PUBLIC SERVICE COMMISSION
STATE OF MONTANA

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February 22, 2013

Mr. Joe Schwartzenberger
Director, Regulatory Affairs
NorthWestern Energy
40 East Broadway
Butte, MT 59701

RE: Data requests in Docket D2012.5.49

Dear Mr. Schwartzenberger,

Enclosed please find data requests of the Montana Public Service Commission to NorthWestern Energy (NWE) numbered PSC-034 through PSC-091 in the above-referenced Docket. Please begin the response to each new numbered data request on a new page. Please provide responses by March 8, 2013. If you have any questions, please contact me at (406) 444-6191.

Sincerely,

Neil Templeton
Regulatory Division
Montana Public Service Commission

Enclosure

cc: Service list

Service Date: February 22, 2013

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

* * * * *

IN THE MATTER OF NorthWestern Energy's Application for Approval of Electricity Supply Deferred Cost Account Balance and Projected Electric Supply Costs	))))	REGULATORY DIVISION DOCKET NO. D2012.5.49

DATA REQUESTS PSC-034 THROUGH PSC-091 OF THE MONTANA PUBLIC SERVICE COMMISSION TO NORTHWESTERN ENERGY

PSC-034

Regarding: DSM Impacts on Electricity Supply Costs
Witness: Thomas

a. Please provide estimates of annual total electricity supply portfolio costs with and without planned non-USB DSM acquisition over NWE's planning horizon. Please explain how the estimate is calculated and provide supporting work papers.

b. Please provide estimates of annual residential electricity supply service rates with and without planned non-USB DSM acquisition over NWE's planning horizon, and with and without lost revenue.

c. Please provide estimates of average residential electric bills with and without planned non-USB DSM acquisition over NWE's planning horizon.

d. Please provide separate estimates of average residential electric bills for participants and non-participants with planned non-USB DSM acquisition over NWE's planning horizon, including lost revenue.

PSC-035

Regarding: DSM Impacts on Gas Supply Costs
Witness: Thomas

a. Please provide estimates of annual total natural gas supply portfolio costs with and without planned non-USB DSM acquisition over NWE's planning horizon. Please explain how the estimate is calculated and provide supporting work papers.

b. Please provide estimates of residential natural gas supply service rates with and without planned non-USB DSM acquisition over NWE's planning horizon, and with and without lost revenue.

c. Please provide estimates of average residential natural gas bills with and without planned non-USB DSM acquisition over NWE's planning horizon.

d. Please provide separate estimates of average residential natural gas bills for participants and non-participants with planned non-USB DSM acquisition over NWE's planning horizon, including lost revenue.

PSC-036

Regarding: Impacts of USB DSM Programs
Witness: Unknown

a. Does NWE fund electric USB DSM programs in excess of statutory requirements? If so, please repeat the analyses requested in PSC-034 by including USB DSM programs in excess of statutory requirements with the non-USB DSM programs.

b. Does NWE fund natural gas USB DSM programs in excess of statutory requirements? If so, please repeat the analyses requested in PSC-035 by including USB DSM programs in excess of statutory requirements with the non-USB DSM programs.

PSC-037

Regarding: DSM Impacts on Shareholders
Witness: Thomas

a. Are there impacts to shareholders, direct or indirect, related to NWE's electric DSM programs? If so, please describe and quantify those impacts.

b. Are there impacts to shareholders, direct or indirect, related to NWE's natural gas DSM programs? If so, please describe and quantify those impacts.

c. If ratepayers did not underwrite the costs of electric DSM programs, is it likely that shareholders would be willing to underwrite the programs assuming that lost revenue recovery mechanisms were maintained?

d. If ratepayers did not underwrite the costs of natural gas DSM programs, is it likely that shareholders would be willing to underwrite the programs assuming that lost revenue recovery mechanisms were maintained?

PSC-038

Regarding: DSM Impacts on Creditors
Witness: Thomas

a. Please describe and quantify any direct or indirect impacts on NWE's creditors of NWE's electric DSM programs.

b. Please describe and quantify any direct or indirect impacts on NWE's creditors of NWE's natural gas DSM programs.

PSC-039

Regarding: Third Party Vendor impacts
Witness: Thomas

Describe and quantify any impacts on third-party DSM services vendors under contract to NWE if NWE terminated its electric and/or natural gas non-USB DSM programs.

PSC-040

Regarding: DSM Good Will
Witness: Thomas

a. Do NWE's electric and natural gas non-USB DSM programs create any positive image "good will" value for NWE? If so, please describe and quantify it.

b. Should the estimated "good will" value be deducted from the cost of DSM programs recovered in retail rates? Please explain why or why not.

PSC-041

Regarding: NWE E+ Green Renewable Attributes Program
Witness: Unknown

How many customers volunteer for the NWE E+ Green Renewable Attributes Program?

PSC-042

Regarding: DSM Program Unit Costs
Witness: Thomas

a. Please provide the unit cost ($/MWh) of all electric DSM programs during the 2011-2012 tracker period, preferably in a table with all other tracker years as provided to staff in the past (*See* page 6 of the Additional Issues Testimony of Bill Thomas in Docket D2009.9.129 on July 8, 2010).

b. Please provide the unit cost ($/Dkt) of all natural gas DSM programs for each tracker year since July 2007.

PSC-043

Regarding: Selection of SBW
Witness: Thomas

a. Please provide the RFP used to select SBW, Inc.

b. How many bids were submitted in relation to the RFP?

c. Regarding p. 3, lines 18-19 of your supplemental testimony, please list all bidders that responded to NWE's 2011 RFP and highlight the two finalists.

d. How were respondents to the RFP scored and evaluated?

e. Who made the decision to select SBW over the other finalist?

PSC-044

Regarding: SBW Report and ETAC Input
Witness: Thomas

a. Please provide an estimate of the final cost of the SBW Report, including regulatory expenses such as having SBW personnel appear as witnesses in various Commission proceedings.

b. Regarding your testimony on p. 3, lines 21-24, please list the ETAC member organizations present during the finalist presentations in October 2011.

c. Did ETAC provide feedback as the review process was ongoing and, if so, what was the substance of that feedback?

d. Regarding your testimony on p. 4, lines 1-2, please provide copies of any written comments submitted by ETAC members.

PSC-045

Regarding: Impact Evaluation, File Review Process
Witness: Thomas

a. Please explain the process by which NWE determined which specific program files would be provided to SBW for the file review component of the impact evaluation.

b. Please discuss the extent to which SBW could request to review additional program files or request alternative program files.

PSC-046

Regarding: DSM Program Evaluation
Witness: Baker

a. In your role as a Principle for SBW Consulting, Inc. to the extent you are aware of any trade associations or other organizations for firms that perform DSM program evaluations, please identify them.

b. Is SBW Consulting, Inc. a member of any of the associations or organizations identified in response to part "a.?"

c. Your testimony on p. 2, line 22, through p. 3, line 2, indicates that you performed evaluation studies for private utilities, publicly-owned utilities, non-profit public agencies and public utility commissions. To what extent do any of the associations or organizations identified in response to part establish standard practices and/or guidelines designed to ensure that DSM program evaluation firms perform objective, methodologically sound evaluations.

d. To what extent are the evaluation reports by DSM program evaluation firms audited by any of the associations or organizations identified in response to part "a.?"

e. To the extent SBW Consulting, Inc. maintains any internal quality control process designed to ensure that its evaluations are objective and methodologically sound regardless of the client type, please describe them.

PSC-047

Regarding: Delivery of SBW Report
Witness: Baker

SBW delivered the final Program Evaluation to NWE on Jan. 9, 2013, after missing at least two prior deadlines. Please explain the cause of each delay in completing the final Program Evaluation and submitting it to NWE.

PSC-048

Regarding: NWE Review of SBW Drafts
Witnesses: Thomas, Baker

a. Please explain when NWE first received a draft, whether partial or complete, of the SBW report.

b. On how many occasions did SBW transmit part of the report to NWE for its review?

PSC-049

Regarding: Changes to Drafts of Report
Witness: Baker

a. What changes were made to the report between the time it existed in draft form, whether partial or complete, and when it was final?

b. Did any change occur between draft(s) of the report and the final report to the reported energy savings, the net savings adjustment rate, or benefit/cost ratios presented on p. iii of the report and, if so, please identify and explain the change(s).

PSC-050

Regarding: Independence of Program Evaluator
Witness: Thomas

a. Please identify and describe any mistakes, errors, or flawed assumptions made by SBW in the course of its work for NWE.

b. Please provide any comments NWE made to SBW related to any draft of the Program Evaluation.

c. Please identify any numbers, assumptions, or conclusions in the Program Evaluation that changed as a result of communications between NWE and SBW and provide the original number, assumption or conclusion.

d. Please identify and describe any disagreements that arose between NWE and SBW during the course of SBW's work and describe how each disagreement was resolved.

e. Please provide copies of all correspondence between representatives of NWE and SBW related to methodology, assumptions, inputs, wording or conclusions in the Program Evaluation.

PSC-051

Regarding: Independence of Program Evaluator
Witness: Baker

a. Please identify and describe any changes that NWE requested to the methodology, assumptions, inputs, wording or conclusions in the Program Evaluation.

b. Please provide copies of drafts of any portion of the Program Evaluation that SBW sent to NWE.

c. Please identify and describe any disagreements that arose between NWE and SBW during the course of SBW's work, and how each disagreement was resolved.

d. Please provide copies of all correspondence between representatives of NWE and SBW related to methodology, assumptions, inputs, wording or conclusions in the Program Evaluation.

PSC-052

Regarding: SBW Report
Witnesses: Thomas, DeBolt

a. Regarding Mr. Thomas's testimony on p. 8, line 15, through p. 9, line 15, please explain the reasons for applying a single adjustment factor of .89 for both residential and commercial programs, rather than separate adjustment factors for these two classes.

b. Please identify and provide the source documents that support the avoided costs shown in the tab named "AvoidedLostDiscount" in the Excel spreadsheet provided in response to data request PSC-033. For example, if the avoided electricity costs are based on prior NWE electricity supply resource procurement plans or Commission orders setting PURPA avoided cost rates, please identify the procurement plan or Commission order.

c. Regarding Mr. Thomas's testimony on p. 11, line 16, through p. 12, line 11, please discuss whether NWE intends to have completed its consideration of the results of the SBW Report in time to include information in the Company's 2013 Electric Supply Resource Procurement Plan on any plans for DSM program changes, such as program cancelations, program modifications, program consolidation, incentive level changes, and measure eliminations.

PSC-053

Regarding: E+ Residential Lighting Program
Witnesses: Thomas, DeBolt

a. For each measure offered through the several delivery mechanisms that constitute the E+ Residential Lighting program, and for evaluation years 2007 and 2011, please provide NWE's calculations of the net present value of energy savings, including supporting work papers, based on pre-SBW Report assumptions for avoided costs, total measure costs, measure savings and measure lives (i.e., a TRC perspective).

b. Please provide recalculations, including supporting work papers, of the net present value of energy savings provided in part "a." using SBW's recommended measure savings and measure lives.

c. For each measure offered through the several delivery mechanisms that constitute the E+ Residential Lighting program, and for evaluation years 2007 and 2011, please provide the dollar value of the incentive offered to participating customers.

d. Table 463 on p. 577 of the Impact and Process Evaluation report shows that the E+ Residential Lighting portfolio had RIM benefit/cost ratios of 0.85 in 2007 and 1.65 in 2011. Please discuss any program factors that contributed to the change in cost-effectiveness from this perspective (e.g., changes to avoided costs, incentives, primary delivery mechanisms, etc.).

PSC-054

Regarding: Administrative Costs and Federal Standards
Witness: Thomas

a. Please explain, in general, the process by which program-specific administrative costs are determined using the E+ Residential Lighting program as an example.

b. For evaluation years 2007 and 2011 please provide a breakdown of the DSM program administration costs NWE attributed to the E+ Residential Lighting program.

c. Please provide an update on NWE's understanding of the status of federal lighting standards and NWE's current plan regarding for phasing out its CFL incentive programs.

PSC-055

Regarding: Compound Incentives
Witness: Thomas

Please explain whether there are instances of compound incentives within the E+ Residential Lighting Program. For example, is it possible for a customer to receive an in-store coupon for CFLs and to use the coupon to obtain a discount on CFLs that have been marked down through the up-stream buy down program? If so, please provide any estimate NWE has of the percentage of program savings attributable to compound incentives.

PSC-056

Regarding: SBW Spreadsheet Calculations
Witnesses: Thomas, DeBolt

Please refer to the tab named "AvoidedLostDiscount" in the Excel spreadsheet provided in response to data request PSC-033. Please explain why the lost revenue rate in column E is zero for the savings years after 2013.

PSC-057

Regarding: DSM Program Evaluation, E+ Residential Lighting
Witness: Baker

a. Chapter 18 of SBW's Impact and Process Evaluation report, p. 566, states, with respect to the measure-specific, engineering calculations NWE used to estimate savings, "For measures where the NWE method was not adequate, we recalculated

energy (kWh) and demand (kW) savings using the more reliable techniques." Please provide several specific, representative examples of instances in which SBW found NWE's measure-specific engineering calculations inadequate and explain why the technique SBW used was an improvement.

b. Chapter 18 of SBW's Impact and Process Evaluation report, p. 567, states, with respect to SBW's estimation of annual residential CFL operating hours in earlier program years, "Since the NWE programs started much later than programs in the other regions, we estimated NWE hours of use for 2006-07 as the value estimated by the linear regression trend line for 2004." However, Figure 147 on p. 568, which shows the linear regression trend line, appears to show a value greater than 3 for 2004. The evaluation hours per day for 2006 shown in Table 458 of 2.7 appears to match the linear regression trend line for 2006. Please clarify SBW's intent with respect to which year of the linear regression trend line was the basis for the 2006-07 residential CFL operating hours and whether that intent is reflected in the results for the E+ Residential Lighting Program impact evaluation.

c. Chapter 18 of SBW's Impact and Process Evaluation report, p. 569, states, with respect to estimating the proportion of upstream CFL buy-down bulbs purchased and installed by non-residential customers, "We could not directly determine the disposition of each buy-down bulb. Therefore, we obtained information on the sector split from the telephone survey of trade allies (CFL Buy-Down Retailers)." Page 573 explains that eight retailers were surveyed. Please discuss to what extent the results from this telephone survey represent a reliable estimate of the sector split.

PSC-058

Regarding: Residential CFL Operating Hours Study
Witnesses: Baker, McRae

a. Chapter 27 of SBW's Impact and Process Evaluation report, p. 782, states, with respect to metering sampled CFLs, that surveyors "reminded customers to avoid disturbing loggers, but otherwise use their lights as they normally would." Is there any reason to expect that customers who know their lighting use is being monitored will change their behavior, notwithstanding the surveyors' recommendation?

b. Please clarify whether the loggers recorded the time of day lights were operated and whether the data collected together with data from other studies produced a daily lighting load profile, or whether just the number of operating hours per day was recorded regardless of the time of day.

c. Chapter 27 of SBW's Impact and Process Evaluation report, p. 796, shows CFL hours of use by room type and program/component in Table 636. According to the table the average hours of use logged for CFLs delivered through the upstream buy-down, weighted by room type, is 0.9 hours per day, about one-half of the 1.7 hours per day average for all CFL program components. Given the sample data on the hours of use by program component, why didn't SBW use program component-specific hours of

use to adjust reported savings in the impact evaluation of the E+ Residential Lighting program.

d. Based on Table 635 it appears that buy-down CFLs represent, at most, 25% of total sampled CFLs (if the "Not Applicable" and "Unknown" program components are counted with the buy-down component). Table 461, on p. 574-5 of the report, shows that upstream buy-down CFLs account for the majority (66%) of total net kWh savings. Does the high percentage of total net savings from upstream buy-down CFLs correspond to a high percentage of total installed residential CFLs through the buy-down program component? If so, to what extent might the relatively smaller proportion of buy-down CFLs in the hours of use study, combined with their lower-than-average hours of use, result in an over-estimate of kWh savings from buy-down CFLs in the impact evaluation?

e. Chapter 27 of SBW's Impact and Process Evaluation report, p. 800, with respect to early year installation patterns, states, "Our study examined the state of residential CFLs in 2012." Does this statement mean that the study was able to isolate residential CFLs that were installed in 2012? Is so, please describe how surveyors were able to distinguish those CFLs within a residence that were installed in 2012 from those that could have been installed in an earlier year.

PSC-059

Regarding: Residential CFL Operating Hours Study
Witnesses: Baker, McRae

a. With regard to Table 638 in Chapter 27 of the report, p. 800, please explain what the population numbers represent.

b. With regard to Table 638 in Chapter 27 of the report, p. 800, please illustrate how the weighted mean figures for "Res DI CFL" and "Res Owner CFL" were calculated.

PSC-060

Regarding: E+ Audit Home or Business Program
Witness: Thomas

On page 49 of the SBW report, the Audit program component is described as the gateway for most NWE residential energy efficiency programs. Does NWE periodically evaluate alternatives to the Audit program as gateway strategies for its efficiency programs?

PSC-061

Regarding: E+ Audit Home or Business Program
Witnesses: Baker, DeBolt, McRae

a. Are audit programs commonly used as efficiency programs by other utilities?

b. Are audit programs commonly used as gateway programs for other efficiency programs?

PSC-062

Regarding: E+ Irrigation Program
Witnesses: Baker, DeBolt, McRae

Why are the TRC and SC test scores for this program significantly lower than the PAC and RIM test scores?

PSC-063

Regarding: Free-Rider and Spillover Adjustments
Witnesses: Baker, DeBolt, McRae

On page 876, the report states that "a number of evaluators believe that the total savings owing to spillover are equal to, and perhaps in excess of, free ridership savings." Please identify the evaluators referred to and reference the publications or contexts in which their beliefs were expressed.

PSC-064

Regarding: Free-Rider and Spillover Adjustments
Witnesses: Baker, DeBolt, McRae

a. On page 876, the report discusses a 2012 review of the net-to-gross practices of 31 regulatory jurisdictions, finding that "42% had no NTG requirement." Did the review identify or analyze the actual practices, i.e., the calculation and use of free-ridership, spillover, and NTG ratios, that program administrators in jurisdictions without NTG requirements may have had in place? Please explain.

b. Did the reviews discussed on pages 876-878 of the report include findings about how program administrators within jurisdictions with NTG requirements may have adopted NTG practices that exceeded jurisdictional requirements? If so, please explain.

PSC-065

Regarding: Free-Rider and Spillover Adjustments
Witness: Thomas

Would NWE support net savings and lost revenue adjustments calculated using the free-rider and spillover rates provided in PSC-033? If not, please explain.

PSC-066

Regarding: LRAM adjustment
Witness: Thomas

Should interest apply to the amount over-collected through the LRAM since 2006 represented in Exhibit WMT-5?

PSC-067

Regarding: Cost-effectiveness Test Scores
Witnesses: DeBolt, McRae

a. For the E+ Commercial New Electric Rebate program, the cumulative PAC and RIM values are 1.27 and 1.11, respectively, while the TRC and SC values are 2.07 and 2.28. Please explain why the TRC and SC values for this rebate program are greater than the PAC and RIM values.

b. For the electric portion of the DEQ Appliance program, the PAC and RIM values are significantly higher (8.38 and 2.54, respectively) than the TRC and SC values (0.33 and 0.36). Why, for this rebate program, are the TRC and SC values significantly lower than the PAC and RIM values?

c. Are there reasons, in addition to those provided in response to the preceding two questions, why the TRC and SC values are measurably higher than PAC and RIM values for the E+ Commercial New Electric Rebate program while the opposite appears to be the case for the DEQ Appliance program, i.e., significantly lower TRC and SC values than PAC and RIM values?

PSC-068

Regarding: NEEA Incremental Participant Costs
Witnesses: DeBolt, McRae

In Table 648, "Portfolio Cost-Effectiveness Summary for All Calendar Years" (p. 826), values for all test calculations are provided for NWE's programs, including NEEA. However, an endnote of the table states that "NEEA Initiatives costs do not include Incremental Participant costs because none were provided." (p. 831) If incremental participant costs for NEEA were not available, please describe the validity, accuracy, and range of estimated range of error in cost-effectiveness test calculations that include values for incremental participant costs, such as TRC and SC tests, in your representation of those particular test values for NEEA.

PSC-069

Regarding: DSM and USB Cost Allocation
Witness: Thomas

a. During the SBW evaluation period, 2006-2011, some programs, such as E+ New Homes, E+ Commercial Existing Electric Rebate, and E+ Electric Motor/Rewind

Rebate, drew funding support from both NWE's DSM and USB budgets. Please explain the NWE's methodology in allocating costs to the DSM and USB budgets when both budgets are utilized to underwrite a particular program.

b. Did the reviews discussed on pages 876-878 of the report, which analyzed the NTG requirements of regulatory jurisdictions, include findings about how NTG practices may have been developed and used by program administrators in jurisdictions that had no NTG requirements? If so, please explain the findings.

c. Did the reviews include findings about how program administrators within jurisdictions with NTG requirements may have adopted NTG practices that exceeded jurisdictional requirements? If so, please explain the findings.

PSC-070

Regarding: Program Type Selection
Witness: Thomas

a. In the latter years of the SBW evaluation period, NWE appears to have increased emphasis on rebate measures (with the exception of the discontinuation of the new motor rebate measure in 2011). Please explain NWE's general approach to the rebate methodology for efficiency and how that approach may have evolved in recent years.

b. Has NWE's level of usage of program types other than rebates, such as energy audits, professional training, *et al.*, changed on a utility-wide scale in recent years? If so, please summarize reasons for change.

PSC-071

Regarding: Internal Review Protocols
Witness: Thomas

Please describe any established procedure or protocols that NWE has for internal review of efficiency programs and determinations of whether particular programs should be discontinued, altered, or established.

PSC-072

Regarding: Transformed markets
Witness: McRae

a. How does one know when a market has been transformed?

b. Should forward-looking predictions be made about when a market will be transformed (e.g., the expectation that the market for residential lighting would be transformed in 2016 because of consumer adoption or government regulation) and make decisions about cost-effectiveness accordingly?

c. In your view, is NWE funding programs in any "transformed markets" as discussed on ln 3, p. 5 of your testimony?

PSC-073

Regarding: Behavioral Psychology
Witnesses: Baker, McRae

a. What behavioral psychology considerations were taken into effect for the propensity of survey respondents to answer written surveys untruthfully, in a manner that makes the self-responding party seem, for example, less energy inefficient or otherwise more conscious about reaping energy efficiency savings?

b. Do you believe a self-report method to survey responses can bias a survey and, if so, how did you mitigate that concern?

c. Were any considerations made about how the installation of a light meter would affect consumers' propensity to turn on and off the light on which a meter was installed (e.g., turning off the light more frequently than they otherwise would were they not being monitored)?

PSC-074

Regarding: Random Sampling
Witnesses: Baker, McRae

a. What attempts were made to ensure that the samples of program participants and nonparticipants were random samples?

b. How important is it to have randomness in sampling for EM&V activity?

PSC-075

Regarding: Staff-to-budget ratio
Witness: Baker, McRae

On p. iv of the SBW report you state that NWE's DSM program has "an extremely low staff to budget ratio, as compared with program administrators around the country." What is the basis for that statement?

PSC-076

Regarding: DEQ Appliance program
Witness: Unknown

Funding for this program was eventually depleted on a first come, first served basis. Do you not believe that the funding would have been depleted, even absent NWE advertising promoting the program through advertising?

PSC-077

Regarding: Demand savings
Witness: Unknown

You write on p. 14 of the SBW Report that "We computed demand savings by dividing the evaluation kWh values by 8,760, the number of hours in a year." Given that the import of demand is frequently whether or not it coincides with peak demand, did the study give consideration to program impacts specifically on peak demand hours, or did it focus, as the statement above implies, merely on aggregate demand?

PSC-078

Regarding: Dispatch of Basin Creek
Witness: Markovich

a. Of all the megawatt-hours of production generated by Basin Creek in the tracker year, what percentage of them reflect an hourly schedule, versus the percentage of megawatt-hours that reflect a sub-hourly schedule?

b. If wind is projected to deliver for one-half of an hourly schedule, does the scheduler have the option of dispatching Basin Creek?

c. On how many occasions during the tracker year was Basin dispatched to assist an intermittent resource to meet its schedule?

d. Please provide a copy of any agreement that NWE's supply function has ever entered into with NWE's transmission function related to the dispatch of Basin Creek.

PSC-079

Regarding: Comparison of Operational Characteristics
Witnesses: Markovich and Johnston

a. What are the respective heat rates of Basin Creek and David Gates Generating Station?

b. If Basin Creek provided a ramping service to increase the scheduling accuracy of intermittent generators, could it be compensated for providing that service pursuant to a FERC tariff such as Schedule 10?

c. If Basin Creek provided a service to the transmission operator to ramp within the hour to diminish an energy imbalance, could it be compensated for providing that service pursuant to a FERC tariff such as Schedule 4 or Schedule 9?

d. Following delivery of a signal to Basin Creek to dispatch, how long does it take, using manual dispatch, for Basin to ramp up? Please answer using increments of generation delivered, as appropriate.

e. Could Basin Creek supplant the David Gates Generating Station (DGGS) for ramps that occur over a larger scope of time (i.e., every 15 or 30 minutes) than the moment to moment variations that DGGS is optimally designed to address?

PSC-080

Regarding: Energy from Non-Dispatchable Resources
Witness: Markovich

a. For the 2011-2012 tracker period, please identify each non-dispatchable resource providing electric supply to NWE's market operations group, including resources available through power purchase agreements, take-and-pay contracts and hedging contracts whose deliveries cannot be avoided without incurring the same cost that would otherwise be paid under the agreement or contract, as well as resources that are owned by or contracted to NWE but whose energy production is not within NWE's control. For each resource, list the contracted heavy load hour and light load hour energy and capacity amounts and, to the extent applicable, any monthly variations.

b. For the 2011-2012 tracker period, please identify the hours and the number of hours during which the supply resulting from non-dispatchable resources in (a) was greater than scheduled retail loads.

c. For those hours in which the phenomenon described in (b) occurred, please provide the scheduled load, and a list of the non-dispatchable resources delivering energy, including for each the amount of delivered energy in that hour.

d. For those hours in which the phenomenon described in (b) occurred, please state whether Colstrip Unit 4 delivered energy, and if so, the amount of energy. To the extent the reciprocal sharing agreement with Colstrip Unit 3 resulted in energy deliveries from that unit, include those deliveries in the response to this question.

PSC-081

Regarding: Wind Ramps
Witness: Markovich

a. Does NWE possess 15-minute data or 30-minute data relating to the production of energy from the wind energy assets it either owns or has contracts with?

b. If so, provide that data for the period from June 2011 through the most recent date for which data are available, both for each wind project separately and for the aggregate fleet of projects. Please provide this information in electronic format (i.e., a Microsoft Excel file).

c. Please identify the largest net ramp in energy resulting from wind generation since June 2011.

PSC-082

Regarding: Wind Scheduling Floor and Cap
Witness: Markovich

a. How were the floor and cap described in your testimony, p. 7, devised?

b. What was the total installed wind capacity when the floor of 20 MW and cap of 90 MW were in effect?

PSC-083

Regarding: Load Ramps
Witness: Markovich

a. Does NWE's supply function experience considerable ramps in loads during certain hours? If so, please identify them.

b. Does NWE's balancing authority experience considerable ramps in loads during certain hours? If so, please identify them.

PSC-084

Regarding: Assessing Intra-Hour Adjustments
Witness: Markovich

a. What kind of real-time information would NWE need to assess whether an intra-hour schedule adjustment make economic sense for its supply function?

b. What if any opportunity costs would NWE consider in assessing whether intra-hour schedule adjustments make economic sense for its supply function?

PSC-085

Regarding: Supply Function Imbalances
Witness: Markovich

Please explain whether and why it is more cost-effective to incur hourly imbalance charges than to increase scheduling accuracy by utilizing AGC or manually dispatching resources like Basin Creek.

PSC-086

Regarding: Imbalances of Various Transmission Customers
Witness: Johnston

a. Please provide the imbalance experienced by NWE's supply function for each hour during the 2011-2012 tracker year.

b. Please provide the hourly (or, where applicable, the monthly) imbalance of other customers, both generators and loads, during the tracker year.

c. Please provide the total amount of imbalance costs paid by the NWE Balancing Authority for each hour during the 2011-2012 tracker year.

d. Please provide the total amount of imbalance costs paid by each transmission customer for each hour (or, where applicable, by the month) during the 2011-2012 tracker year.

e. Do certain loads or certain generators routinely have greater imbalances than others, and if so, what in your view accounts for the differences?

PSC-087

Regarding: Imbalance Costs Charged to NWE
Witnesses: Johnston, Markovich, and Bennett

a. How are the administrative charges that are described on page 8 of Exhibit FVB-1 calculated?

b. If any administrative charges are based on a FERC tariff, provide the tariff, with the relevant portion highlighted.

c. How frequently and under what tariff does NWE's supply function pay for hourly imbalance?

d. How frequently and under what tariffs does NWE's transmission function collect payments for providing balancing and load following services to the balancing authority?

PSC-088

Regarding: Feasibility of Intra-Hourly Scheduling
Witness: Markovich

Could NWE's supply function schedule both its generation and load on an intra-hourly basis to diminish imbalance and improve the accuracy of scheduling, without requiring the participation of a counterparty load or generator? If so, please provide any analysis NWE has performed of the economic benefits and benefits of doing so.

PSC-089

Regarding: Functionality of I-TAP
Witness: Markovich

a. Does I-TAP provide an electronic platform through which transactions can actually be executed (i.e., a trading hub), or does it merely provide information to facilitate bilateral transactions in the traditional sense?

b. What precisely are NWE and other utilities doing to increase participation in an intra-hour market as suggested on page 3 of your testimony?

c. Further describe the "technical hurdles with WebExchange" you allude to on page 4 of your testimony.

d. Has NWE posted load or generator data on I-TAP in an attempt to find counterparties for any potential intra-hour schedules that it could submit?

e. What percentage, if any, of hourly transactions involved use of the I-TAP during the 2011-2012 tracker year?

PSC-090

Regarding: Sub-Hourly Market Participation
Witness: Unknown

a. PacifiCorp has announced that it will be a market participant in CAISO's real-time energy market (i.e., an energy imbalance market). The companies' memorandum of understanding appears to allow others the potential opportunity to join this market. How will NWE evaluate this opportunity?

b. Does NWE intend to participate in this new market? If so, to what extent and how?

c. Does NWE agree that utilizing the I-TAP "bulletin board" for hourly transactions could enable, encourage or result in greater use of I-TAP for sub-hourly transactions?

d. Please describe the basis of your statement on page 4 of your testimony that "benefits associated with intra-hour scheduling are not great enough to move market participants into the intra-hour timeframe."

PSC-091

Regarding: CPS2 Scores
Witness: Johnston

Please provide the NWE Balancing Authority Area's CPS2 values for each month of the last three years, using the following formula:

$$CPS\ 2 = \left[1 - \frac{\text{Violations}_{\text{month}}}{\left(\text{Total Periods}_{\text{month}} - \text{Unavailable Periods}_{\text{month}}\right)}\right] * 100$$