

Program Name	EPAct 2005, 2606 Wind/Hydro Feasibility Study
Date and Time of Meeting:	Feb 7, 2008 1:00 – 3:00 Mountain
Place:	Conference Call
Subject of Meeting:	WHFS Preliminary Data Analysis review / discussion
Meeting Leader:	Mike Radecki
Reporting (Minutes):	Mike Radecki



Conference Call Minutes– February 7, 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 ___Jim Haigh, ___Jody Farhat, _X_Trevor McDonald, _X_Karl Wunderlich, ___Paulette Schaeffer, ___Darin Larson, ___Scott Doig, ___Brian Parsons, ___Mike Costanti, _X_Tom Weaver, ___Warren Mackey, _X_Pat Spears, _X_Vic Simmons, _X_Mike Radecki, ___Mark Messerli, ___Walter White Tail Feather, ___Steve Wegman, _X_Matt Schuerger, ___Dave Rich, ___Mike McDowell, _X_Rick Hunt, ___Bob Rusch, ___Doug Hellekson, _X_John Richards, _X_Bob Gough, ___Ed Weber ___Margaret Bad Warrior, _X_Bill Schumacher, _X_Kim Massey _X_Roy McAllister, _X_Tom Wind, _X_Roger Schiffman ___Roger Freeman, ___Brad Nickell, ___Shawn Micken _X_Will Conklin	Mike	
2.	Action Item from last meeting How carbon will be addressed in modeling	New energy	20 min
3.	Historical analysis <ul style="list-style-type: none"> • Revised “dry” condition scenario 	Kim	15 min
4.	Meso-scale Modeling <ul style="list-style-type: none"> • Approach • Depth of analysis • Site identification 	Mike / Kim	30 min
5.	Climatology <ul style="list-style-type: none"> • Relevance to demonstration project recommendation 	Mike	15 min
6.	Tribal Wind Projects Summary	Kim	15 Min
7.	Wrap-up <ul style="list-style-type: none"> • Discussion review • Action items • Next meeting / conference call 	Mike	10 Min
8.			
9.			

1. Major Discussions

No.	Discussion
1.	CO2 Discussion – Rick reviewed the discussion points from his slides Comment suggest the use of 2 base cases – one being \$0 dollars and possibly an extreme value. Greenhouse Gases – Key Points

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	<ul style="list-style-type: none"> ▪National regulation of greenhouse gases (including CO2) seems likely, but approach is highly uncertain ▪Regional (RGGI, WCI) and state programs are in various stages of development ▪A carbon constrained view is becoming standard basecase approach for IRP and other long term studies <p>Greenhouse Gases – Existing Proposals</p> <ul style="list-style-type: none"> ▪Over 20 proposed programs and legislation reviewed ▪EIA studies congressional proposals and publishes likely outcomes of those proposals ▪Proposals fall into two broad categories •Safety valve proposals include provisions for preventing prices from getting ‘too’ high. •Others do not include safety valve and generally have higher allowance prices. <p>Greenhouse Gases – Proposed Approach</p> <ul style="list-style-type: none"> ▪Safety valve proposals less likely to pass due to lesser effect on emissions ▪Average of most recent (2006 & 2007) non-safety valve proposals provides a reasonable assumption for basecase view. ▪Limitations will begin in 2012, consistent with most recent proposals. ▪Questions around cap & trade approach—the modeling approach represents a dispatch penalty <p>Greenhouse Gases - Reference</p> <ul style="list-style-type: none"> ▪The following studies comprised the ‘recent, no-safety valve’ view •Energy Information Authority <ul style="list-style-type: none"> –http://www.eia.doe.gov/oiaf/emissions.html –S. 1766 – The Low Carbon Economy Act of 2007 –S. 280 – The Climate Stewardship and Innovation Act of 2007 –H.R. 5049 (a) – The Keep America Competitive Global Warming Policy Act •Synapse Energy Economics, 2006 <ul style="list-style-type: none"> –(http://www.synapse-energy.com/)
2.	<p>Historical analysis – Dry Scenario-Years 1998-2007 repeated 3 times. Average annual generation = 7.838 billion KWh</p>
3.	<p>Meso-scale modeling - Recent information relating to the penetration level of wind in Western’s system has changed. It is now apparent that the penetration level of wind will likely exceed 15% during the study period. As such, sub-hourly analysis of wind is warranted. Western is working with Stanley Consultants to determine the schedule and cost impacts of this change. We currently anticipate the cost impact may be manageable (within or slightly above current budget). The schedule impact is estimated to add at least three months to the overall project schedule. We anticipate a better assessment of these impacts over the coming weeks. While this change negatively impacts schedule and budget – it will clearly result in greater clarity of the impacts relating to increased penetration of wind into Western system and should produce increased confidence in the study results. This change also suggest that this project team will need to develop a screening methodology to limit the number of projects that are evaluated on a sub-hourly basis – conducting this analysis on each project is expected to be cost prohibitive.</p>

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	<p>Western and Stanley will be working on a proposed methodology over the coming weeks and will then propose this to the project team.</p> <ul style="list-style-type: none"> • Questions asked as to how the revised MISO seams agreement will impact this project and what elements if any will be moved into MISO. Given the length of time before a decision may be reached June/July – the WHFS project will continue to move forward reflective of today's operating scenario (outside of MISO) . • <u>Questions as to the operating impact of the additional wind to placed on the system and how it will be handled in the model. It is assumed that it will be included in the model, but it is unclear what the operating impact will be. This will be addressed in the proposed methodology to be discussed in the coming weeks.</u>
4.	<p>Climatology – The focus of the WHFS is to study the feasibility of wind hydro integration with an analysis of the resulting benefit/cost for the purpose of recommending a demonstration project. This study will not set firm limits on the amount of wind to be integrated into Westerns UGP system. Rather it will serve as a foundation from which increased penetration levels may be assessed. The injection of climatic changes and the resulting impact on hydrological conditions is not envisioned to alter the decision making process on the feasibility of a demonstration project. We have tried to allow for different hydrological conditions with the high and low generation scenarios planned in WE 5. Although this does not address specific climatology issues, it provides information from two objective scenarios in which to frame the risk assessment of possible climatic conditions. Please remember, a demonstration project is a “first step” and not the final answer to address the needs of Westerns customers.</p>
5.	<p>Tribal Wind Projects Summary – Kim reviewed the revised summary – noted that site specific information has been omitted in effort to retain confidential or proprietary information.</p> <ul style="list-style-type: none"> • Question asked regarding whether production profiles (capacity) produced as a result of modeling will be made public. We're currently assuming that we'll have to be able to discuss that information in the report.
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2. Action Items:

Assignee	Description/Status	Date to be Completed
Western/ Stanley	Proposal to address sub-hourly analysis	+/- 2 weeks

3. Parking Lot:

Task Description

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Next Meeting /Call:
