William M. Eddie
610 SW Alder St. Suite 910
Portland, OR 97205

Ph: 503-542-5245
Fax: 503-225-0276
Cell: 503-956-8521

October 3, 2007

Jean Jewell, Commission Secretary
Idaho Public Utilities Commission
427 W. Washington St.
Boise, ID 83702-5983

Re: IPC-E-07-03; AVU-E-07-02; PAC-E-07-07

Dear Ms. Jewell:

Please find enclosed for filing the following documents in the above-referenced cases:

IPC-E-07-03: Nine (9) copies of the Direct Testimony of Ken Dragoon

AVU-E-07-02: Original and seven (7) copies of the Motion For Approval of Settlement Stipulation (including the Stipulation as Attachment 1 to such Motion); and nine (9) copies of the Direct Testimony of Ken Dragoon.

PAC-E-07-07: Original and seven (7) copies of the Joint Motion For Approval of Settlement Stipulation (including the Stipulation as Attachment 1 to such Motion).

I have included a cover page of these documents to be conformed and returned to me. Thank you for your attention to this matter.

Sincerely,

William M. Eddie

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S PETITION TO INCREASE THE PUBLISHED RATE ELIGIBILITY CAP FOR WIND POWERED SMALL POWER PRODUCTION FACILITIES; and TO ELIMINATE THE 90%/110% PERFORMANCE BAND FOR WIND POWERED SMALL POWER PRODUCTION FACILITIES	)	CASE NO. IPC-E-07-03

DIRECT TESTIMONY OF
KEN DRAGOON

ON BEHALF OF RENEWABLE NORTHWEST PROJECT AND NW ENERGY COALITION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ken Dragoon. I am employed by the Renewable Northwest Project ("RNP"), 917 SW Oak St., Suite 303, Portland, Oregon 97205.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of RNP and NW Energy Coalition.

Q. PLEASE DESCRIBE RNP.

A. Established in 1994, RNP is a nonprofit organization promoting the responsible expansion of solar, wind and geothermal energy in the Northwest. RNP works to establish policies that support renewable energy development and nurture the development of a market for renewables. RNP's day-to-day work includes active participation in any type of energy policy proceeding in the Northwest which may impact renewable energy development.

RNP's unique coalition of members includes renewable energy project developers, public and consumer interest groups such as the Citizens Utility Board of Oregon, turbine manufacturers, environmental organizations and others. To my knowledge, the NW Energy Coalition is the only other participant in this proceeding which is a member of or otherwise formally affiliated with RNP. Attached as Exhibit 301 is a current list of RNP's board

of directors. More information can be obtained at our website, <http://www.rnp.org>.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND AND EXPERIENCE.

A. I have bachelor's and master's degrees in physics from Western Washington University and the University of New Hampshire respectively. From 1982 to 1997, I worked at Bonneville Power Administration as a Power Systems analyst, and a Power Resources Division manager. From 1997 to 2006 I worked for PacifiCorp in a variety of roles including power system planning, fundamentals analysis, structuring and pricing analyst, and renewable resource contract originator. In this capacity, I was the lead analyst for developing pricing of PacifiCorp's wind integration services and wind integration cost analysis contained in PacifiCorp's 2003-2007 Integrated Resource Plans. I have authored or coauthored papers on a variety of power system topics, including wind integration, streamflow forecasting, power system risk management, power system reliability and adequacy assessment.

Q. WHAT SPECIFIC EXPERIENCE DO YOU HAVE RELATED TO THIS PROCEEDING?

A. I was the lead staff person at RNP in reviewing filings and proposals in this matter since Idaho Power Company filed its application in February 2007. I served as the technical analyst in this case both for RNP and for NW Energy Coalition. Had this case proceeded to a technical hearing, I would have served as expert witness before the Commission in this case and the related cases involving Avista Utilities and PacifiCorp. I attended all the public workshops and settlement conferences in this case and was very active in providing feedback, criticism, and suggestions to Idaho Power on the Wind Integration Study. Outside of workshops and settlement conferences, I had regular and frequent communications with Idaho Power technical staff concerning the Wind Integration Study filed in this docket.

Q. WHAT IS THE SUBJECT OF YOUR TESTIMONY?

A. I will explain and express RNP's and NW Energy Coalition's support for the settlement stipulation ("Stipulation") in this docket.

Q. PLEASE SUMMARIZE YOUR PERSPECTIVE ON WIND INTEGRATION ANALYSIS.

A. Utility integration of large amounts of wind energy entails system costs due to the relative variability and unpredictability of wind generation output. Wind

generation can change relatively rapidly on a timescale of roughly several minutes to a few hours. When the wind suddenly changes, other generating plants on the system have to change their output to compensate. The availability and movement of the balancing resources represents a system level cost of wind integration. The amount of such cost is dependent upon numerous factors, including: (a) the quality and relative amount of wind resources on the system; (b) the other resources available to a utility; (c) the nature and accessibility of energy markets, including whether sub-hour transactions are possible; (d) the market price of energy at any given time; (e) the nature and availability of wind forecasting tools; and (f) the decisions of utility system operators in managing wind on the power system.

Analysis of the cost of wind integration is a relatively new endeavor, though the general problem is not new. For example, mathematically, there is little difference between how some run-of-river hydropower projects and wind generation impact the power system. Nevertheless, few utilities have done a comprehensive analysis of system costs associated with run-of-river hydropower, such as the studies conducted for wind. There is now a growing body of work on wind integration

that can be referenced. There is a range of sophistication among the approaches, and Idaho Power chose to undertake a highly sophisticated, and highly complex analysis. The obvious advantage of more complex analysis is that it may capture nuances in power system interactions that might be missed in a simpler analysis. On the other hand, complex analyses such as Idaho Power's provide many more opportunities for disagreements on the assumptions used in the analysis. Although the workshop process was effective in addressing many of the contested issues associated with the Idaho Power study, time did not permit all of the potentially important issues associated with the study to be resolved. The proposed stipulation properly sets a path forward for wind integration to be addressed in conjunction with the IRP process. RNP looks forward to participating in that process.

Q. ARE YOU AWARE OF ANY UPDATES TO IDAHO POWER'S STUDY SINCE IT WAS FILED IN FEBRUARY 2007.

A. Yes. In response to issues I and others raised in the workshops in this case, and through its continuing analysis, Idaho Power revised its estimated cost of wind integration downward. The Company's new estimated cost of wind integration is $7.92/MWh, as described in its

Response to Production Requests, provided herewith as Exhibit 302. Exhibit 302 is self-explanatory and does not need to be recounted.

Q. AFTER REVIEWING IDAHO POWER'S REVISED ESTIMATES AS DESCRIBED IN EXHIBIT 302, DO YOU HAVE CONTINUING CONCERNS WITH THE RESULTS OF IDAHO POWER'S WIND INTEGRATION STUDY?

A. Yes. There are some outstanding issues of potentially significant impact on the results of the analysis. I offer these to demonstrate some of the ongoing disputed issues among the parties, and to show why the integration charges reflected in the settlement stipulation, together with ongoing review of wind integration issues, represent a reasonable resolution of this case.

One of the most difficult complexities in these kinds of studies is related to the development of assumed wind generation data for hypothetical wind projects that have not yet been (and may never be) constructed. The Idaho Power study was based on wind speed data obtained from a very credible consulting firm based on historical observations applied to a physical model similar to those used for weather forecasting. While these models give reasonably reliable wind speed estimates, the conversion from wind speed to wind generation needs further work. In my opinion, as Idaho Power gains experience with

integrating wind on its system, it will conclude that the specific method used in Idaho Power's study to convert wind speed to wind generation overestimates the variability of wind generation output. Wind integration costs are mainly dependent on wind generation variability, so an overestimate in this parameter has a very significant effect on the results.

Another area where I believe that actual experience will show that wind integration costs can come down is the type of resource used to provide regulation. The Idaho Power study assumed that only Idaho Power's own hydro resources would be used to hold additional reserves to cover wind's variability. Idaho Power found that a significant cost component was associated with the relatively infrequent rapid increases in wind generation. In order to maintain system balance with hydro, Idaho Power's study assumed that the hydro system would have to run at higher generation levels when they would otherwise back the system down to minimum allowable flows for economic reasons. The additional, mostly nighttime, generation would come at the expense of hydro generation during higher value periods during the day. The resulting operation is very expensive. Workshop participants suggested that allowing thermal units to

back off would reduce the costs by a large amount. Idaho Power showed more than $2/MWh of savings were possible when thermal units were allowed provide just 45 MW of down-regulation capability (this is also reflected at page 13 of Exhibit 302).

On page 9 of Exhibit 302, Idaho Power explained that it did not include the thermal units as available resources to provide down regulation because this approach represents a departure from current thermal power plant operating practice and could be problematic considering Idaho Power's position as a non-operating partner at the three coal-fired plants in which it has an ownership interest. As a result, the Company was unwilling to agree that a long-term integration cost which assumes deployment of its coal-fired resources in this manner is a reasonable measure of actual integration costs.

I believe that this issue deserves further analyses by Idaho Power and I anticipate that at the conclusion of that analysis Idaho Power will determine use of the thermal plants is a reasonable way to provide down regulation for wind integration.

Resolution of these issues is best conducted through the informal IRP-related processes described in the

Stipulation. Given the likely effect of all the outstanding issues, the integration costs reflected in the Stipulation are a reasonable compromise of disputed issues.

Q GIVEN THE ADMITTED UNCERTAINTIES IN WIND INTEGRATION STUDIES, ARE THERE CIRCUMSTANCES UNDER WHICH THE CALCULATED COSTS ARE LOWER THAN THE COSTS ACTUALLY INCURRED BY IDAHO POWER?

A. There a few factors that could push the costs higher than the costs identified in the settlement stipulation. Principal among these is wind plant construction at penetration levels much higher than the upper tier in the negotiated settlement. However, it is unlikely that the penetration could reach such high levels prior to Idaho Power having an opportunity to review the integration cost issue with the Commission. We welcome continuing reviews of wind integration cost analysis.

Q. IN THIS CASE, HAVE YOU SIMPLY PUSHED FOR THE LOWEST POSSIBLE INTEGRATION COST?

A. No. The most accurate estimate of wind integration is to the advantage of all three affected parties: the utilities, ratepayers, and the wind industry. If the integration cost is assumed to be artificially high, less wind will be built, and utilities and ratepayers will

miss out on the economic advantages of a competitively-priced, clean generating resource with zero fuel costs. However, it is to the wind industry's benefit to ensure that utilities plan for, finance, and operate a power system capable of accommodating wind as a significant energy resource. It is important for the wind industry to advance understanding of wind integration costs and operations on utility systems. Wind's relative variability presents a very surmountable challenge to power system operators that must be addressed squarely for the wind industry to continue its rapid maturation. The wind integration workshops sponsored by Idaho Power presented an excellent forum for both the wind industry and power system operators to understand the issues more clearly. All parties learned much from the process, and we hope to keep those lines of communication open as Idaho Power gains experience with additional wind on its system. Any power system disturbance that can be traced back to insufficient planning for wind will ultimately be of enormous detriment to the wind industry. We need to understand the costs, the challenges, and the solutions as accurately as possible.

Q. PLEASE EXPLAIN WHY THE SETTLEMENT STIPULATION IN THIS CASE PROPOSES A TIERED APPROACH, WHILE RNP'S SETTLEMENT WITH PACIFICORP IS NOT TIERED.

A. In my view, both approaches are reasonable. All else being equal, integration costs tend to rise with increases in penetration level. PacifiCorp presently has significant amounts of wind on its system and a goal of reaching approximately 20% wind penetration that it is actively pursuing through the additions of large wind projects to the utility portfolio. A tiered approach tailors integration costs better to intermediate penetration levels, whereas PacifiCorp's single cost simply averages the integration cost over a single large tier. In addition, the results of PacifiCorp's wind integration study are much less disputed than Idaho Power's or Avista's. The tiered approach is a reasonable compromise and sharing of risks in light of Idaho Power's and Avista's studies and projected wind acquisitions.

Q. DO YOU HAVE A SPECIFIC RECOMMENDATION FOR THE COMMISSION?

A. Yes. RNP and the NW Energy Coalition recommend the Commission approve the Stipulation.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Renewable Northwest Project

Current Board of Directors (October 2, 2007)

BOARD OFFICERS:

Chair: Nancy Hirsh, Northwest Energy Coalition

Vice Chair: David McClain D.W. McClain & Associates, Geothermal Resources Council

Secretary: K.C. Golden

Treasurer: Alan Zelenka

BOARD MEMBERS:

V. John White, Center for Energy Efficiency & Renewable Technologies

Jason Eisdorfer, Citizens Utility Board of Oregon

Mark Smith FPL Energy, Inc

Chris Taylor Horizon Wind Energy

Jim Jensen Montana Environmental Information Center

Ralph Cavanagh Natural Resources Defense Council

Maureen Kirk Oregon State Public Interest Group

Don Furman PPM Energy

Bill LaBorde Washington Public Interest Research Group

BARTON L. KLINE, ISB # 1526
MONICA B. MOEN, ISB # 5734
Idaho Power Company
1221 West Idaho Street
P. O. Box 70
Boise, Idaho 83707
Telephone: (208) 388-2682
FAX Telephone: (208) 388-6936
bkline@idahopower.com
mmoen@idahopower.com

Attorneys for Idaho Power Company

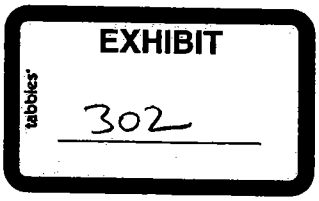
Express Mail Address

1221 West Idaho Street
Boise, Idaho 83702

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S PETITION TO INCREASE THE PUBLISHED RATE ELIGIBILITY CAP FOR WIND POWERED SMALL POWER PRODUCTION FACILITIES; and TO ELIMINATE THE 90%/110% PERFORMANCE BAND FOR WIND POWERED SMALL POWER PRODUCTION FACILITIES	CASE NO. IPC-E-07-03 IDAHO POWER'S RESPONSE TO THE FIRST PRODUCTION REQUEST OF RENEWABLE NORTHWEST PROJECT AND NW ENERGY COALITION

COMES NOW, Idaho Power Company ("Idaho Power" or "the Company") and, in response to the First Production Request of Renewable Northwest Project and NW Energy Coalition to Idaho Power Company dated August 29, 2007, herewith submits the following information:



REQUEST FOR PRODUCTION NO. 1: Please provide copies of all written information (including PowerPoint presentations and printed handouts) presented or otherwise provided to attendees of the public workshops in the above-captioned matter held on March 15, and June 20, 2007.

RESPONSE TO REQUEST FOR PRODUCTION NO. 1:

Electronic versions of information presented to participants at the March 15, and June 20, 2007 workshops have been continuously available to the public on Idaho Power's Web Site and can be found at:

http://idahopower.com/energycenter/wind/workshops.htm.

The response to this request was prepared by M. Mark Stokes, Manger, Power Supply Planning, Idaho Power Company, in consultation with Barton L. Kline, Senior Attorney, Idaho Power Company.

REQUEST FOR PRODUCTION NO. 2: Please identify all corrections, changes, or amendments to the assumptions, data inputs, or methodologies used for the wind integration study which Idaho Power Company believes are appropriate as of the current day, including without limitation corrections, changes, or amendments related to (a) elimination of inappropriate arbitrage opportunities between the west and east sides of Idaho Power's system; (b) the use of asymmetric up-and down-regulation reserve requirements; (c) regulatory reserve requirements for high-resolution (less than 10-minute) variability; (d) use of the Elkhorn (Telocaset) wind project; (e) use of different or refined wind forecast techniques or assumptions; (f) in the wind integration study "base case," any changes in the weighting of wind production in high-load and low-load hours; (g) market price inputs for the low, median, and high water years evaluated in the wind integration study; and (h) use of coal-fired generation units or other generation units for regulation. Please include a brief description of each correction, change, or amendment.

RESPONSE TO REQUEST FOR PRODUCTION NO. 2:

Idaho Power's wind integration study titled "Operational Impacts of Integrating Wind Generation into Idaho Power's Existing Resource Portfolio" was filed in this case on February 7, 2007. The results of the study indicated an average cost of $10.72 per megawatt-hour (MWh) of delivered wind energy was incurred to integrate up to 600 MW of wind generation on Idaho Power's system.

In general terms, the objective of the study as expressed by the Company in its filing was to assess the operational impacts it must manage to maintain system reliability as wind generation is added to its existing resource portfolio. It is important to

note that the study's assessment of the operational impacts associated with integrating wind focused on the hour-ahead time frame. The basic principle underlying the study was that the existing generating system needed to have the flexibility during any given operating hour to respond to generation deviations due to actual wind varying from forecast hour-ahead wind. The hour-ahead forecast for wind in the February study was based on a simple persistence approach. As indicated in this Production Request, Idaho Power has since modified the hour-ahead forecast methodology as a result of on-going analysis underlying input received in the two public workshops and continued work with EnerNex, a consultant hired to assist in the design of the study as well as the preparation of the final report.

In the February study and the follow-up work completed to date, Idaho Power has not attempted to assess the operational impacts and associated costs beyond the hour-ahead time frame. Therefore, while no forecast of wind output has been assumed in the study process beyond the next hour, no costs related to the impact of these longer-term time frames (from two hours ahead and longer) are included in the results of the study.

This Production Request notes several areas, including wind forecasting, in which Idaho Power modified the work of the February study. The following corrections, changes, or amendments to the study methodology were noted at the second public workshop held on July 20, 2007:

(a) Elimination of inappropriate arbitrage opportunities between the west and east sides of Idaho Power's system

In the February study, the hydroelectric dispatch model used to perform the study (*Vista* DSS) was able to take advantage of arbitrage opportunities between the west and east sides of Idaho Power's system. While these opportunities do periodically exist in practice and it is expected that operational impacts of integrating wind will limit Idaho Power's ability to take advantage of them in the future, the Company has considered that the model overstated the level of this arbitrage activity. In subsequent model analyses, the arbitrage opportunities were eliminated by setting wholesale electricity prices equal between the west and east sides of Idaho Power's system.

(b) The use of asymmetric up- and down-regulation reserve requirements

For the February study, the estimated regulating reserve requirements associated with system load and system load net wind were input at constant, symmetric levels. With further study following the February filing, the estimation process was modified such that the regulating reserve for a given operating hour could be expressed asymmetrically and dynamically. That is, given a forecast hour-ahead load and hour-ahead wind, it was possible to estimate the necessary up- and down-direction regulating reserve to schedule into the given operating hour. However, as noted above, this scheduled flexibility is strictly related to hour-ahead uncertainty. Operational impacts and associated costs related to longer-term uncertainty have not been considered. This modification to the defined regulating reserve requirements is recognized by Idaho Power as a substantial enhancement on the design of the February study.

(c) Regulatory reserve requirements for high-resolution (less than 10-minute) variability

For the February study, the estimation of regulating reserve requirements was based on separate analyses of (i) high-frequency (30-second interval) instantaneous load data and (ii) instantaneous load and wind data collected at 10-minute intervals. The total estimated regulating reserve level was then calculated through a root-sum-square addition of the two separate components (i & ii). Because of comments received following the February filing suggesting a potential double-counting of regulating reserve as a result of this approach, Idaho Power modified the estimation process by removing the component associated with the high-frequency data. The Company recognizes that some of the variability in the instantaneous 10-minute interval data is reflected in the high-frequency data, and therefore the initial process may have double-counted to some degree. However, the impact of the double-counting is considered relatively minor.

(d) Use of the Elkhorn (Telocaset) wind project

As part of the feedback from the participants at the March 15, 2007 workshop, the build out at the 300 MW penetration level was adjusted to reflect the selection of the Elkhorn location in northeastern Oregon and not the Pomerelle location in southern Idaho. To accomplish this, wind extraction points 36, 37, 38, 39, 40 and 41 were reduced to zero MW from 15, 15, 18, 18, 18, and 18 respectively, and extraction points O-1, O-2, O-3, O-4, O-5 were increased to 21, 21, 21, 21, and 18 MW respectively. This change was reasonable in that the 300 MW build out including Elkhorn instead of Pomerelle will more accurately reflect the possible macro geographic dispersion of the sites in the near term.

(e) Use of different or refined wind forecast techniques or assumptions

The simple persistence hour-ahead wind forecast used in the February study was later modified to incorporate a seasonal, autoregressive method into the wind forecast used in the *Vista* DSS model. In both cases, no forward-looking information on wind generation was assumed available for input to the forecast model within 65 minutes prior to the start of the given operating hour being forecast. The basic principle in the study was to force the hydroelectric system (i.e. Hells Canyon Complex) to carry enough up and down regulating reserve to respond to wind occurring during the given operating hour at levels different than forecast on an hour-ahead basis. There was no attempt to derive a longer-term (e.g. two-hour ahead) wind forecast model, and consequently no attempt to evaluate costs associated with uncertainty on the longer-term time frame.

(f) In the wind integration study "base case," any changes in the weighting of wind production in high-load and low-load hours

For the February study, wind energy in the "base case" was input at blocks held flat for the entire day. Review of the wind data following the February filing revealed a slightly higher annual capacity factor for each of the three study years during light-load (off-peak) hours than heavy-load (on-peak) hours. Therefore, wind generation in the base case was modified into separate flat blocks for both heavy-load and light-load hours.

(g) Market prices for inputs for the low, median, and high water years evaluated in the wind integration study

The economic impacts of increased variability of loads and the corresponding increases in reserve requirements were determined using the monthly average heavy

and light load market prices for the study years (1998, 2000, and 2005). Two markets were used in the original study, Mid-C and Palo Verde, however the Palo Verde market was later dropped from the study to eliminate overstating arbitrage opportunities as previously mentioned. Refer to Appendix F page 85 in the published study for the prices used.

At the March 15, 2007 workshop, participants voiced concerns over using actual market prices for year 2000 due to the impact the California energy crisis had on market prices that year. To address this concern, actual market prices for the three study years were replaced in the model with 2006 actual, monthly average, Mid-C market prices which are presented in the table below. The results of this modeling change were presented at the June 20, 2007 workshop.

2006	Average Monthly Mid-Columbia Prices	
	Light Load	Heavy Load
Jan	45.42	57.64
Feb	47.80	51.39
Mar	43.43	44.57
Apr	12.97	23.96
May	11.87	30.98
Jun	11.86	39.81
Jul	43.22	68.16
Aug	50.07	63.94
Sep	39.64	48.91
Oct	44.63	52.38
Nov	49.08	59.81
Dec	52.46	59.85

(h) Use of coal-fired generation units or other generation units for regulation

At the request of the participants in the March 15, 2007 workshop, Idaho Power agreed to analyze the potential change in integration costs that would occur if down-

direction regulating reserve was assigned to its coal-fired generation units. The intent of this approach is to use base-loaded thermal resources to respond to severe, unexpected, energy surpluses due to greater than forecasted wind generation. The result of incorporating this concept into the modeling is that less regulating reserves must be held on the hydro system to account for the variable and intermittent nature of wind resources. However, this approach represents a pronounced departure from current thermal power plant operating practice, and is expected to be problematic considering Idaho Power's position as a non-operating partner at the three coal-fired plants in which it has an ownership interest. Therefore, the Company cannot agree that a long-term integration cost which assumes deployment of its coal-fired resources in this manner is a reasonable measure of actual integration costs.

The purpose of the wind integration study was to determine the operational impacts arising from integrating wind generation, under the baseline assumption that Idaho Power's current system of generating resources, the wholesale energy market with which it interacts, and the general operating practices currently followed would be used to conduct the study. Idaho Power has acknowledged that as experience is gained in operating its system with greater amounts of wind generation and potential cooperative agreements between control areas are developed, a future analysis of the impact of wind generation may indicate a lower cost of integration. However, Idaho Power feels it would be imprudent to determine the current cost of integrating wind generation into its system based on the speculation of future operating conditions.

The response to this request was prepared by M. Mark Stokes, Manger, Power Supply Planning, Idaho Power Company, in consultation with Barton L. Kline, Senior Attorney, Idaho Power Company.

REQUEST FOR PRODUCTION NO. 3: Please state the estimated impact to wind integration costs caused by each correction, change, or amendment identified in response to Production Request No. 2, above; and please state Idaho Power's net current estimated cost of wind integration.

RESPONSE TO REQUEST FOR PRODUCTION NO. 3:

As presented at the June 20, 2007 workshop, the impact on the total cost of integrating wind generation of each correction, change, or amendment detailed in Request for Production No. 2 above is difficult to estimate with a great deal of certainty. As changes were being made to the model and methodology, time restrictions limited Idaho Power's ability to make a single change and perform the required 24 model runs to determine the exact impact of each change. The estimated cost impacts for each correction, change, or amendment presented below for items (a) through (f) were derived by looking at the overall impact of all the changes and assigning a portion to each item based on experience gained through the use of the model and countless hours of reviewing model output and results. The cost impact due to items (g) and (h) (using 2006 market prices and the use of Idaho Power's coal-fired facilities) were determined by performing independent sensitivity analyses for these scenarios and are therefore considered to be more accurate than the estimates for items (a) through (f).

(a) Elimination of inappropriate arbitrage opportunities between the west and east sides of Idaho Power's system

The elimination of arbitrage opportunities is estimated to have reduced integration costs by approximately $1.50/MWh.

(b) The use of asymmetric up- and down-regulation reserve requirements

The implementation of asymmetric up- and down-regulation reserve requirements is estimated to have reduced integration costs by approximately $1.77/MWh.

(c) Regulatory reserve requirements for high-resolution (less than 10-minute) variability

The omission of high-resolution regulating reserve requirements is estimated to have reduced integration costs by approximately $0.10/MWh.

(d) Use of the Elkhorn (Telocaset) wind project

Updating the distribution of wind projects is estimated to have reduced integration costs by approximately $0.15/MWh.

(e) Use of different or refined wind forecast techniques or assumptions

Implementation of enhanced hour-ahead wind forecast techniques is estimated to have reduced integration costs by approximately $0.25/MWh.

(f) In the wind integration study "base case," any changes in the weighting of wind production in high-load and low-load hours

Modification of the "base case" scenario to account for the difference in capacity factors between heavy load and light load hours is estimated to have reduced the cost of wind integration by approximately $0.25/MWh.

(g) Market prices for inputs for the low, median, and high water years evaluated in the wind integration study

The use of 2006 Mid-C monthly average market prices increased the cost of integration by $1.22/MWh.

(h) Use of coal-fired generation units or other generation units for regulation

Using Idaho Power's coal-fired generation units for down-direction regulating reserves reduced the cost of integration by $2.08/MWh.

Idaho Power believes that items (a) through (g) above represent refinements and improvements to the modeling and methodology used since the February study was submitted. As previously stated, Idaho Power feels it would be imprudent to determine the current cost of integrating wind generation into its system based on the speculation of future operating conditions at it's coal-fired resources as indicated in item (h). Therefore, accounting for items (a) through (g) above, Idaho Power's estimate of the current cost of integrating up to 600 MW of wind on its system is $7.92 per MWh.

The response to this request was prepared by M. Mark Stokes, Manger, Power Supply Planning, Idaho Power Company, in consultation with Barton L. Kline, Senior Attorney, Idaho Power Company.

DATED at Boise, Idaho, this 7th day of September 2007.

BARTON L. KLINE
Attorney for Idaho Power Company

CERTIFICATE OF SERVICE

I hereby certify that on this 3rd day of October 2007, true and correct copies of the foregoing DIRECT TESTIMONY OF KEN DRAGOON were delivered to the following persons via overnight delivery (for the Commission) and U.S. Mail for all other recipients. Electronic copies also were provided on this date to all parties of record.

Jean Jewell (9 copies)
Idaho Public Utilities Commission
472 W. Washington St.
Boise, ID 83702

Barton Kline
Monica Moen
Idaho Power Company
P.O. Box 70
Boise, ID 83707-0070

Scott Woodbury
Deputy Attorney General
Idaho Public Utilities Commission
472 W. Washington St.
Boise, ID 83702

Peter Richardson
Richardson & O'Leary
515 N. 27th St.
Boise, ID 83702

Don Reading
6070 Hill Road
Boise, ID 83703

Dean Brockbank
Rocky Mountain Power
201 S. Main Street, Suite 2300
Salt Lake City, UT 84111

Brian Dickman
Rocky Mountain Power
201 S. Main Street, Suite 2300
Salt Lake City, UT 84111

Rich Rayhill
Ridgeline Energy, LLC
720 W. Idaho Street, Suite 39
Boise, ID 83702

Robert M. Ellis, Esq.
4 Nickerson, Suite 301
Seattle, W A 98109

Glenn Ikemoto
Idaho Windfarms, LLC
672 Blair Avenue
Piedmont, CA 94611

Dean J. Miller, Esq.
McDevitt & Miller, LLP
PO Box 2564
Boise, ID 83701

Ronald K. Arrington
Associate Chief Counsel
John Deere Renewables, LLC
6400 NW 86th Street
PO Box 6600
Johnston, IA 50131

R. Blair Strong
Paine Hamblen, LLP
717 W. Sprague, Suite 1200
Spokane, W A 99220

Michael G. Andrea
Staff Attorney
Avista Corporation
PO Box 3727
Spokane, WA 99220-3727

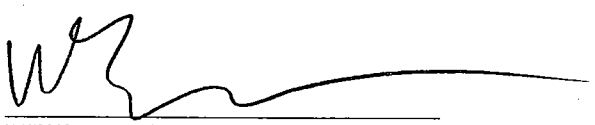
Ken Miller
Snake River Alliance
PO Box 1731
Boise, ID 83701

Gerald Fleischman
11535 W. Hazeldale Ct.
Boise, ID 83713

Brian D. Jackson
Renaissance Engineering & Design,
2792 Desert Wind Rd.
Oasis, ID 83647-5020

M. J. Humphries
Blue Ribbon Energy, LLC
2630 Central Ave.
Idaho Falls, ID 83406

Gary Seifert
Kurt Myers
INL Biofuels & Renewable Energy Technologies
PO Box 1625, MS 3810
Idaho Falls, ID 83415-3810



William Eddie