

Interactive Meeting Notes

RMATS STEERING COMMITTEE MEETING 8:30 a.m. – 1:30 p.m. December 9, 2003 PacifiCorp, North Temple Office Salt Lake City, Utah

1. Welcome and Introductions – Steve Waddington

Attendees:

Steve Waddington – WY Gov.
Jeff Burks – UT Gov.
Doug Larson - WIEB
Kurt Granat - PAC
Jamie Austin - PAC
Mike DeWolf – PAC
Jerry Vaninetti – Great Northern
Connie White – UT PSC
Steve Oxley - WY PSC
Bryce Freeman – WY Cons.
Ken Morris - PAC
Steve Ellenbecker – WY PSC
Ray Brush - Northwestern
Jim Tucker – DG&T

Terry Ray - PAC
Marshall Empey – UAMPS
Perry Cole – NTD,Inc
Rick Anderson – WIEC
Lauren Weinstein – EPG
Jim Byrne – RMATS

By Phone:

Bob Easton - WAPA
Mark Lindberg – MT Gov
Gary Schmitt – CO PSC
Roger Hamilton – West Wind Wires
Marianne Ramos – Tri-State
Rick Sedano – RAP
Eric Guidry -WRA

2. Progress Reports

- **Transmission Additions Work Group – Ken Morris**

The TAWG has fine tuned the topology map, expanding the six SSG-WI bubbles in the RM area to seventeen. The Work Group is developing and will populate a spreadsheet with transmission line ideas by this Friday in order to be ready to develop transmission alternatives when the RAWG provides generation alternatives. The TAWG will consider alternative transmission technologies and some ideas have already been submitted for the spreadsheet.

- Discussion Points

- We need to understand how the work groups are interacting and what products are changing hands and timelines involved.
- Western did some high level studies last year looking at large generation additions and 500Kv transmission across to the NW and to CO/UT.
- Generation and transmission additions should be consistent with IRPs.
- Jamie will check on the WECC Significant Additions Report for generation and transmission additions.

- Liaison should be established with the Western Utility Group (WUG) corridor work (Scott Powers).
- **Resource Additions Work Group – Jim Tucker**
[\(Click here to see RMATS_RAWG_Strawman for SC120903.ppt \)](#)

The RAWG has recommended using a US Average Wellhead price of \$4.00/MMBtu in the 2008 Base Case and \$5.00/MMBtu US Average Wellhead price as a gas sensitivity case. These prices will be reviewed when the new EIA Forecasts come out on December 16th. The basis and transportation differentials for plant location will be the same as SSG-WI used from the 5th Northwest Conservation & Electric Power Plan. The carbon risk question still needs to be addressed. The RAWG has developed a list of five “New Resources” to be added to the resources in the SSG-WI Base Case for inclusion in the RMATS 2008 Base Case and will use a planning reserve margin of 15% in the 2013 cases. New information providing wind profiles and capacity credit data for each RMATS wind location bubble is being developed by NREL, hopefully by early this week. The RAWG will use a 20% capacity factor for wind in developing generation alternatives until the NREL numbers come in. The major task of coming up with generation alternatives for the 2013 cases will be discussed in the #4 “Strawman” item below. The RAWG is developing a list of new generation projects, but the data has been slow coming in and the list we have is incomplete. [\(Click here to see Potential Generation Additions.xls\)](#) We will re-survey companies this week.

- Discussion Points

- The steering committee agreed that we needed to do some sort of sensitivity assessment of Carbon risk.
- Should Carbon risk used be \$8/ton – or should we look at \$25/ton also?
- The coal constituency wants correct numbers (reasonable) to be used. \$25 is too high.
- In modeling runs, we start seeing impacts on the cycling of coal-fired plants when the tax is \$8. Impacts of this carbon tax would increase electricity costs by \$9 per MWhr.
- In the export scenarios we need to be aware that Oregon has carbon adders of \$10 to \$40. If we are interested in export from RMATS we need to make sure we accurately model the costs of generation from the perspective of the Market Place.
- No CO2 regulations are in place and a carbon tax sensitivity is purely speculative at this juncture (with a cap-and-trade approach getting more attention in the event that CO2 regulations are ultimately imposed - not a carbon tax)
- The Currant Creek addition will likely have some new transmission associated with it.
- The capacity factor will be embedded in the wind and machine profiles being developed. NREL’s numbers will be hourly shaped generation based on wind test data.
- How much firm capacity credit do you give wind when you are trying to meet firm peak? This will come from the NREL data.

- NREL will provide hourly wind generation data based on measured wind pattern data that will enable us to evaluate what wind will be available in summer when the RMATS system peaks.
- **Load Forecasting Work Group – Jim Byrne/Marianne Ramos for Dill Ramsay**
(Click here to see [RMATS LFWG for SC120903.ppt](#))

The LFWG has collected peak and energy load data for 2008 and 2013 for the new RM Area Bubbles consistent with WECC L&R. Based on the LFWG data the RAWG will use 3,500 MW as the Load Growth in the Rocky Mountain Area from 2008 to 2013. The LFWG is requesting additional data on DSM, Conservation/Efficiency and Transmission Losses to be compiled for the RWWG. The LFWG will be checking the 2013 load data against state government projections and will be considering a high DSM sensitivity case

- Discussion Points

- We should be sure that the LFWG data is consistent with IRP data.
- The LFWG data is coming from the same people supplying data to the IRP's so it should be consistent.
- The Load Data for rest of WECC (or SSG-WI) has been updated to the 2003 L&R report for the area outside RMATS.
- The state demographic people should be brought into the effort.
- Check with individual states that may have their own forecasts.
- Utah is developing forecast of electricity demand. Utah Foundation will release a report.

- **Report Writing Work Group – Steve Oxley/Doug Larson**

The other WG's should be thinking of and preparing info for the RWWG. The RWWG should be familiar with the work product of the work groups. What do the work groups want in report. What do should be in the backup documents.

- Discussion Points

- The RWWG should consider having conference calls with the other Work Group Co-Chairs to review progress and identify Report issues.
- The RWWG should have copies of the October SSG-WI Report (Steve E. volunteered to get copies to anyone who wants it).
- Stakeholders and investors in transmission will want to trace the methodology used in the study and will need documentation of assumptions and transparency on how they were derived.
- The RWWG will want to let working groups know what kind of documentation they need for the report.
- The Report should include documentation from the workgroups, methodology, limitations, etc.

- **SC Conclusions (Agenda Item #2)**

- The RMATS effort will require close coordination between the Work Groups and an iterative approach between the RAWG and the TAWG in order to develop reasonable alternatives for study.
- The RMATS Topology developed by the TAWG is approved as a basis for the study.
- The RAWG assumptions on fuel price, new resources and planning reserves are approved.
- The LFWG process for compiling peak and energy load data for 2008 and 2013 is approved.
- The RWWG should coordinate with the other Work Groups as the Study work is progressing.
- The Modeling Team will assist Steering Committee and RAWG members and other interested parties in developing an approach to dealing with the carbon adder issue.
- The Modeling Team will assist Steering Committee members and other interested parties to develop a methodology for evaluating different DSM alternatives. Involve Eric Guidry and Jeff Burks in those discussions.

3. Study Progress and Model Deadlines – PacifiCorp

- **RMATS Schedule**

(See Outstanding RMATS Modeling Data Inputs at end of this document)

The RMATS Modeling Team has provided a revised Project Schedule which was presented. It is very ambitious.

- **Base Case – Jamie Austin/Kurt Granat**

(Click here to see RMATS-Steering Committee_120903.ppt)

Jamie presented the Base Case Objectives, Modeling Approach and Modeling Limitations for the initial run of the 2008 Base Case from the ABB Market Simulator Model. The Model is based on the WECC 2008 LS power flow case (16000 buses) and calculates LMP at the bus level with VOM as the basis for cost.

Kurt Presented the Base Case Assumptions (Slides 7 to 20).

Jamie reviewed the Draft Base Case Results (Slides 21 to 33). This Draft is a very first run and there are some corrections needed for some of the load data. [Comments are solicited from RMATS participants at this time.](#)

- Discussion Points
 - The Model operates as though the west was a single control area with no pancaking or contractual impediments to trade. How do we interpret the modeling results for how the system really operates?
 - The model assumes we are “squeezing” all the efficiencies out of existing transmission system. It will identify what transmission is needed.

- This model assumes that what “wind advocates” want to see in new transmission rules and operation standards, is in place. What impact does this have on the results?
 - The result is that the model may under-predict what transmission is needed.
 - The Report needs to identify regulatory and operational impediments that exist on the transmission system in the West.
 - In forming RMATS the Governor’s identified a void that exists in the transmission planning while we wait for RTOs. This same void exists on these issues on inefficient use of the existing system due to tariff impediments that the wind advocates are concerned about. There is no other body in the West that can address these impediments at this time.
 - FERC has put the ball in the West’s court. Transmission owning entities have been given the authority to issue tariffs for intermittency, etc.
 - Contact Jack Stamper at PAC on this issue.
 - The Idaho – Montana line shows up as the highest Expansion Value, but you may not necessarily want to increase this path only.
 - The high expansion value of the ID-MT line was based on a one MW expansion analysis, and premature to draw the conclusion that it is a high value project.
 - Re-run the case with an upgraded capability of like 100 MW and see what the results show – sensitivity.
 - There will be gas price sensitivity and hydro level sensitivity cases also.
 - The Steering Committee may want to discuss these initial results and visit other Regional participants and neighboring State’s regulators to reinvigorate their interest since we’re seeing a variety of results outside the Rocky Mountain area.
- **Phase 3 of the Modeling –Mike DeWolf**
(Click here to see [Transmission Alternatives_12082003.ppt](#))

Under the heading of “Proposed Analytical Approach” Mike presented some additional information and concerns about Phase 3 of the modeling effort.

Remember from the first Steering Committee Meeting the “Three Phases of Modeling”; 1. Create a base case with load, gas price, and other sensitivities; 2. Model new resource alternatives and associated transmission additions, and; 3. Assess the costs and benefits of selected scenarios

Mike focused on what “commercially viable transmission alternatives” means in Phase 3 and the need for a “cost assignment recovery team which will be considered under Agenda Item 4 below.

- Discussion Points
 - The Modeling Team references to three Phases should not be confused with the references to Three Phases in the original RMATS White Paper which laid out conditions for successful transmission projects as Phase I – Planning and Project Definition; Phase II – Regulatory Approvals,

Contracting, Siting, and Financing, and; Phase III – Engineering and Construction. The three Phases of Modeling are all in the Phase I of the White Paper Phases and are associated with the March/April timeline for Completion of this study.

- **SC Conclusions (Agenda Item #3)**

- The Modeling effort has been progressing well and the efforts of the Modeling Team are appreciated by the Steering Committee.
- [Comments are solicited from RMATS participants on the initial efforts of the Modeling Team as described in the Base Case Slides.](#)
- Follow-up with the Wind Issues Sub-Group of the RAWG and FERC on the concerns about the inconsistencies between existing transmission rules, tariffs and operation standards, and the “perfect world” of the RMATS Model. How does this effect the Study outcomes and what can be done about existing rules and tariffs.

4. Current and Future Study Issues

- **Generation Alternatives Strawman for 2013 – Jim Tucker**

Jim presented a Strawman developed by the RAWG for use in determining generation alternatives for the 2013 cases. General Guidelines were agreed to by the RAWG as follows:

- Each new generation project should be modeled in at least one-generation alternative either as an individual project or as a part of a coherent group.
 - Generation may be aggregated into coherent groups by fuel type that is within a geographic area. If it becomes necessary to prorate generation capacity it would be reduced as a group and no individual project would be required to withdraw from the alternative.
- Wind generation would be considered as having a contribution toward capacity as 20% of the nameplate rating. (will be modified based on NREL study results)
- The total capacity within an alternative generation group would be generally equal to the load increase (from 2008) plus 15% planning reserve.
- A 2013 base case will not be created but all the alternatives will reflect a 2013 time frame and will be compared to the 2008 base case.

The RAWG recommends the following four alternative generation groupings to develop the cases for 2013:

- Generation equal to one times the RMATS Load Growth from 2008 to 2013 (3,500 MW) plus reserves. Generation additions will be based on the IRPs of RM area utilities and the RMATS new generation list (as revised).
- Generation equal to one times the RMATS Load Growth from 2008 to 2013 (3,500 MW) plus reserves. Generation additions will be based on a coordinated look at the IRPs of RM area utilities and the RMATS new generation list (as revised).

- Generation equal to two times the RMATS Load Growth from 2008 to 2013 (7,000 MW) plus reserves. Generation additions will be based on the RMATS new generation list (as revised) and judgments by the RAWG. (an export case)
- Generation equal to three times the RMATS Load Growth from 2008 to 2013 (10,500 MW) plus reserves. Generation additions will be based on the RMATS new generation list (as revised) and judgments by the RAWG. (an export case)

- Discussion Points

- The Generation additions will be lumped into “coherent” group buckets with similar fuel type. They won’t be identified by Project Name. Separation by >150 miles would put them in different “buckets”.
- How do we decide what resources to select and add to our 3 x RMATS load growth from 2008-2013 (plus reserves)
- We need a write-up of criteria used to select resources in base case.
- The Final Report should indicate the % of LSE load represented on the Resource Committee
- Composition of export generation hasn’t been decided yet.
- We’ll have two scenarios of additions that cover the projected RM loads. Let the LSE’s determine what the resources will be in alternative one. Next look at entire RM and relieve the transmission constraints caused by the prior runs.
- When adding generation in first set – to cover load projections – would you add transmission at that time. Probably should run a first cut without transmission to see where constraints fall out. Then add transmission fixes. You’d have to add some minimal amount of transmission to just integrate the new resources, however.
- The RAWG hopes that those folks on the WG will submit new transmission along with the resources when required.
- For the three times export case – would we need to look at outside transmission investments? We’d first look at the generation additions and what existing generation is “turned off”.
- There should be a robust export scenario since there is extensive low-cost undeveloped wind and coal resources in the RMATS region that will require transmission for exports in order to justify their development. This is a major issue for those involved in the RMATS process that are developing projects within the region, as the in-RMATS load is largely insufficient to justify project development.
- What/where/how do you make the decision on which market you’re pursuing to arrive at what transmission you’d pursue? The transmission group will do some iterative analysis at this point.
- We probably should look at an export to the NW case (lower value, but also lower cost) in addition to, or in lieu of, an export to California case.
- We should soften the reference to IRPs in alternative two.
- The schedule requires us to have our generation resource “buckets” defined by January 12, 2004.

- **Possible Additional Work Group – Mike DeWolf**
(Click here to see [Transmission Alternatives](#), review slides 9 & 10)

As a continuation of his “Proposed Analytical Approach” analysis Mike presented some initial thoughts on how the RMATS would deal with *Assessing the costs and benefits of selected scenarios* in Phase 3 of the modeling effort. He proposed forming a cost assignment and recovery team reporting (at least initially to the Steering Committee).

- Discussion Points

- Form a cost assignment/recovery team to report to the Steering Committee to define benefits and how they are assigned and cost recovery and how this fits with existing regulatory issues.
- Research/develop cost assignment and recovery alternatives.
- The WGA is having a Western Infrastructure Meeting April 14-16 and one of the key issues is who pays/who benefits.
- STEP is working on the analysis of cost benefit and cost assignment issues.

- **Work Group Meeting and Conference Call Scheduling – Jim Byrne**

Jim indicated that there had been requests for pre-scheduling of RMATS Work Group meetings and conference calls. This would give stakeholders earlier notice and more opportunity to participate.

- **SC Conclusions (Agenda Item #4)**

- The Steering Committee accepts the RAWG Strawman for developing generation (and transmission) alternatives or the 2013 cases. The fourth alternative will be subject to further evaluation of practicality and need.
- The Steering Committee supports the creation of the assignment/recovery team. Jim, Jeff, Steve W., Mike and Doug will get together on a conference call and decide how to move forward and create this Team.
- Jim will work with the Work Group Co-Chairs to set up meetings and conference calls consistent with the Schedule requirements.

5. Liaison Reports

- **SSG-WI SPDBIG – Ray Brush**

The SSG-WI Study Plan and Database Implementation Group is working on three assignments. Develop a Study Plan for the SSG-WI Planning Work Group for next year, develop Data Base Management Requirements for the data base that PacifiCorp developed for SSG-WI (and RMATS) and develop an RFP for implementation of the Data Base Management and 2004 Study Program. Work is progressing on these SSG-WI efforts and the report from the group to the SSG-WI PWG is on the SSG-WI website, www.ssg-wi.com.

6. Schedule

- **Next Steering Committee Meeting**

The next Steering Committee meeting will be on January 13, 2004 in Salt Lake City from 8:30 A.M. to 1:30 P.M.

- **Next Stakeholder Meeting and Stakeholder Involvement**

- The next Stakeholder meeting will be on February 5, 2004 in Salt Lake City (Note this change).
- Stakeholders will continue to receive periodic updates and invitations to participate in the study.

Outstanding RMATS Modeling Data Inputs

Progress Report

Resource Addition Work Group (RAWG)

	Activity	Study	Target Date	Comment
Phase I	Base Fuel Price Forecast	2008 Base Case	11/21/03	Provided- on 11/21/03
	Wind Shape	2008 Base Case	11/21/03	To use SSG-WI data, unless new data is provided
	High Fuel Price Forecast	2008 Sensitivities	12/12/03	To use \$5.00 prices, but will consider EIA forecast when available- committee to confirm.
Phase II	New Resources	2013 Alternatives	1/12/04	
	Base Fuel Price Forecast	2013 Alternatives	1/12/04	
	High Fuel Price Forecast	2013 Alternative Sensitivities- Part 1	2/9/04	
	New Resources	2013 Alternative Sensitivities- Part 2	3/2/04	If needed
	Fuel Price Sensitivity Forecasts	2013 Alternative Sensitivities- Part 2	3/2/04	
	New Resources	2008 Alternatives	3/2/04	If needed
	Alternate Fuel Price Forecasts	2008 Alternatives	3/2/04	If needed

Load Forecasting Working Group (LFWG)

	Activity	Study	Target Date	Comment
Phase I	Load Forecast	2008 Base Case	11/26/03	Provided on 11/26/03
	Alternate Load Forecast (2013)	2008 Sensitivities	12/5/03	Provided on 11/26/03
	Load Forecast	2013 Alternatives	1/12/04	Possibly same as 2008 sensitivity
Phase II	Alternate Load Forecasts	2013 Alternative Sensitivities- Part 2	3/2/04	
	Alternate Load Forecasts	2008 Alternatives	3/2/04	If needed

Outstanding RMATS Modeling Data Inputs Progress Report

Transmission Addition Work Group (TAWG)

Phase
II

Activity	Study	Target Date	Comment
Transmission Additions	2013 Alternatives	1/23/04	Critical Path- (2008 Sensitivities will be distributed no later than 1/19/03) TAWG must work with RAWG to make this deadline without delay
Transmission Additions	2013 Alternative Sensitivities- Part 2	3/2/04	

Other

Activity	Responsibility	Target Date	Comment
Provide modeling inputs, present results to steering committee and public meetings	RMATS Modeling Group		Critical Path- Present to Steering Committee/Public
Provide Public Meeting Schedule	Steering Committee / Report Writing Committee		
Provide Steering Committee Meeting Schedule	Steering Committee		