

Steering Committee Work Plan

“amended”

BACKGROUND

The Western Governors Association submitted a proposal in response to the United States Department of Energy’s Funding Opportunity Announcement that set forth specific objectives and work for a Western State-Provincial Steering Committee (SPSC) in the areas of regional transmission planning, integration of variable renewable generation, and efficient use of the grid.

OBJECTIVES

Transmission planning: Develop sound interconnection-wide transmission plans that inform investment decisions and government policy decisions.

Integration of variable generation: Promote technological and institutional improvements that minimize the cost of integrating variable renewable generation while maintaining system reliability.

Efficient use of the grid: Evaluate and promote reforms to increase use of the existing transmission system with a stress on more efficient use of the existing system to move renewable power.

Better Integration of utility resource and transmission planning: Coordinate and participate in meetings of utility and state/provincial resource planners to improve utility resource and regional transmission planning.

SCOPE OF WORK

- Transmission planning
 - Provide input on electricity future scenarios, including non-wires alternatives
 - Provide input on transmission case studies
 - Identify costs, benefits, and environmental impacts of alternative electricity futures and corresponding regional transmission plans.
- Analyze and recommend region-wide actions to minimize the cost of integrating large amounts of renewable energy into the grid.
- Analyze and recommend policies to improve the efficiency of the grid
- Participate in forums organized by the Western Electricity Coordinating Council for utility and state/provincial resource planners

- Establish an effective process for state and provincial representatives to reach decisions on key inputs to the regional transmission plan developed by the Western Electricity Coordinating Council (WECC)

TASKS

Transmission Planning

- Develop proposed scenarios to submit to WECC for transmission studies. (January 31, 2010)
- Develop comprehensive scenarios to be considered by the WECC Scenario Planning Steering Group (April, 2010)
- Recommend to WECC's Transmission Expansion Planning Policy Committee the models to use to evaluate transmission needs for a 20-year period. (June, 2010)
- Participate in development of a coordinated sub-regional transmission plan (June, 2010).
- Participate in WECC's Studies Work Group and related work groups to flesh out transmission study requests. (Start February 2010).
- Assess the impacts of technology change in resource and transmission planning (Start March 2010).
- Assess the total cost of scenarios – including capital and operating costs of new energy facilities, water, land, and wildlife impacts (September, 2010)
 - Evaluate water consumption, land, and wildlife impacts of alternative scenarios. (April 2011).
- Develop uniform regional assumptions for critical inputs to load forecasts such as energy efficiency, demand response, distributed generation, technology changes, and economic growth (January 2011).
- Identify costs, benefits, and environmental impacts of alternative electricity futures and related transmission plans. Analyze potential sensitivity to changes in policy, technology, load growth, and fuel costs. (June 2011).
- Facilitate discussions with outside experts on the strengths and weaknesses of analyses, the sensitivities of the study findings to key factors, and potential areas of improvement in future transmission planning. (June 2011)
- Evaluate and offer recommendations on draft regional transmission plans. (Date)

Variable Generation Integration Subgroup

Objective: Minimize the cost of integrating large amounts of wind and solar energy reliably into the Western Interconnection.

Strategies and Actions:

1. Strategy: Quantify the benefits of cooperative operational strategies, market reforms and other measures to reduce the cost of integration and develop implementation plans.

Actions:

- a. Develop a comprehensive issue paper on *current* Integration of Variable Generation (IVG) activities. As part of the paper, assess (by cost-effectiveness in reducing integration costs) proposed reforms to minimize costs of integration.
 - b. Identify and quantify the costs/benefits of specific *potential* actions to improve BA cooperation and coordination either subregionally or interconnection-wide.
 - c. Shape future subregional or interconnection-wide variable generation integration studies to identify specific measures necessary to achieve the benefits of BA cooperation and coordination.
 - d. Sponsor conferences and joint multi-jurisdictional hearings on the findings and recommendations of the Western Wind and Solar Integration Study. Develop a coordinated five-state strategy to implement the recommendations. Facilitate expansion of the strategy to other states or regions.
 - e. Monitor work of WECC's Variable Generation Subcommittee. Build upon VGS efforts to create action strategies to reduce the cost of integration.
 - f. Examine impacts of California renewable energy credit (REC) policy.
2. Strategy: Improve site-specific and regional wind and solar forecasting and incorporate forecasting in BA and WECC Reliability Center operations.

Actions:

- a. Evaluate the effectiveness of regional and sub-regional forecasting methodologies.
 - b. Identify opportunities to improve the accuracy of wind forecasting and site assessment.
 - c. Develop implementation plans for the adoption of regional and sub-regional forecasting and site assessment methods.
3. Strategy: Encourage the development of additional flexible system resources throughout the Western Interconnection.

Actions:

- a. Sponsor seminars and webinars encouraging development of flexible resources through changes in utility planning and resource acquisition.
- b. Write white paper identifying opportunities for increasing system flexibility through state of the art gas technology, storage technologies, and demand response. Sponsor seminar on storage technologies.
- c. Ask national labs to examine best practices in IRPs for examining the value of a flexible resource portfolio.

Grid Utilization and New Technology Subgroup

Objective 1: Analyze the existing utilization of the transmission system in the Western Interconnection (e.g., scheduling, marketing and operational practices), identify areas of inefficiency and current efforts at improvement and reform, assess usefulness.

Strategies and Actions:

1. Actively engage transmission users and providers, regulators, federal agencies and national laboratories, and other stakeholders in all phases of the work.
2. Strategy: Establish a baseline understanding of the current level and efficiency of grid utilization and how power sales and associated transmission transactions are arranged presently.

Actions:

- a) Sponsor a webinar on the work of the Historical Analysis Work Group at WECC concerning, among other things, transmission paths which merit further examination.
 - b) Write a paper on current practices in executing power sales and arranging associated transmission. Evaluate existing reform efforts, the advisability of expanding their use in the Western Interconnection, barriers to implementation and the value of their continued use.
 - c) Identify specific transmission paths that are candidates for in-depth study based on degree of current path utilization. Among the factors used to identify paths for further examination are:
 - i) The importance of the path in helping to achieve state and provincial policy goals (e.g., RPS); and
 - ii) The impacts of tradable RECs on path utilization.
3. Strategy: Identify and support the analysis of reforms to expand usability and flexibility of the existing grid.

Actions:

- a. Examine proposed reforms.
 - i) Support the study of the costs, benefits, and reliability impacts of the WECC Seams Issues Subcommittee's proposed Seams Coordination Tool and Energy Imbalance Service.
 - (a) Provide \$25,000 in support for the study.
 - (b) Advocate creation of a high-level study oversight committee consisting of a subset of BA CEOs, states/provinces, and WECC Board members and arrange state/provincial participation in such a committee.
 - (c) Monitor and participate in the study work
 - ii) Monitor the work of the Joint Initiatives of NTTG, WestConnect and Columbia Grid regarding, e.g., intra-hour scheduling and purchasing, ITAP bulletin board, dynamic scheduling system.
 - iii) Monitor ongoing WECC field trial of Reliability Based Control.
- b. Develop strategies to implement promising reforms.

Objective 2: Identify current and new grid technologies that could enable greater and more efficient transfers over existing transmission lines and in existing transmission corridors.

Strategies and Actions:

1. Strategy: Identify new transmission technologies to increase transfer capacity on *existing wires* and evaluate the potential effects they might have on the grid. Identify new technologies which could be deployed as additions to existing wires and corridors.

Actions:

- a. Write a paper on current and new transmission technologies (e.g., high capacity conductors, synchrophasors, supersizing lines, DC transmission, underground transmission, FACTS) which would examine deployment issues (e.g., cost, timing, technological maturity, etc.), assess the impacts of deploying the technology and identify obstacles to the deployment.
- b. Sponsor a webinars on "Smart Grid" investments that provide balancing and capacity flexibility. Examine related Demand Response issues and their technological merits.
- c. Monitor the development and deployment of new technologies that might impact the available capacity on the existing transmission grid (e.g., high penetration of PHEV or roof-top solar, ICE storage).
- d. Actively engage national laboratories and others engaged in studying the grid and its more efficient use.

2. Strategy: Identify obstacles (e.g., path rating process, current reliability standards and practices on topics such as contingency analysis and line separation) to expanding transfer capacities in *existing transmission corridors*.

Actions:

- a. Identify existing WECC and NERC requirements that limit transfer capacities in corridors.
- b. Explore the tradeoff between reliability and land use inherent in the WECC and NERC requirements.
- c. Monitor WECC, subregional planning group and individual transmission project developments related to increasing transfer capacity in corridors.

Joint Activities of the Variable Generation Integration Subgroup and the Grid Utilization and New Technology Subgroup regarding Balancing Authorities

1. Strategy: Expand/create markets for Balancing Authority services.

Actions:

- a. Support and accelerate broad adoption within the region of intra-hour transmission purchase and scheduling and dynamic scheduling.
- b. Support the study the costs, benefits and reliability impacts of an interconnection-wide energy imbalance service.

2. Strategy: Increase Balancing Area cooperation and coordination.

Action:

- a. Write an issue paper evaluating various approaches to actual or virtual Balancing Area consolidation. Describe status of approaches being considered in the Western Interconnection.