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Attorneys for Exergy Development Group of Idaho LLC

2007 OCT -5 PM 2: 33

IDAHO PUBLIC UTILITIES COMMISSION

## **BEFORE THE**

## IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE PETITION OF
ROCKY MOUNTAIN POWER FOR AN
ORDER REVISING CERTAIN OBLIGATIONS)
TO ENTER INTO CONTRACTS TO
PURCHASE ENERGY GENERATED BY
WIND-POWERED SMALL POWER
GENERATION QUALIFYING FACILITIES

CASE NO. PAC-E-07-07

EXERGY DEVELOPMENT GROUP OF IDAHO LLC'S COMMENTS

COMES NOW, Exergy Development Group of Idaho LLC ("Exergy") by and through its attorney of record, Peter J. Richardson, and pursuant to that notice issued by the Idaho Public Utilities Commission ("Commission") on August 22, 2007, as amended by September 19, 2007, and hereby provides its Comments in response to Rocky Mountain Power's ("Rocky Mountain" or the "Company") above captioned Petition. In support hereof Exergy says as follows:

Ι

## SUMMARY OF EXERGY'S POSITION

Modified procedure should be utilized in this docket for the sole purpose of denying Rocky Mountain's Petition. Absent outright denial, Exergy opposes the use of modified procedure to prosecute this highly complex and technical case.

Exergy Development Group of Idaho LLC's Comments PAC-E-07-07

## BACKGROUND AND STANDARD OF REVIEW

This Commission's rules require that a decision to proceed under modified procedure be based upon a finding that "the public interest may not require a hearing to consider the issues presented." IPUC Rules of Procedure IDAPA 31.01.01.201. (herein "Rule") The Commission's decision must be based on the record before it as detailed in Rule 281 which provides that:

The Commission bases its decisions and issues its orders on the hearing record (excluding exhibits denied admission), the Commissioners' record and items official noted.

The "Commissioner's record" consists of "all pleadings, orders, notices, briefs, proposed orders and position papers." Rule 284.01 The Commissioner's record also includes the "complete hearing record of transcripts and exhibits." Rule 285.

The Commission is a fact finding, quasi-legislative body authorized to investigate and determine issues presented by a utility's petition for increased (changed) rates. The Commission's findings must be supported by competent and substantial evidence. *Application of Pacifiic Tel. & Tel. Co.*, 71 Idaho 476, 480, 233 P.2d 1024 (1951).

The substantive record in this docket, as it relates to wind integration costs, consists solely of Rocky Mountain's Petition and a three page attachment from its 2004 IRP. The attachment, a document prepared by Rocky Mountain, is entitled "An Excerpt Taken From "PacifiCorp – 2004 IRP Appendix J – Renewable Generation Assumptions" (herein "IRP

<sup>&</sup>lt;sup>1</sup> Yesterday's filings in this docket were not made in time for Exergy to respond by the close of comment according to the Notice. Exergy will respond according to Commission direction.

Excerpt") The ultimate conclusion of the IRP Excerpt is that Rocky Mountain will experience high costs for which it is not compensated in order to integrate wind into its electrical system.

In its Petition, Rocky Mountain seeks a reduction in the Commission approved avoided cost rates by \$5.04 to account for wind integration costs. Rocky Mountain's proposed wind integration cost adjustment is set based on the fiction that there are 1,000 megawatts of installed wind capacity on its system. IRP Excerpt at p. 12.<sup>2</sup>

For the reasons stated below, Exergy asserts that Rocky Mountain's Petition is not supported by substantial and competent evidence and that a full hearing must be held by this Commission prior to issuing its order declaring what Rocky Mountain's wind integration rate is, or indeed if Rocky Mountain has a wind integration cost in the first place.

## III ROCKY MOUNTAIN'S PETITION SHOULD BE DENIED OUTRIGHT

Modified procedure in this docket is appropriate only if the outcome is the denial of Rocky Mountain's Petition.

The gist of Rocky Mountain's Petition is that large amounts of wind generation on its system will result in high costs to integrate that intermittent resource in a reliable manner.

Rocky Mountain has not averred that it HAS a large amount of wind connected to its system. It avers that it MAY have a large amount of wind at some time in the future. It has not averred that it currently is experiencing any problems with integrating wind into its system at this time.

Indeed, Rocky Mountain's proposed Wind Integration Rate is based on the assumption that it has 1,000 megawatts of installed wind. In reality it has less than 135 megawatts<sup>3</sup> of installed wind.

This is the flip side of retroactive ratemaking. Rocky Mountain is asking that today's rates be set

<sup>&</sup>lt;sup>2</sup> The pagination of the IRP Excerpt is apparently from the original IRP.

<sup>&</sup>lt;sup>3</sup> Page 24 Appendix A PacifiCorp 2007 IRP. Attachment B. Exergy Development Group of Idaho LLC's Comments PAC-E-07-07

based upon contingent events that may or may not happen at some point in the future. Given that Idaho's IOUs have (a) successfully stymied all new wind development in Idaho for over two years and (b) that it only has 135 megawatts on its system today; its assertion that it must immediately impose a Wind Integration Rate based on one thousand megawatts of wind on its system is simply not credible. The Petition should be denied.

Setting rates based on assumptions that are known to be false would violate the most basic of ratemaking tenants. To that end, setting rates to be effective immediately based on a contingent that has not occurred, may not occur and if it does occur, it may not do so for many years is simply reckless and illegal. Idaho Code Section 61-622 requires a showing that "any rate" be "justified". Setting a rate to recover a non-existent cost is unjustifiable.

An alternative to denying Rocky Mountain's Petition outright, would be to implement a system by which the Wind Integration Rate varies as the company's wind integration costs vary (both up and down). It is widely anticipated that integration costs may go up as penetration levels go up. On the other hand it is also widely anticipated that wind integration costs will go down as utilities gain experience with this renewable resource. Setting a fixed rate today based on an assumed penetration rate of one thousand megawatts is, candidly, a blunt, unsophisticated and inaccurate attempt to solve for a problem that doesn't even exist at this time, and indeed, may never exist.

If the Commission chooses to proceed with a wind integration rate that actually is an attempt to accurately reflect wind integration costs at the time they occur, it would have to set a variable wind integration rate. Such a rate would need to have a ceiling in order to provide certainty to the developer that the project can be financed without the potential for an unlimited and unknown reduction in operating revenues. That ceiling would presumably be the expected

wind integration rate at an assumed build-out of wind projects on the system. The ceiling would not be a target, but rather a cap above which the wind integration cost rate would not exceed. Of course, working out the details of such a program would take a process and require a record be developed before the Commission for review and approval. Modified procedure is not the appropriate vehicle for developing such a record.

## IV MODIFIED PROCEDURE IS INAPPROPRIATE

Rocky Mountain filed its Petition in this matter on April 23, 2007, as a result of failing to reach a settlement of the issues raised in Idaho Power's wind integration suspension proceeding in Docket No. IPC-E-05-22 which was opened back in June of 2005 and in which Rocky Mountain participated through its parent, PacifiCorp. In that docket, in which PacifiCorp participated and supported Idaho Power's request that the Commission initiate a "suspension of the company's obligation under . . . PURPA to enter into new contracts to purchase energy generated by qualifying wind-powered small power production facilities." Order No. 29872 at p. 1. (the "Suspension Docket") Technically, this Commission did not suspend the Company's obligations under PURPA. Rather, it eliminated the opportunity for any wind QF larger than 100 kw to entitlement to the Commission's published avoided cost rates. The real-world effect of the Suspension Docket was to excuse the company's obligations under PURPA to offer its avoided cost rates to qualifying wind power small power production facilities.

## The Commission observed that:

Based on the record established in this case the Commission finds reason to believe that wind generation presents operational integration costs to a utility different from other PURPA qualified resources. We find that the unique supply characteristics of wind generation and the related integration costs provide a basis for adjustment to the published avoided cost rates, a calculated figure that may be different for each regulated utility. The procedure to determine the appropriate amount of adjustment, we find, and the identification of what studies, if any, need to be performed to provide such a number

is a matter appropriate for further proceedings. The record reflects that a wind integration study, if required, may take six months to develop. <u>Rocky Mountain has asked for a suspension period from six to nine months.</u>

Order No. 39839 at p. 8. Emphasis provided.

Twenty six months later we are asked to comment on whether the wind integration study filed in this docket accomplishes the goals established for all three IOUs in IPC-E-05-22. The intervening two years, during which the wind industry in Idaho has been effectively frozen, have seen construction costs skyrocket and have cost Idaho many millions of dollars in lost economic benefits and will cost Idaho many untold millions into the future due to the lost opportunities suffered by the wind industry in this state. With that said, it is nevertheless critical that if this Commission decides to impose a wind integration rate on wind powered QFs, that it get it right the first time. That is one reason why Exergy opposes the use of modified procedure in this matter for all outcomes except for a denial of the petition.

In its final report to the Commission<sup>4</sup> regarding progress in working with interested parties to reach a consensus settlement of its wind integration costs, Idaho Power provided a list of individuals and firms who participated in its wind integration workshops. The participants included Rocky Mountain's parent, PacifiCorp, and the following individuals, companies, state agencies, federal agencies, advocate groups, wind developers and public utilities:

Advocates for the West

Avista

Batt & Fisher

B.R.E. Inc.

Cassia Wind

Elmore County Agribusiness

**Energy Vision** 

Exergy

Hanson, John

Idaho National Laboratory

Idaho Public Utilities Commission

Idaho Wind

Idaho Wind Farms

IDWR-Energy Division

Magic Wind

McDevitt & Miller

**NW Energy Coalition** 

**PacifiCorp** 

Paine Hamblen

<sup>&</sup>lt;sup>4</sup> IPC-E-05-22 filed January 31, 2006.

Renaissance Engineering Richardson & O'Leary Snake River Alliance Windland Wirt, John

Renewable Northwest Project Ridgeline Energy Windadvantage Windlogics

After five workshops and settlement conferences and with the combined efforts of the above list of experts no consensus was reached. Rocky Mountain's current filing is not the result of a consensus – either as to methodology or its ultimate conclusions. The wind development industry is opposed to Rocky Mountain's filing because the industry does not believe it accurately reflects Rocky Mountain's integration costs.

Rocky Mountain's only evidence in the record as to the accuracy of its wind integration costs are three pages taken from its 2004 IRP which this Commission has never approved for ratemaking purposes. Indeed, the Commission's only official response to the filing of Rocky Mountain's IRP was to "acknowledge the 2004 IRP". Petition at p. 4. A three page excerpt from a document that was merely "acknowledged" for filing cannot be reasonably asserted to rise to the level of substantial competent evidence upon which rates are set.

For all of the foregoing, Exergy respectfully requests that Rocky Mountain's Petition be denied or in the alternative that a full evidentiary hearing be conducted to investigate the true level of wind integration costs for the Rocky Mountain system.

Respectfully submitted this 5<sup>th</sup> day of October 2007.

RICHARDSON & O'LEARY PLLC

Peter J. Richardson
Attorneys for Exergy Development Group
of Idaho, LLC

## ATTACHMENT A

-				_										_					_		_
		2007	2006	2006	2006	2006	2006	2006	2005	2005	2004	2004	2004	2003	2003	2003	Date				
	BPA/Hirst	GE/Pier/CalAP	MN/MNDOC	MN/MNDOC	MN-MISO	Xcel-PSCo	Xcel-PSCo	CA RPS	Puget Sound	PacifiCorp	VTT-Scandinavia	VTT-Scandinavia	Xcel-MNDOC	We Energies	We Energies	Xcel-UWIG	Study				Recent
	7.0%	20.0%	34.0%	20.0%		15.0%	10.0%	4.0%	10.0%	20.0%	20.0%	10.0%	15.0%	29.0%	4.0%	3.5%	%	Penetration			Studies
	\$0.19	\$0.69	\$0.23	\$0.11		\$0.20	\$0.20	\$0.45		\$0.00			\$0.23	\$1.02	\$1.12	\$0.00	Costs	Regulation			of Wind
	0.28									\$1.60				\$0.15	\$0.09	\$0.41		<u>ಹ</u>	load		Integration
	\$1.40		\$4.18	\$2.00		\$3.32	\$2.26			\$3.00			\$4.37	\$1.75	\$0.69	\$1.44	ent Cost	Commitm	Unit	\$/MWh	on Costs
						\$1.45	\$1.26										Supply	Gas			S
	\$1.87	\$0.69	\$4.41	\$2.11	\$4.41		\$3.72					L_				\$1.85	Impact	Total			
	Renewable Energy Consulting Services, NREL	NREL	Renewable Energy Consulting Services, NREL	Renewable Energy Consulting Services, NREL	DOE, NERL	DOE, NERL	DOE, NERL	DOE, NERL	RNP	DOE, NERL	RNP	RNP	DOE, NERL	DOE, NERL	DOE, NERL	DOE, NERL	Source				



Annual Report on U.S. Wind Power Installation, Cost, and Performance Trends: 2006

## New Studies Find That Integrating Wind into Power Systems Is Manageable, But Not Costless

During the past several years, there has been a considerable amount of analysis on the potential impacts of wind energy on power systems, typically responding to concerns about whether the electrical grid can accommodate significant new wind additions, and at what cost. The sophistication of these studies has increased dramatically in recent years, resulting in a better accounting of

wind's impacts and costs (recall that these "integration costs" were not included in the busbar wind power prices presented earlier).

Table 6 provides a selective listing of results from major wind integration studies completed from 2003 through 2006. Because methods vary and a consistent set of operational impacts has not been included in each study, results from the different analyses are not perfectly comparable. Nonetheless, the key findings of two major new studies completed in 2006 in Colorado and Minnesota are broadly consistent with those in earlier work, and (at a minimum) show that wind integration costs are generally approximately \$5/MWh, or less, for wind *capacity* penetrations<sup>30</sup> up to about 15% of the local/regional peak load in which the wind power is being delivered.<sup>31</sup> Regulation and load-following impacts are generally found to be small, whereas the impacts of wind on unit commitment are more significant.<sup>32</sup>

## Transmission Is an Increasingly Significant Barrier to Wind, but Solutions Are Emerging

Relatively little investment has been made in new transmission over the past 15 to 20 years, and in recent years it has become clear that lack of transmission access and investment are major barriers to wind development in the U.S. New transmission facilities are particularly important for wind resource development because of wind's locational dependence and distance from load centers. In addition, there is a mismatch between the short lead times for

Table 6. Key Results from Major Wind Integration Studies Completed 2003-2006

		Wind		C	ost (\$/MWh)		
Date	Study	Capacity Penetration	Regulation	Load Following	Unit Commitment	Gas Supply	TOTAL
2003	Xcel-UWIG	3.5%	0	0.41	1.44	na	1.85
2003	We Energies	4%	1.12	0.09	0.69	na	1.90
2003	We Energies	29%	1.02	0.15	1.75	na	2.92
2004	Xcel-MNDOC	15%	0.23	na	4.37	na	4.60
2005	PacifiCorp	20%	0	1.6	3	na	4.60
2006	CA RPS (multi-year)	4%	0.45*	trace	na	na	0.45
2006	Xcel-PSCo	10%	0.2	na	2.26	1.26	3.72
2006	Xcel-PSCo	15%	0.2	na	3.32	1.45	4.97
2006	MN-MISO 20%	31%	na	na	na	na	4.41**

<sup>\* 3-</sup>year average

Source: National Renewable Energy Laboratory.

developing wind projects and the lengthier time often needed to develop new transmission lines. Furthermore, wind's relatively low capacity factor can lead to underutilization of new transmission lines that are intended to only serve wind. The question of "who pays?" for new transmission is also of critical importance to wind developers and investors. Transmission rate pancaking, charges imposed for inaccurate scheduling, and interconnection queuing procedures have also sometimes been identified as impediments to wind capacity expansion.

A number of developments occurred in 2006 that promise to help ease some of these barriers over time. The U.S. DOE issued a national transmission congestion study that designated southern California and the mid-Atlantic coastal area from New York City to northern Virginia as "critical congestion areas." Under the Energy Policy Act of 2005 (EPAct 2005), the U.S. DOE can nominate National Interest Electric Transmission Corridors, and the Federal Energy Regulatory Commission (FERC) can approve potential new transmission facilities in these corridors if states do not act within one year, or do not have the authority to act, among other conditions. <sup>33</sup> Separately, FERC issued a rule allowing additional profit incentives for transmission owners on a case-by-case basis, also as required by EPAct 2005, and thereby potentially encouraging greater transmission investment.

In the West, the Western Governors Association adopted a policy resolution through its Clean and Diversified Energy Advisory Committee that included a goal of 30,000 MW of clean energy by 2015, with potentially significant contributions from wind power. The recommendations of this committee to advance wind included

<sup>\*\*</sup> highest over 3-year evaluation period

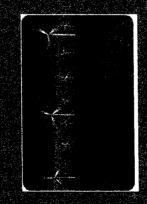
Wind penetration on a capacity basis (defined as nameplate wind capacity serving a region divided by that region's peak electricity demand) is frequently used in integration studies. For a given amount of wind capacity, penetration on a capacity basis is typically higher than the comparable wind penetration in energy terms.

The recently completed study in Minnesota found that a 25% wind penetration within the state, based on energy production (31% based on capacity), would cost \$4.41/MWh or less. This low cost at such a high penetration rate is caused, in part, by the extensive interactions with the Midwest Independent System Operator (MISO) markets. The low cost found in the California study is partly a reflection of the limited number of cost factors that were considered in the analysis.

<sup>32</sup> A number of additional wind integration analyses are planned for 2007, including a study of even-higher wind power penetrations in Colorado, the completion of the California Intermittency Analysis Project, and further work in the Pacific Northwest. Studies evaluating wind integration in the Southwest, and perhaps throughout the West, are also in the early planning stage.

The U.S. DOE has since issued draft National Interest Electric Transmission Corridor designations for the two regions identified above and, as of this writing, is receiving comments on this draft designation.

## Integrating Wind Power into the Electric Power System







Ed DeMeo

Renewable Energy Consulting Services, Inc.

Technical Advisor, Utility Wind Integration Group

Michael Milligan

National Renewable Energy Laboratory

Consultant, National Wind Technology Center Michigan Public Service Commission Wind Forum

April 25, 2007

Lansing, Michigan

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Study	Penetra- tion (%)	Regula tion	Regula- Load- tion Follow	Unit- Commit	Total Impact
UWIG/Xcel	3.5	0	0.41	1.44	1.85
Расійсогр	20	0	<u>.</u>	3.0	4.6
BPA/Hirst	7	0.19	0.28	1,40	1.87
We Energies	29	1.02	0.15	1.75	2.92
Xcel/PSCO	15	0.20	0	4.77	4.97
Xce//MNDOC	15	0.23	0	4.37	4.60
MN/MNDOC	20	1.	Ö	2.00	2.11
MN/MNDOC	34	0.23	0	4.18	4.47

## Innovation for Our Energy Future

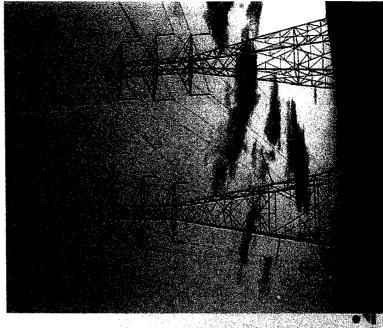


## WECC Operating Impacts

WindPowering America Summit June 6, 2007

Michael Milligan
National Wind Technology Center
National Renewable Energy Laboratory
Golden, Colorado USA
303-384-6927

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# Comparison of Cost-Based U.S. Operational Impact Studies

Total Operating Cost Impact (\$/MWh)	1.85	4.60	0.45	0-0.69***	1.90	2.92	4.60	3.72	4.97	4.41**
Gas Supply Cost (\$/MWh)	na	na	na	na	na	na	na Pa	1.26	1.45	
Unit Commit- ment Cost (\$/MWh)	1.44	4.37	na	na***	0.69	1.75	3.0	2.26	3,32	
Load Following Cost (\$/MWh)	0.41	na	trace	trace	0.09	0.15	1.6	na	na	
Regula- tion Cost (\$/MWh)	0	0.23	0.45*	0-0.69	1.12	1.02	0	0.20	0.20	
Wind Capacity Penetra- tion (%)	3.5	15	4	20	4	29	20	0	<b>'</b> 2	31**
Study	Xcel-UWIG	Xcel-MNDOC	CA RPS Multi- year	GE/Pier/CAIAP	We Energies	We Energies	PacifiCorp	Xcel-PSCo	Xcel-PSCo	MN 20%
Date	May '03	Sep '04	90, əunf	Feb '07	20, eunf	1 June 103	2005	April '06	April '06	Dec '06

3-year average; total is non-market cost

\*\* highest integration cost of 3 years; 30.7% capacity penetration corresponding to 25% energy penetration; 24.7% capacity penetration at 20% energy penetration

\*\*\* found \$4.37/MWh reduction in UC cost when wind forecasting is used in UC doctorisms.

## Renewable Northwest Project Members

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2007 FEB 12 ANIO: 18

IDANO PUBLIC UTILITIES COMMISSIO.:



Renewable Northwest Projec

Jean D. Jewell, Secretary
Idaho Public Utilities Commission
472 West Washington Street
P. O. Box 83720
Boise, ID 83720-0074
Via email

Re: Operational Impacts of Integrating Wind Generation into Idaho Power's Existing Resource Portfolio

Dear Ms. Jewell:

February 9, 2007

We appreciate the time and effort Idaho Power Company expended in preparing their study Operation Impacts of Integrating Wind Generation into Idaho Power's Existing Resource Portfolio (Study). In addition, Idaho Power Company's analysts have been generous in sharing their intermediate results and discussing their methodology with the Northwest Wind Integration Action Plan (NWIAP) Peer Review Committee of which we are participants. Unfortunately, due to perceived urgency felt by Idaho Power, the Study was filed with the Idaho Commission prior to completing the NWIAP peer review process. Taking extra time would allow parties on the Peer Review Committee to have confidence in the results.

We believe this report is premature and we urge the Commission not to accept it until the peer review process is complete. We also feel it is critical not to base any other decisions, such as those proposed in Idaho's filing on PURPA rules, on the study results until the report has been fully vetted. Allowing Idaho Power extra time, and extra funding for their consultant if needed, is important to this process. We also hope the Commission will encourage Idaho Power to continue to share complete details of their wind data and analysis methodology with regional stakeholders.

The timing was particularly unfortunate because the peer review group identified some areas of concern in the calculations and methodology that had the effect of systematically overestimating the reserve requirements. The peer review committee wished to investigate further. Some of the concerns identified include:

Inflated Market Price Data. We appreciate that Idaho Power was interested in understanding the differences in system operations under low, average, and high water years. However, the market prices that corresponded to the average water year are inflated because of the 2000-2001 energy crisis. These high prices result in integration costs for those years that are unreasonably high.

## **Attachment**

## **Recent Wind Integration Studies Summary**

Date	Study	Penetration %	Operating Cost Impact (s/MWh)
2005	PacifiCorp	20	4.6
Mar 2005	Puget Sound Energy	10	4.05
May 2003	Xcel-UWIG	3.5	1.85
Sep 2004	Xcel-MNDOC	15	4.6
Jun 2003	WE Energies	4	1.9
Jun 2003	WE Energies	29	2.92
Apr 2006	Xcel-PSCo	10	3.72
Apr 2006	Xcel-PSCo	15	4.97
Nov 2006	Enernex- MN	15*	2.11
Nov 2006	Enernex- MN	25*	4.41
Dec 2004	VTT- Scandinavia	10*	1.29**
Dec 2004	VTT- Scandinavia	20*	2.58**

## Notes

\*Penetration based on MWh generation / MWh load

## Sources:

"Grid Impacts of Wind Power Variability: Recent Assessments from Variety of Utilities in the United States," Parsons/Milligan et al, NREL, July 2006 "Final Report- Minnesota Wind Integration Study," Minnesota Public Utility Commission, November 30, 2006

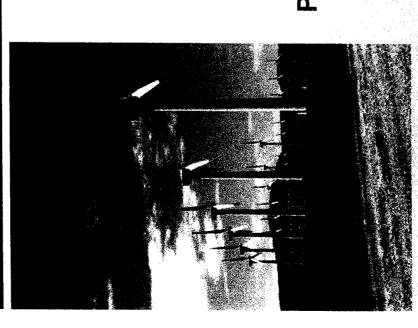
"The Impact of Large Scale Wind Power Production on the Nordic System," Holtinen, VTT Processes, December 2004

"Short-term Operational Impacts of Wind Generation on the Puget Sound Energy Power System", Golden Energy Services, Inc., March 3, 2005.

<sup>\*\*</sup>Euros/MWh converted to dollars @ 1.29 Euro/dollar

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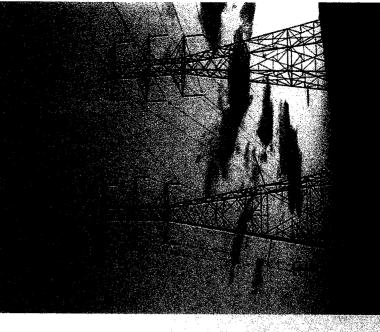
Innovation for Our Energy Future



## Wind-Generated Electricity: Technology, Integration, Transmission Issues

**PNWER Annual Meeting** Anchorage, Alaska July 24, 2007

National Renewable Energy Laboratory National Wind Technology Center brian\_parsons@nrel.gov Golden, Colorado USA **Brian Parsons** 303-384-6958



# Comparison of Cost-Based U.S. Operational Impact Studies

Date	Study	Wind Capacity Penetra- tion (%)	Regula- tion Cost (\$/MWh)	Load Following Cost (\$/MWh)	Unit Commit- ment Cost (\$/MWh)	Gas Supply Cost (\$/MWh)	Total Operating Cost Impact
May '03	Xcel-UWIG	3.5	0	0.41	1.44	na	(3/MVVn) 1.85
Sep '04	Xcel-MNDOC	15	0.23	na	4.37	na	4.60
90, əunf	CA RPS Multi- year	4	0.45*	trace	na	na	0.45
Feb '07	GE/Pier/CAIAP	20	0-0.69	trace	na***	na	0-0.69***
7nne ,03	We Energies	4	1.12	60.0	0.69	na	1.90
20, aunr	We Energies	29	1.02	0.15	1.75	na	2.92
2005	PacifiCorp	20	0	1.6	3.0	na	4.60
April '06	Xcel-PSCo	0)	0.20	Ja Ja	2.26	1.26	3.72
April '06	Xcel-PSCo	15	0.20	na	3.32	1.45	4.97
Dec .'06	MN 20%	31**					4.41**

3-year average; total is non-market cost

highest integration cost of 3 years; 30.7% capacity penetration corresponding to 25% energy penetration;

24.7% capacity penetration at 20% energy penetration

\*\*\* found \$4.37/MWh reduction in UC cost when wind forecasting is used in UC decoration in

## ATTACHMENT B

Year	Lost Generation (MWh)
2009	(158,191)
2010	(158,191)
2011	(158,191)
2012	(168,035)
2013	(196,590)
2014	(196,590)
2015	(196,590)
2016	(212,383)
2017	(212,383)
2018	(212,383)
2019	(212,383)
2020	(212,383)
2021	(212,383)
2022	(212,383)
2023	(212,383)
2024	(212,383)
2025	(212,383)
2026	(212,383)

Note: Excludes the decommissioning of Condit, Cove, Powerdale, and American Fork.

## **Generation Resources**

Table A.12 lists operational profile information for the PacifiCorp generation resources, including plant type, maximum megawatt capacity, ownership share, location, retirement date, and FERC Form 1 heat rates. Lake Side's heat rate has been approximated based on design expectations.

Table A.12 - Thermal and Renewable Generation Facilities

Plant	Maximum MW (PacifiCorp Share)	State	PacifiCorp Percentage Share	Retirement Date <sup>17</sup>	Heat Rate (Bin/kWh)
Coal-fired	100 Maria 100 Maria		Table 1		
Carbon 1	67	Utah	100%	2020	11,497
Carbon 2	105	Utah	100%	2020	11,497
Cholla 4	380	Arizona	100%	2025	10,815
Colstrip 3	74	Montana	10%	2029	10,870
Colstrip 4	74	Montana	10%	2029	10,870
Craig 1	83	Colorado	19%	2024	10,208
Craig 2	83	Colorado	19%	2024	10,208
Dave Johnston 1	106	Wyoming	100%	2020	11,047
Dave Johnston 2	106	Wyoming	100%	2020	11,047
Dave Johnston 3	220	Wyoming	100%	2020	11,047
Dave Johnston 4	330	Wyoming	100%	2020	11,047
Hayden 1	45	Colorado	24%	2024	10,571

	Maximum MW (PacifiCorp		PacifiCorp Percentage	Retirement	Heat Rate
Plant	Share)	State	Share	Date 1/	(Btu/kWh)
Hayden 2	33	Colorado	13%	2024	10,571
Hunter 1	403	Utah	94%	2031	10,508
Hunter 2	259	Utah	60%	2031	10,508
Hunter 3	460	Utah	100%	2031	10,508
Huntington 1	445	Utah	100%	2025	10,099
Huntington 2	450	Utah	100%	2025	10,099
Jim Bridger 1	353	Wyoming	67%	2026	10,569
Jim Bridger 2	353	Wyoming	67%	2026	10,569
Jim Bridger 3	353	Wyoming	67%	2026	10,569
Jim Bridger 4	353	Wyoming	67%	2026	10,569
Naughton 1	160	Wyoming	100%	2022	10,426
Naughton 2	210	Wyoming	100%	2022	10,426
Naughton 3	330	Wyoming	100%	2022	10,426
Wyodak 1	280	Wyoming	80%	2028	11,597
Gas-fired					
Currant Creek	541	Utah	100%	2040	7,327
Gadsby 1	60	Utah	100%	2017	11,590
Gadsby 2	75	Utah	100%	2017	11,590
Gadsby 3	100	Utah	100%	2017	11,590
Gadsby 4	40	Utah	100%	2027	11,556
Gadsby 5	40	Utah	100%	2027	11,556
Gadsby 6	40	Utah	100%	2027	11,556
Hermiston 1 <sup>2/</sup>	124	Oregon	50%	2031	7,222
Hermiston 2 <sup>2/</sup>	124	Oregon	50%	2031	7,222
Lake Side 3/	544	Utah	100%		6,939
West Valley 1	40	Utah	100%	2008	10,694
West Valley 2	40	Utah	100%	2008	10,694
West Valley 3	40	Utah	100%	2008	10,694
West Valley 4	40	Utah	100%	2008	10,694
West Valley 5	40	Utah	100%	2008	10,694
Renewables and Other					
Blundell (Geothermal) 4/	23	Utah	100%	2033	
Foote Creek (Wind)	33	Wyoming	79%	2019	
Leaning Juniper (Wind)	101	Oregon	100%	2031	
James River (CHP)	30	Washington	100%	2016	7,200
Little Mountain (CHP)	14	Utah	100%	2009	16,980

<sup>1/</sup> Plant lives are currently being reviewed for compliance with future environmental regulations.

<sup>2/</sup> Remainder of Hermiston plant under purchase contract by the company for a total of 248 MW.

<sup>3/</sup> Currently under construction; expected June 2007 start date.

<sup>4/</sup> Planned Blundell bottoming-cycle upgrade of 11 MW in 2008.

## **CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on this day, October 5, 2007, I caused a true and correct copy of the foregoing **EXERGY DEVELOPMENT GROUP OF IDAHO LLC COMMENTS PAC-E-07-07** to be served by the method indicated below, and addressed to the following:

Ms. Jean Jewell Commission Secretary Idaho Public Utilities Commission P O Box 83720 Boise ID 83720-0074	<ul> <li>( ) U.S. Mail, Postage Prepaid</li> <li>(X) Hand Delivered</li> <li>( ) Overnight Mail</li> <li>( ) Facsimile</li> <li>( ) Electronic Mail</li> </ul>
Dean Brockbank Rocky Mountain Power 201 S. Main St. Ste. 2300 Salt Lake City, Utah 84111 dean.brockbank@pacificorp.com	( ) U.S. Mail, Postage Prepaid (X) Hand Delivered ( ) Overnight Mail ( ) Facsimile (X) Electronic Mail
Brian Dickman Rocky Mountain Power 201 S. Main St. Ste. 2300 Salt Lake City, Utah 84111 brian.dickman@pacificorp.com	<ul> <li>( ) U.S. Mail, Postage Prepaid</li> <li>(X) Hand Delivered</li> <li>( ) Overnight Mail</li> <li>( ) Facsimile</li> <li>( ) Electronic Mail</li> </ul>
Scott Woodbury Idaho Public Utilities Commission 424 W Washington Street Boise ID 83702 scott.woodbury@puc.idaho.gov	<ul> <li>( ) U.S. Mail, Postage Prepaid</li> <li>(X) Hand Delivered</li> <li>( ) Overnight Mail</li> <li>( ) Facsimile</li> <li>(X) Electronic Mail</li> </ul>
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