

Program Name	EPAAct 2005, 2606 Wind/Hydro Feasibility Study
Date and Time of Meeting:	June 20, 2008 10:00 – 12:00 MDT
Place:	Conference Call
Subject of Meeting:	WHFS Project Review
Meeting Leader:	Mike Radecki
Reporting (Minutes):	Mike Radecki



Agenda– June 20, 2008

To access the conference call dial **877-643-6951** then enter the pass code **87705226#**

Wind/Hydro Feasibility Website: <http://www.wapa.gov/ugp/powermarketing/default.htm>

Agendas

No.	Item Description	Lead	Time
1.	Introductions / Attendance <input type="checkbox"/> Jim Haigh, <input type="checkbox"/> Jody Farhat, <input type="checkbox"/> Trevor McDonald, <input type="checkbox"/> Karl Wunderlich, <input type="checkbox"/> Paulette Schaeffer, <input type="checkbox"/> Darin Larson, <input type="checkbox"/> Scott Doig, <input type="checkbox"/> Brian Parsons, <input type="checkbox"/> Mike Costanti, <input checked="" type="checkbox"/> Tom Weaver, <input checked="" type="checkbox"/> Warren Mackey, <input checked="" type="checkbox"/> Pat Spears, <input checked="" type="checkbox"/> Vic Simmons, <input checked="" type="checkbox"/> Mike Radecki, <input type="checkbox"/> Mark Messerli, <input type="checkbox"/> Walter White Tail Feather, <input type="checkbox"/> Steve Wegman, <input checked="" type="checkbox"/> Matt Schuerger, <input checked="" type="checkbox"/> Dave Rich, <input type="checkbox"/> Mike McDowell, <input checked="" type="checkbox"/> Rick Hunt, <input checked="" type="checkbox"/> Bob Rusch, <input type="checkbox"/> Doug Hellekson, <input checked="" type="checkbox"/> John Richards, <input type="checkbox"/> Bob Gough, <input checked="" type="checkbox"/> Ed Weber, <input type="checkbox"/> Margaret Bad Warrior, <input checked="" type="checkbox"/> Bill Schumacher, <input checked="" type="checkbox"/> Kim Massey, <input type="checkbox"/> Roy McAllister, <input checked="" type="checkbox"/> Tom Wind, <input type="checkbox"/> Roger Schiffman, <input checked="" type="checkbox"/> Roger Freeman, <input checked="" type="checkbox"/> Shawn Micken, <input checked="" type="checkbox"/> Braden Houston, <input checked="" type="checkbox"/> Lynn Coles, <input checked="" type="checkbox"/> Bob Zavadill, <input checked="" type="checkbox"/> Amy Shell, <input checked="" type="checkbox"/> Joel Lanketus, <input checked="" type="checkbox"/> Scott Eichelberger, <input checked="" type="checkbox"/> Henry Louie <input checked="" type="checkbox"/> Cameron Potter	Mike	
2.	Schedule Review / Update	Mike	10 Min
3.	EPAct 2005, Section 2606 – Legislation review	Mike	40 min
4.	MISO membership scenario •	Mike	20 min
5.	Sub-hourly analysis • Objectives	Kim /Bob Z	15 min
6.	3-Tier modeling • Validation	Kim / 3-Tier	15 Min
7.	Wrap-up • Discussion review • Action items • Next meeting / conference call		
8.			
9.			

1. Major Discussions

No.	Discussion
1.	2606 Review - conducted review of the legislation and how it relates to the work performed to date and that to be completed. Highlights of the discussion include: <ul style="list-style-type: none"> Question from Tom Wind – how does the 2020 marketing plan fit into the 30-year projected analysis. Tom suggested the marketable Hydro resource will be different than what we have today. <i>The 30-year analysis will assume continuation of the existing</i>

Program Name	EPAAct 2005, 2606 Wind/Hydro Feasibility Study
Date and Time of Meeting:	June 20, 2008 10:00 – 12:00 MDT
Place:	Conference Call
Subject of Meeting:	WHFS Project Review
Meeting Leader:	Mike Radecki
Reporting (Minutes):	Mike Radecki



	<p><i>marketing plan and that any agreement/project that is built as a result of this study will be evaluated as a part of any new marketing plan.</i></p> <ul style="list-style-type: none"> • Matt Schuerger reiterated comments previously submitted by e-mail (6/6/08). It is not clear what the current study objectives are, particularly for the sub-hourly analysis. Could you provide an update to the study objectives and deliverables including the changes from the posted work plan? What are the key objectives of the sub-hourly analysis (what specific questions are you trying to answer) and how will the results of this analysis be used? <i>The purpose of reviewing the 2606 legislation was to bring back into perspective what our task is – that being – to determine the feasibility of a wind/hydro demonstration project with an identification of the cost/benefit to be realized. We’ve spent a significant amount of time and effort addressing several of the sub-elements needed to address the legislation. The focus on several of these elements may have given the perspective our objectives have changed.</i> • The objective of the WHFS study is to incorporate tribal wind energy into the Western system displacing Western purchases. • About 1200 MW of candidate tribal wind projects were submitted (18 projects at 14 sites, project size ranges from 10 to 320 MW, initial build out of 748 MW and final build out of 1240 MW); Expecting to study up to 400 MW of nameplate wind. • The power system models for the Western UGPR will include up to 723 MW of non-tribal wind generation (158 MW currently operational, plus 265 MW with signed interconnection agreements, plus 300 MW of strong potential.) <p>Link to EPAAct 2005, Section 2606 slides http://www.wapa.gov/ugp/PowerMarketing/WindHydro/EPACT%202606%20review.pdf</p>
2.	<p>MISO/SPP Membership Scenario – Western and it’s customers are evaluating several scenarios involving memberships to MISO and/or SPP. Ventyx, the same company performing PROMOD analysis for the Wind/Hydro study is assisting Western/customers in the MISO/SPP effort. The basic study assumptions between the WHFS and the MISO/SPP are very consistent although minor differences do exist. Rick Hunt (Ventxy WHFS) has reviewed/compared both studies and believes there are more similarities than differences. Further, the MISO/SPP continues to make changes to their study assumptions that will likely result in even more similarity to the WHFS PROMOD assumptions. For the WHFS - the intent is to use the PROMOD analysis results developed for the MISO/SPP project.</p> <p>Matt Schuerger asked if the results of the MISO/SPP analysis would be shared with the WHFS project team. The results will be shared when that data is made available for release.</p> <ul style="list-style-type: none"> • The MISO/MAPP Seams Evaluation, a separate but parallel study, is expected to be completed in mid-July and will be distributed to the project team prior to doing the final analysis for the WHFS study.

Program Name	EPAAct 2005, 2606 Wind/Hydro Feasibility Study
Date and Time of Meeting:	June 20, 2008 10:00 – 12:00 MDT
Place:	Conference Call
Subject of Meeting:	WHFS Project Review
Meeting Leader:	Mike Radecki
Reporting (Minutes):	Mike Radecki



3.	<p>Sub-Hourly Analysis – the key objective of the sub-hourly analysis is to identify the specific reserve requirement/changes as a result of the significant amount of wind in Western balancing area (BA). This data is being developed to enable PROMOD to better reflect the conditions in the BA. We will be meeting with Western Operations in the next several weeks to discuss the results of the sub-hourly analysis – more to come as it develops.</p>
4.	<p>3-TIER Wind Data Validation/Losses – During the previous WHFS conference call the questions was asked about whether the wind modeling results for the Tribal projects had included or excluded losses. The Tribal Wind Assessment Preliminary findings dated May 16, 2008 did not have losses included – they were gross capacity factors. A good deal of discussion followed – highlights include:</p> <ul style="list-style-type: none"> • General belief that the gross capacity factors are low. • Tom Wind suggested that the capacity factors should be in the mid 40 percent range. • The wind penetration level for the sub-hourly analysis will be approximately 25% (total nameplate wind divided by a peak load of 3090 MW). • The operating reserves will be determined in PROMOD for: 1) load alone, 2) the system under current operating practice, and 3) the system with the projected wind generation. • An initial analysis will be done and then reviewed with Western Operations to get feedback and additional information on specific operating practices that impact the analysis; both the initial analysis and the outcome of the meeting with Operations will be shared with the project team. • The EnerNex work scope includes a qualitative assessment of the impacts on the analysis of bringing Western’s load and generation into the MISO market.
5.	<p>3TIER Wind Data validation – During the previous WHFS conference call some of the team members asked about validating the 3TIER 2000 data set. Since no tall tower data was provided prior to requesting the 2000 year data, the simulated data was not validated with WHFS provided data. 3TIER will validate the 2000 data set with 4 tall tower data they have identified as being close to the sites for the WHFS simulated data. The question was raised regarding the validation process used by other integration studies. The difference between wind data simulated for the purpose of integration studies versus prospecting was highlighted and the clarification made that the primary use for the WHFS study was to provide inputs for the PROMOD simulations, including determination of the reserve requirements. The primary purpose of the validation was to perform a sanity check on the data to make sure it accurately represented the wind patterns for the region. Both Basin and Tom Wind and Pat Spears suggested they might have wind speed data to share for the validation process.</p> <p>3TIER Data SCORE technology was presented to describe the development of 10-minute data set for sub-hourly analysis. It was pointed out that the SCORE data did include about a 2% loss factor and that this data set could not be scaled due to the complex nature of the methodology. The results of the validation process will be shared with the Project Team when available.</p>
6.	

Program Name	EPAAct 2005, 2606 Wind/Hydro Feasibility Study
Date and Time of Meeting:	June 20, 2008 10:00 – 12:00 MDT
Place:	Conference Call
Subject of Meeting:	WHFS Project Review
Meeting Leader:	Mike Radecki
Reporting (Minutes):	Mike Radecki



7.	
----	--

2. Action Items:

Assignee	Description/Status	Date to be Completed
Mike R	Follow-up on data available for 3-Tier validation effort (Basin Electric and ICOUP)	Need data by 6/25
Mike R	Update on MISO/SPP analysis	ASAP
Kim M	Follow-up on results of validation study when available	By next Project Team meeting

3. Parking Lot:

Task Description

Next Meeting /Call: