

Tom Karier
Chair
Washington

Frank L. Cassidy Jr.
"Larry"
Washington

Jim Kempton
Idaho

W. Bill Booth
Idaho



Joan M. Dukes
Vice-Chair
Oregon

Melinda S. Eden
Oregon

Bruce A. Measure
Montana

Rhonda Whiting
Montana

July 31, 2007

MEMORANDUM

TO: Power Committee

FROM: Terry Morlan

SUBJECT: Status of the Power Division Work Plan

The Power Committee will review the current status of the Power Division work plan at the end of its meeting on August 14. There are four attachments to this memorandum that provide increasing amounts of detail on the work plan. The first is a three page summary of the status and it will provide a good overview.

The second is a more detailed review that focuses first on major issues that we are working on, and then on the other items that are included in the Division's work plan. When we last presented the work plan status, Chair Kempton asked for some way to identify work items that need to be completed before the next power plan. I have identified such items with a different bullet as noted at the top of the attachment. The numbers shown correspond to work plan item numbers. The relationship between these work plan numbers and actions from the power plan are shown in attachment 3.

The final attachment shows the work plan in detail. Updated milestones, status, or comments are highlighted. Although this provides more discussion of each work plan item, the second attachment actually shows a more detailed breakdown of the specific tasks under each work plan item.

As always, we are interested in Power Committee feedback on the form and content of the work plan. For internal management, I find the second attachment to be the most useful for tracking progress and scheduling agenda items for the Power Committee and Council. The comments and status reports in the fourth attachment are also useful, but are primarily intended to inform Council members of our progress.

I want to call your attention to one recommendation relating to Plan action item CNSV-13, which is included in work plan item 4. Staff recommends that this action not be pursued at this time. Action item CNSV-13, calls for consideration of System Benefit Charge (SBC)

alternatives to utility-run conservation programs if utility disincentives seriously impede utility investment in conservation. It says the Council will review the performance of SBC in the region and in other areas of the country. However, utility disincentives are not seriously impeding utility investment at this time. In fact, utility conservation activity is on the rise for a variety of reasons. In addition, a review of the Oregon SBC system was recently completed by an independent firm. And there are reviews of SBC programs in other states around the country that have been prepared by others. A Council paper reviewing the success of SBC programs would be of little value relative to the purpose envisioned in the power plan.

Washington State adopted legislation which requires both public and private utilities to assess and develop all cost-effective conservation. In Oregon, new legislation was passed to allow investor-owned utility funding of conservation beyond levels set in 1999 for Oregon's system benefit charge which is managed by the Energy Trust of Oregon. The Idaho Public Utility Commission recently adopted a pilot program to test revenue decoupling as a means to encourage additional conservation at Idaho Power. Furthermore, across the region, utilities are faced with increasingly high costs for new thermal and renewable power generation and power purchases. This is encouraging many utility power managers to call for increased energy efficiency acquisitions.

Attachments

Tom Karier
Chair
Washington

Frank L. Cassidy Jr.
"Larry"
Washington

Jim Kempton
Idaho

W. Bill Booth
Idaho



Joan M. Dukes
Vice-Chair
Oregon

Melinda S. Eden
Oregon

Bruce A. Measure
Montana

Rhonda Whiting
Montana

Summary of Work Plan Status - August 2007

Fifth Power plan implementation

We are continuing to make good progress on implementation of the Council's Fifth Power Plan.

The Wind Integration Action Plan (WIAP) is complete and we have formed the Northwest Wind Integration Forum to implement the work plan. The Council hosts the Wind Integration Forum in a manner analogous to the RTF. Funding is contributed from Bonneville and the region's utilities. Implementation of the actions called for in the WIAP will lead to the accomplishment of Action GEN-8 over the next two years.

In June, the Council performed the first adequacy assessment under the standards developed by the Northwest Resource Adequacy Forum and adopted by the Council. The forum is now working on several fronts; validation and enhancement of the assessment model, developing an economic standard, assessing the energy and capacity contribution of wind resources, and creating guidelines for utilities to assess their own loads and resources relative to the regional standards. Later this year the forum will calibrate and refine the capacity standard. The staff is also working with WECC on its adequacy assessments, and currently chairs the WECC Loads and Resources Subcommittee.

The Pacific Northwest Demand Response Project (PNDRP) is underway with funding from the Department of Energy and staffing from The Regulatory Assistance Project. The work of PNDRP is focused in three areas with a workgroup for each area: (1) pricing structures, (2) cost-effectiveness, and (3) transmission and distribution system integration. There is very good participation from utilities and others in the region, but the progress is slow.

The staff is working with WECC, NTAC, Columbia Grid, and NTTG to develop transmission solutions for improved planning and operation of the transmission system. These organizations are where several actions in the Power Plan related to transmission, wind integration, and resource adequacy are most likely to be implemented.

Conservation implementation is ongoing. Staff has completed the reconstitution of the RTF members and secured funding commitments for most of its budget. Staff also is involved directly in utility conservation planning for their IRPs, state and federal efficiency initiatives, building code revisions, and formulation of Washington's I-937 implementation rules.

Staff is actively participating in all current IRP processes for electric utilities, and for some natural gas utilities as well. A key accomplishment related to conservation assessment has been the enhancement and revision of the ProCost model.

Staff is beginning to prepare for the 6th Power Plan. We expect to begin the preliminary data and modeling work in January of 2008. We will have some planning meetings over the next couple of months to lay out schedules and begin the coordination of activities necessary to put together a power plan. This includes identification of key issues, developing analytical approaches to assess those issues, laying out a schedule, and getting public input on key issues of importance to the region.

Monitoring and Analysis

Based on recommendations in the Biennial Monitoring Report, staff has developed revised fuel price forecasts. A reassessment of coal technologies and petroleum coke was also recommended in the Biennial Monitoring Report, but that has been delayed by other demands on Jeff King's time, including the analysis of CO₂ emissions from the Northwest power system and management of the Wind Integration Forum. We would now recommend a brief update in the fall related to these fuels, and a detailed assessment as part of the 6th Power Plan process early next year.

The Council has responded to numerous requests for data. We have also provided analysis of the effect of the President's budget proposal, forecasts of expected wind development for WIAP, analysis of the risk mitigation value of conservation, and input on the evaluation and implementation of Washington I-937. We have also done many presentations on our activities and planning methods.

Our intensive monitoring of progress toward the record of decision (ROD) on the Regional Dialogue has finally paid off. Bonneville issued its Long-Term Regional Dialogue Final Policy and ROD on July 19. The residential exchange and service to DSIs issues are unresolved in the policy, and many implementation details remain to be worked out. Bonneville plans to be able to offer new 20-year contracts to its customer utilities by August 2008 and have signed contracts by December 2008.

Planning Tools and Data

Data collection and analysis are ongoing activities in the Power Planning Division. Our data on regional loads, energy prices, conservation achievements, and generating resources form the basis for monitoring progress on plan implementation and identifying departures from our key planning assumptions. Accurate data are also required for modeling and analysis.

We are on schedule for developing a new demand forecasting system. A short term forecasting model has been completed, and we are in the process of refining and testing a new long-term forecasting approach.

Staff is using an updated version of the Aurora Energy Market Model™ for analysis of CO₂ emissions. We are making enhancements to the Genesys Model to improve our simulation of the

hourly patterns of generation. This will help with capacity adequacy assessment. We have also completed the revision of ProCost, the conservation planning tool, to better incorporate fuel savings, CO2 effects and to enhance outputs.

Refinement of the Olivia Model is continuing after some significant delays due to problems in some of the vendor software that the model uses. Some of these problems are still unresolved and may require fallback solutions, which are available. Meanwhile development of user interfaces continues.

Major Power Issues for 2007

❖ Denotes items that are important for the 6th Power Plan

Wind Confirmation: [6]

Status - Council initiated the Northwest Wind Integration Action Plan jointly with Bonneville in the summer of 2006. The action plan has been completed and describes the findings and specific additional tasks that need to be accomplished over the coming year or two. The Council has formed the Northwest Wind Integration Forum to be the focal point for funding and executing the action plan.

- Adoption of the Wind Integration Action Plan [complete]
- Creation of Northwest Wind Integration Forum [complete]
- Manage Northwest Wind Integration Forum, participate in analysis [ongoing]
- Complete development of high resolution wind data set [Dec 07]
- ❖ Reassess capacity and energy value of wind [Dec 07]
- ❖ Wind integration cost estimate [interim Jan 08, final Dec 08]
- ❖ Evaluate delivery of wind energy from Montana [Dec 08]
- ❖ Develop flexibility options and tradeoffs [Dec 08]
- Develop planning framework to maximize value of wind resources [6th Plan]
- ❖ Preliminary engineering analysis of plans to alleviate transmission bottlenecks [Dec 08]

Resource Adequacy: [8, 9]

Status - The Council acting on the recommendations of the Northwest Adequacy Forum has adopted a voluntary energy standard, a pilot capacity standard, and a process for implementing the standards. Currently work is focused on model validation, developing economic standards, refining the capacity standard, and providing guidance for utility self-assessment. Further refinement and implementation of the standards will be an ongoing activity of the Forum.

- Develop prototype data reporting standards [complete]
- First assessment of regional adequacy by Council [complete]
- WECC development of west-wide capacity [2007] and energy [2008] metrics and targets, including input from the Forum on recommended application to the Northwest [2007-8]
- Council staff chairs the Loads and Resources Subcommittee for the WECC Power Supply Assessment. [ongoing]
- Review and refine methods used for adequacy assessment [Nov 07]
- If needed, revise data reporting standards based on first assessment experience [Summer 07]
- Benchmark the model used for adequacy assessment [Sept 07]
- ❖ Develop economic adequacy targets [Sep 07]
- ❖ Collect utility wind data and assess energy and capacity contribution [Oct 07]

- ❖ Potential development of further implementation mechanisms, beyond reporting and public assessment of regional results [Fall 07]
- Develop adequacy guidance for use by individual utilities [Nov 07]
- ❖ Adoption of final adequacy standards [Mar 2008]

Regional Dialogue: [18]

Status - The public process for developing Bonneville's regional dialogue policy was completed in the fall of 2006. The final policy and record of decision were released on July 19, 2007. Some important issues still need to be settled and the details of implementation need to be worked out by the end of this year. Bonneville intends to offer contracts to utilities in August 2008 and to have them signed by December 2008.

- Bonneville policy and ROD [complete]
- Monitor progress toward implementation and new contracts [Ongoing 2007-08]

Conservation Acquisition: [1, 2, 3, 4]

Status - The region as a whole was close to meeting the Plan's conservation targets in 2005 and 2006. Several trends point to continued improvement in achieving cost-effective efficiency including; utility IRPs, revised appliance efficiency standards, and updated building codes.

- Reconstitute the RTF membership [complete]
- Secure RTF funding & implement funding mechanisms [complete]
- Facilitate and coordinate the Regional Technical Forum [ongoing]
- ❖ Collect and assess data on utility conservation acquisitions [ongoing]
- Work with NEEA and Oregon Energy Trust [ongoing]
- ❖ Work to fill funding gaps for promising conservation resources [ongoing]
- Participate in national and regional efforts to improve building codes and energy efficiency standards [ongoing]
- Work with others on appliance efficiency agreements with manufacturers [ongoing]
- Provide input and guidance to utility assessments of conservation potential [ongoing]
- ❖ Identify and research improved efficiency technologies [ongoing]
- ❖ Explore new sources of survey data on end-use energy consumption and efficiency [ongoing]
- ❖ Conduct research and evaluate efficiency technologies and programs [ongoing]
- ❖ Revise data and models [ProCost enhancement complete]
- Work with Washington to implement provisions of I-937 [ongoing]
- Assess experience with system benefit charge programs [Aug 07, cancel?]
- ❖ White paper on achievable penetration rates [Complete]

Demand Response and Distributed Resources: [5]

Status - The Pacific Northwest Demand Response Project (PNDRP) has been formed and has selected a set of issues to explore. Funding has been secured through the Department of Energy for the Regulatory Assistance Project to help facilitate PNDRP.

- Work with PNDRP and Regulatory Assistance Project to develop recommendations [Apr 07- Mar 08]
- Participate in national and other state processes to develop demand response [ongoing]
- ❖ Report on PNDRP analysis and recommendations [Mar 08]
- ❖ Develop methodologies to analyze demand response resources using the Council's planning models [Mar 08]

Transmission Organizations and Western Reliability Initiatives: [10, 11, 12]

Status - Staff is following or participating in ColumbiaGrid, NTTG and WECC efforts to improve the reliability of the power system and the operational efficiency of the transmission system. Council staff co-chairs the Transmission Expansion Planning Policy Committee's Technical Advisory Committee (TEPPC-TAS) for WECC. The Northern Tier Transmission Group (NTTG) was formed to address transmission issue on the eastern side of the region. The Northwest Transmission Assessment Group (NTAC) continues to address region-wide issues.

- ColumbiaGrid planning and expansion functional agreement signed [Jan-Feb 07]
- NTTG implemented regulation sharing (ACE diversity interchange) program [spring 07]
- ColumbiaGrid, NTTG and TEPPC develop formal processes for regional coordination of planning efforts under FERC Order 890 [spring-summer 07]
- ❖ Both ColumbiaGrid and NTTG utilities announced major transmission construction plans, to be developed under the processes of the two groups respectively, with coordination and joint study as needed [spring 07]
- ColumbiaGrid developing functional agreement for joint OASIS portal [fall-winter 08]
- Bonneville developing and testing redispatch protocols, with participation of ColumbiaGrid [summer 07]
- Follow and/or participate in WECC, ColumbiaGrid, NTAC, and NTTG [ongoing]

Other Work Plan Items

5th Power plan implementation

(Many power plan implementation activities are also covered in the major power issues section)

- 1. Coordinate regional conservation activities: (See conservation issue above)**
- 2. Revise and adopt state and federal energy codes and efficiency standards that capture all regionally cost-effective savings: (See conservation issue above)**
- 3. Manage, operate and secure funding for the Regional Technical Forum: (See conservation issue above)**
- 4. Other conservation implementation activities: (See conservation issue above)**
- 5. Demand Response: (See demand response issue above)**
- 6. Confirm wind development potential (see wind integration issue above):**
- 7. Reassess role of coal-fired generation in the Fifth Plan**
 - ❖ Further analysis of alternative coal technologies based on findings of biennial assessment [Nov 08]
 - ❖ Evaluate information on petroleum coke, its cost and availability in future [Nov 08]
 - Analyze effects of new information on long-term resource choices in plan [6th plan]
- 8. Establish regional and west-wide reporting standards for the assessment of adequacy (See adequacy issue above):**
- 9. Carry out a process to establish adequacy standards for the Northwest (See adequacy issue above):**
- 10. Plan for long-distance transmission needs to support the resource development called for in the Plan (See transmission issue above):**
- 11. Transmission providers work to improve utilization of available transmission capacity (See transmission issue above):**
- 12. Region agrees to and begins implementation of transmission solutions (See transmission issue above):**
- 13. Bonneville and Council review respective 6(c) policies:**

- Work with Bonneville to revise policies following ROD on regional dialogue policy [Mar - July 07][delayed by ROD]
- Resume discussion with Bonneville regarding augmentation consistency issues and 6(c) policy (July 07)

14. Participate in utility IRP processes:

- Participate in administrative rulemaking for Washington's HB 1010 and I-937 [ongoing]
- Assigned staff participate in utility IRP advisory committees [ongoing]
- Report on IRP status and comparison with Council plan [Aug 07]

Monitoring and Analysis**15. Continued analysis of the CO₂ production of the Northwest power system:**

- Analysis of CO₂ emissions for five specific conditions [Jun-Aug 07]

16. Provide analysis and information about the Power Plan and the regional energy system:

- Respond to requests for analysis and data [ongoing]

17. Monitor climate change science and policy:

- Follow development of policies related to climate change and provide analysis as needed [ongoing]
- Develop white paper on climate change and its likely effects on the Northwest power generation and use, and on anadromous fish [complete as Council Quarterly, Spring 2007]
- Adapt refined analysis of the effects of climate change on Northwest temperatures and water conditions [2008][Support WA DOE contract]
- ❖ Work with others to develop potential mitigation strategies for impacts to the power system [Mar 08]
- ❖ Develop methods to incorporate climate change effects into the Council's resource planning models [Mar 08]

18. Monitor progress toward implementation of Council recommendations on Bonneville's future role: (See Regional Dialogue issue above)**19. Periodically report on load resource situation:**

- Report on forecasted water conditions [Jan - Aug 07]
- Assess status of power supply 3 to 5 year out relative to adequacy standards [Jun 07]

20. Review the data and forecasts underlying the plan, provide monitoring reports

- Biennial monitoring report for Fifth Power Plan [complete]
- Revise fuel price forecasts [Aug 07]
- Regular review of electric demand, fuel prices, resource costs and technologies, and efficiency measures and costs [ongoing, report on demand and fuel price, Jul 07]
- Develop revised electricity price forecast using recent fuel price forecasts and water conditions [Sep 07]

- Reassess marginal CO2 production estimates for RTF and ProCost model [Oct 07]
- Maintain database of regional resource development activities

Planning Tools and Data

21. New demand forecasting system (long and short-term forecasts):

- ❖ Complete short-term forecasting model, working with Bonneville, and produce forecasts for use in adequacy assessments [complete]
- ❖ Map out long-term model enhancements and develop and update data inputs [complete]
- ❖ Contract for long-term model enhancements [Apr - Sep 07]
- ❖ Produce preliminary long-term forecast [Dec 07]
- ❖ Initiate analysis of linkages between demand models and other Council models [Nov 07]
- ❖ Preliminary long-term forecast presented to Council [Dec 07]

22. Continue the development and documentation of the Olivia Model

- ❖ Technical development of model, user interfaces, and documentation [Jan - Sept 07]
- Begin training classes for utilities that want to use Olivia to develop portfolio models for their own service areas [Nov 07]

23. Maintain the AURORA^{XMP}_{TM} Market Price Forecasting Model and prepare periodic near-term forecasts:

- ❖ Review recent version releases and update model if warranted [Sep 07]
- ❖ Review and update data base [Apr 07][complete][again early 2008]

24. Maintain and update data on conservation technologies:

- ❖ Develop efficiency and end use inputs for long-term demand forecasting model [Sep 07]
- ❖ Review new residential housing characteristics survey and other new data sources [ongoing]
- ❖ Stay abreast of emerging efficiency technologies [ongoing]

25. Maintain and improve data for fuel price and demand forecasting

- ❖ Maintain data bases on energy consumption and prices [ongoing]
- ❖ Develop data bases for new short and long-term demand forecasting models [through Sep 07]

27. Maintain and improve the GENESYS model

- ❖ Update load and resource data as necessary [ongoing]
- ❖ Develop a benchmarking process for this model, in particular the hourly dispatch algorithm. [Sept 07]
- Work with Bonneville and PNUCC to improve reliability and consistency of power plant data used for planning and reliability analyses.

Item	Description	Relation to 06 WP
Plan Implementation		
1	Coordinate regional conservation activities	CNSV-3
2	Revise & adopt energy codes and efficiency standards	CNSV-6
3	Regional Technical Forum	CNSV-8, MON-2 and RTF
4	Other conservation implementation activities	CNSV-7 and 13
5	Demand Response	DR-2,4,6,8, MON-5, and Non-wires
6	Confirm wind development potential	GEN-8,8a,9,10, MON-3
7	Reassess the role of coal-fired generation in the Fifth Plan	GEN-7a,13,14
8	Reporting standards for the assessment of adequacy	ADQ-1
9	Establish adequacy standards for NW	ADQ-2
10	Transmission needs to support the resource development	TX-1
11	Improve utilization of available transmission capacity	TX-2
12	Implementation of transmission solutions	TX-3
13	Review policies re implementing 6(c)	MON-9
14	Participate in Utility IRP Processes	ADQ-3 and IRP
Monitoring and Analysis		
15	Continued analysis of CO2 production	New
16	Provide analysis and information	updated
17	Monitor Climate change science and policy	MON-4
18	Monitor progress toward Bonneville's role changes	MON-8
19	Periodically report on load resource situation	MON-1
20	Review data, forecasts underlying plan, recommend plan changes	MON-7, GEN-12, GEN-15
Planning Tools and Data		
21	New demand forecasting system (Long and short-term forecasts)	DFS updated
22	Development and documentation of Olivia/ Portfolio model	Olivia updated
23	Maintain the AURORA ^{xmp™} Model; periodic near-term forecasts	New, EM price forecast
24	Data on electricity uses and conservation technologies	New
25	Maintain the power plant data base	New
26	Maintain and Improve Data for Fuel Price and Demand Forecasts	New