recommendation, TIG encourages the region to continue to consider other alternatives for Transmission Providers to sell flow-based rights themselves.

1. Benefits

A flow-based ATC methodology would give a Transmission Provider more specific information about the energy entering its system (the source of power and its point of withdrawal) and enable the Transmission Provider to model the flows in its system and

[1] ATC is Available Transmission Capacity, the difference between (a) Total Transmission Capacity and (b) the sum of committed uses, capacity benefit margin and transmission reliability margin.

[2] In order for the methodology to work, a "critical mass" of Northwest Transmission Providers would need to participate; that is, significant parallel systems would have to agree to manage their transmission systems on a flow basis.

parallel systems in order to identify flow patterns. Transmission Providers would be able to take effective actions within commercial constraints, and, to the extent there is capacity, identify and sell flow-based rights that would not increase or worsen congestion issues. Flow-based ATC would also improve the ability of the PNSC to ensure reliability.

Flow-based information would support cost allocation decisions. Transmission Providers would have a better idea of who is causing congestion and could assign costs, as appropriate.

Having this information would also be critical for transmission expansion purposes since Transmission Providers need to know how their systems are currently being used in order to know what and where to build.

E. Reliability and Security

TIG's reliability and security proposal works in concert with and builds upon other existing regional efforts (for example, the Pacific Northwest Security Coordinator [PNSC] and the NWPP).

1. Reserve and Regulation Sharing Programs

TIG proposes amendments to current reserve-sharing programs at the NWPP to encourage more third-party sales of reserves to take advantage of lower-cost resources in the region. A more robust and open reserves market would allow independent power producers (IPP) to participate. This would result in a closer coordination of IPP resources, and inclusion of IPP information regarding projected operations into the regional database discussed below in ____.

TIG also supports regional adoption of a regulation-sharing program.

2. Visibility Improvements

a. Common Database

TIG proposes the creation of a common regional database populated with day-ahead and hour-ahead inputs from the Transmission Providers. The common database would be used to monitor performance trends, provide data to maintain system models, provide centralized reporting, and process information needed to analyze future reliability problems. Extensive work would be required to protect the data in the database and ensure that it is only used for transmission improvements. At a minimum, the database will be accessed by the following entities for the following purposes: (i) PNSC with an expanded role (or some other entity) for the purposes of making reliability recommendations on a forward basis to Transmission Providers; (ii) Transmission Providers (subject to confidentiality protections) for purposes of operational decisions

based upon overall system conditions, and (iii) NTP/TERC for purposes of planning analyses.[3]

To carry out all of the TIG-recommended functions, additional staff could be hired under the auspices of the NWPP or PNSC, or some staff could work directly for Charter Agreement parties. It is assumed that as the TIG proposal moves toward implementation, the most cost-effective and efficient mechanism for dealing with staff requirements would be adopted.

1) Benefits

All of TIG's proposals would require accurate modeling and data. A centralized data source would reduce costs and maintenance, compared to maintaining separate databases for different functions.

By providing a longer look and enhanced information, TIG's proposed visibility improvements will allow the PNSC and Transmission Providers to be aware of an respond to reliability situations before they become emergency situations.

b. Outage Coordination and Var Management Program

The proposal also contemplates building upon the current NWPP approach to voluntary outage coordination. Transmission Providers/Control Area Operators, with input from the PNSC or another entity regarding reliability requirements, would contractually commit to coordinate planned outages. TIG also proposes a Var management program to deals with reactive power from current voltage schedule arrangements.

1) Benefits

[Benefits of re outage coordination and Var management?]

3. Congestion Management Bulletin Board

TIG proposes the establishment of a congestion management bulletin board to address within hour real-time congestion. Under the proposal, a broker would operate a bulletin board and match inc and dec bids from Generators, Transmission Providers, and Transmission Customers in a manner that results in an economic solution to congestion constraints. The broker will not take title to or sell energy, and will act solely as the agent of the participating parties. The settlement mechanism would only require the broker to post the result of the bulletin board market and all money transactions would flow between the parties whose bids were accepted (i.e., bilateral settlements). It is envisioned that payment will only be due when actual energy flows are changed, so no payment mechanism is needed for capacity.

[3] It is possible that over time the Independent Market Monitor will also need to access the regional database.

a. Benefits

The congestion management bulletin board would provide Transmission Providers/Control Area Operators with an additional tool to address real-time congestion.

4. Voluntary Consolidation of Control Areas

TIG proposes voluntary participation in a combined Control Area, with participating Transmission Providers contracting with independent staff to operate the reliability function and the balancing function for the participants. This consolidated Control Area operator, to be named "RABA" (Reliability Authority and Balancing Authority) would be responsible for meeting all applicable criteria for a Reliability Authority, Transmission Operator, and Balancing Authority.

As the Transmission Operator, RABA would have reliability responsibility and authority over the Northwest electric transmission grid for all the participating entities, operating the grid to maximize the continuity of electric supply within the applicable reliability criteria and operating limits. RABA would have to make decisions as reliability situations arise, but those decisions would be grounded on the protocols and instructions provided by the Transmission Owners. As the Balancing Authority, RABA would perform the NERC- specified balancing function and run Automatic Generation Control for the consolidated Control Area. It would implement services supplied by the participating entities, but would not have commercial control over those services. It would obtain all needed commercial services and products from obligated suppliers (TIG participants, Transmission Users, or Generation Owners), which would obtain or supply those services as they choose within defining agreements related to RABA. These services would include, but not be limited to, load following, regulating reserves, operating reserves, and redispatch services.

a. Benefits

By turning over reliability and balancing functions to RABA, RABA participants would gain reliability benefits and certain operational efficiencies. The consolidation of Control Area operations under a single operator, with broad visibility of the area and on-going monitoring and control of generation and load within the area, would put the operator in a good position to effectively and efficiently resolve congestion and other complex reliability issues at least cost.

F. Market Monitoring

TIG proposes the creation of an Independent Market Monitor (IMM) for the Northwest. The IMM would serve as an early warning system regarding pending problems. The IMM function would be performed by a market-monitoring contractor through a contract with Transmission Owners. The independence of the IMM would be established by various contractual safeguards, including: the formation of an open Market Monitoring

Committee; the reservation of a portion of the annual budget for investigations initiated by the IMM and for responses to complaints filed by market participants; the retention of an independent auditor to review certain tasks of the IMM; and adequate funding for monitoring over a five-year period.

The first report of the IMM, prepared during 2006, would be a State of the Market report for the year 2005. Following that, the IMM would issue interim reports if major problems in market structure or performance are found, and it would issue annual State of the Market reports. In its first SOM report, the IMM would address such issues as: who owns generation; who owns transmission; what determines market prices (spot, day-ahead, and forward); barriers to entry into energy and transmission markets; the frequency and length of transmission curtailments; and how events outside the Northwest influence market performance inside the Northwest.

The IMM may also be requested by the Market Monitoring Committee to conduct special investigations on market structure, the conduct of market participants, and market performance. In addition, the IMM may initiate special investigations on its own or in response to complaints from market participants.

1. Benefits

Northwest Market Monitoring may help avert or alleviate another energy crisis. Reports (regular and special) of the IMM should help alleviate concerns about the potential for future manipulation by putting an oversight mechanism into place to serve as an "early warning system" regarding pending problems. The existence of an IMM who can receive and process complaints about the behavior of specific market participants should also increase the confidence in existing market structures.

Next Steps

TIG participants will have the opportunity to sign a Memorandum of Intent (both prior to and after September 28, 2005) that indicates their commitment, should the region decide this Fall to pursue the TIG alternative, to negotiate in good faith to put all needed contracts into place by April, 2006. The Memorandum of Intent will be one indicator of the level of regional support for TIG.