BEFORE THE

PUBLIC UTILITIES COMMISSION

STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY DBA XCEL ENERGY

FOR AUTHORITY TO INCREASE ITS ELECTRIC RATES

DOCKET NO. EL12-046

TESTIMONY & EXHIBITS OF BRITTANY MEHLHAFF

ON BEHALF OF THE COMMISSION STAFF

NOVEMBER 15, 2012

BEFORE THE
PUBLIC UTILITIES COMMISSION
STATE OF SOUTH DAKOTA

NORTHERN STATES POWER COMPANY, DBA XCEL ENERGY
DOCKET NO. EL12-046

TESTIMONY & EXHIBITS OF BRITTANY MEHLHAFF
ON BEHALF OF THE COMMISSION STAFF
NOVEMBER 15, 2012

Q. Please state your name, business address, and current position.

A. My name is Brittany Mehlhaff. My business address is South Dakota Public Utilities Commission, State Capitol Building, 500 East Capitol Avenue, Pierre, South Dakota 57501. I am employed as a utility analyst with the South Dakota Public Utilities Commission (Commission).

Q. Please describe your educational background and work experience.

A. In May 2011 I completed the degree requirements for a Masters of Arts degree in Mathematics from the University of South Dakota, graduating with a 4.0 GPA. Prior to completing my master's degree, I received a B.S.Ed. degree in Mathematics from the University of South Dakota in May 2009, graduating magna cum laude. I began my employment with the Commission as a staff utility analyst in July of 2010. During my employment at the Commission, I have attended several trainings and seminars relating to the regulation of electric and natural gas companies and completed coursework in accounting. I have experience as a staff analyst on three previous utility rate cases, Dockets EL10-011, NG11-003, and EL11-019.

Q. Are you familiar with Northern States Power Company's ("NSP" or "Company") application for an increase in electric rates in South Dakota, Docket EL12-046?

A. Yes. I have examined NSP's testimony, exhibits, and work papers included in the initial filing as well as responses to data requests relating to the issues I will be addressing in this testimony.

Q. What is your role in this docket?

A. I will sponsor the cost of service exhibits for which Staff Witness Jon Thurber provides testimony. Please refer to Exhibit___(BAM-1), Schedules 1, 2 and 3 and Exhibit___(BAM-2), Schedules 1 and 2. I will provide testimony on the following adjustments to operating income and rate base:

1. Weather Normalization
2. Fuel Lag
3. Production Tax Credits
4. Margin Sharing
5. Wholesale Billing
6. Weather Normalized Allocator
7. EL11-019 Outcome
8. Transmission Cost Recovery (TCR) Rider Removal
9. Environmental Cost Recovery (ECR) Rider Removal
10. Rider Amortization
11. Rounding
12. Riverside/Black Dog One-Time Expenses
13. Margin Sharing Lag

I will also offer testimony regarding the Company's proposed rate design.

WEATHER NORMALIZATION

Q. Please describe the Company's proposed weather normalization adjustment.

A. The Company proposed an adjustment to 2011 test year sales and revenues to reflect normal weather based on historical heating degree day (HDD) and temperature humidity index (THI) data. The Company calculated Actual HDDs and THIs using daily weather data obtained from the

National Oceanic and Atmospheric Administration (NOAA) Sioux Falls, SD weather station. NSP uses a base of 65 degrees Fahrenheit to calculate both HDDs and THIs.

The Company calculates normal HDDs and THIs based on a twenty year average of historical HDD and THI daily data. The 20 year time period used in this adjustment is 1990 to 2009.

NSP utilizes regression models to develop heating and cooling coefficients. The regression models provide equations that relate historical sales to a set of independent explanatory variables. As noted in the Company's response to data request 1-16[1], the "regression coefficient associated with each weather variable represents the MWh response per HDD65 or THI65 per customer". The effect on calendar month sales due to heating and cooling are calculated by taking the number of customers times the difference between the actual HDD/THI and normal HDD/THI times the respective calendar month heating or cooling coefficient.

The adjustment to sales is calculated for the Residential without Space Heating, Residential with Space Heating, and Small Commercial and Industrial classes. The sales for other classes are not weather normalized since sales in these classes are not affected by changes in weather. The Company determines the adjusted test year base and fuel revenues based on the weather normalized sales and rates in effect during the test year. The difference between the weather normalized revenues and the actual revenues results in the weather normalized revenue adjustment. The adjustment also includes a corresponding adjustment to test year fuel expenses, reflecting the decrease in fuel costs the Company will incur due to a decrease in sales.

Q. Do you agree with the Company's methodology for calculating the weather normalization adjustment?

A. I accept the regression equations developed by NSP. The Company's last two rate cases, EL09-009 and EL11-019, used regression analysis as well. However, my weather normalization adjustment differs from NSP's due to the HDD and THI normals used. To calculate the weather effect from heating, I used 30 year HDD normals obtained from the National Oceanic and Atmospheric Administration (NOAA) for the Foss Field weather station at Sioux Falls, SD, based on the 30 year period 1981-2010. While I do not oppose the use of THI for the cooling part of the adjustment, it seems reasonable to adjust the THI normals based on NOAA 30 year normal

[1] See Exhibit___(BAM-3), Schedule 4

data as well. The NOAA data available for cooling is cooling degree days (CDDs). My adjustment calculates the weather effect from cooling based on normal THI scaled to reflect 30 year NOAA normals by using the ratio of actual CDDs to normal CDDs per NOAA applied to the actual THI. This calculation is found on Exhibit___(BAM-3), Schedule 3.

Q. Please explain why the NOAA 30 year normals should be used as opposed to the 20 year average proposed by the Company.

A. Commission Staff has consistently used 30 year normals obtained from NOAA to adjust test year sales to reflect normal weather. Staff's weather normalization adjustments have been incorporated into several recent settlements approved by the Commission, including the most recent NSP rate case, Docket EL11-019. Continued use of NOAA normals ensures consistency from case to case.

The 30 year period for climate normals is an international standard, followed by members of the United Nation's World Meteorological Organization (WMO), of which the United States belongs. NOAA, an agency within the United States Department of Commerce, follows this international standard when developing its climate normals. According to WMO, "A Normal is defined as the arithmetic average of a climate element (e.g. temperature) over a 30-year period. A 30 year period is used, as it is long enough to filter out any interannual variation or anomalies, but also short enough to be able to show longer climatic trends[2]." Use of a shorter time period, such as 20 years, may not be sufficient to average out normal weather and temperature volatility and may lead to misleading conclusions about longer climatic trends.

According to NOAA, the WMO requires each member nation to compute 30 year normals at least every 30 years. However, the WMO recommends a decadal update. Thus, NOAA normals are updated every 10 years. This cycle of updating is sufficient to capture longer term climatic trends and reduces over sensitivity to normal climate variability occurring from year to year. Updating the normals every 10 years also allows for the time needed for the application of statistical procedures required to adjust the raw data for inhomogeneity caused by issues such as station moves and equipment changes. Whereas NSP's computation of HDD and THI normals are simply averages of raw data over a period of time, the data used in the computation of

[2] http://www.wmo.int/pages/themes/climate/climate_data_and_products.php

NOAA normals are subject to quality control and homogeneity testing and adjustment procedures. These statistical procedures include adjusting temperature data for the bias introduced with the change in equipment or station moves. Such changes have occurred at the Sioux Falls Foss Field weather station during the 1981-2010 time period used for NOAA normals, and also the 20 year period used in NSP's normals. For instance, in the 1990s, Automated Surface Observing System (ASOS) equipment was installed at the Sioux Falls Foss Field Weather Station. ASOS stations replaced human observers, thus there are inhomogeneities in the 1981-2010 data due to changes in observing practices. These biases are accounted for through the quality control and adjustment process. This is just one example of the types of biases NOAA's statistical procedures take into account.

The goal of the inhomogeneity adjustments is to ensure the data used in calculating the normals represents current observing practices. Thus, in the case of a change to ASOS equipment, an adjustment is applied to observations occurring prior to the installation of ASOS equipment so that the current normals reflect the observation practices occurring with ASOS equipment in the current decade. Upon the completion of such adjustments, the only variations remaining in the data to be averaged are those caused exclusively by normal weather and climate trends. Therefore, the 1981-2010 normals developed by NOAA represent normal conditions at the end of 2010 and are not simply an average of the weather occurring for the past three decades.

Q. What is your recommendation regarding the weather normalization adjustment to sales and revenues?

A. Based on the above discussion, I recommend the weather normalization adjustment be reflected as shown on Exhibit___(BAM-3), Schedules 1 through 3 and Exhibit___(BAM-1), Schedule 3, page 1, Column (c).

FUEL LAG

Q. Please provide your opinion regarding the Company's proposed fuel lag adjustment.

A. The Company proposed an adjustment to adjust test year fuel revenues and fuel expenses to an actual 2011 calendar-month basis, eliminating the recovery lag of approximately 2.5 months. I accept the Company's adjustment, reflected on Exhibit___(BAM-1), Schedule 3, page 1, Column (d).

PRODUCTION TAX CREDITS

Q. Please describe the Company's production tax credits adjustment.

A. The Company receives federal renewable electricity production tax credits for electricity generated by wind energy resources. In Docket EL11-019, the Commission approved a Settlement Stipulation that credits customers through the fuel clause for tax credits associated with NSP's wind generation. Accordingly, the Company proposed an adjustment to remove the production tax credits from the test year. I accept the Company's adjustment, reflected on Exhibit___(BAM-1), Schedule 3, page 2, Column (p).

MARGIN SHARING

Q. Please explain the Company's proposed margin sharing adjustment.

A. The Company's margin sharing adjustment is calculated in Volume 4, work paper PF36. In testimony, Company Witness Kramer does not accurately describe the adjustment calculated in the work papers. Mr. Kramer claims an adjustment is necessary to remove the 70% shareholder portion of the non-asset based margins from the test year, and does not offer an opinion on the proper adjustment for asset based margins. The work paper calculation removes 100% of the asset and non-asset based margins from the test year. Neither the adjustment described in testimony or the adjustment supported in the work papers is the proper adjustment to make for asset and non-asset based margins.

Q. Please explain why neither of these adjustments is appropriate.

A. I do not agree with the adjustment proposed in Mr. Kramer's testimony to remove the 70% shareholder portion of the non-asset based margins from the test year because the 30%/70% sharing mechanism was not in effect during the test year. The Settlement Stipulation approved in Docket EL11-019 incorporated the new sharing mechanism in which customers receive 30% of the non-asset based margins and shareholders keep the remaining 70%. This sharing mechanism was effective in 2012. During 2011, customers received through the fuel clause rider 25% of non-asset based margins, in accordance with the Settlement Stipulation approved in Docket EL09-009. The EL11-019 Settlement Stipulation maintained the asset based margin sharing agreement already in place in which customers receive 100% of the asset based margins.

The adjustment supported in the Company's work papers, removing 100% of the asset and non-asset based margins, is not appropriate since the test year retail fuel revenues reflect the margins returned to ratepayers through the fuel clause during 2011. Further removing the customer portion of the asset based margins (100%) and the customer portion of the non-asset based margins (25%) from the test year would duplicate the effect of the margin credits reflected in the retail fuel revenues, understating test year operating revenues.

Q. What is your recommendation regarding the margin sharing adjustment?

Since the retail fuel revenues reflect crediting 100% of the asset based margins and 25% of the non-asset based margins, it is appropriate to only remove the 75% shareholder portion of the non-asset based margins. This adjustment reflects the appropriate non-asset based sharing mechanism in effect during the test year and recognizes the asset and non-asset based margin credits already reflected in the test year retail fuel revenues. As noted in Exhibit___(BAM-4), the Company agreed to this revised adjustment in its response to data request 3-9. This adjustment is reflected on Exhibit___(BAM-1), Schedule 3, page 4, Column (al).

WHOLESALE BILLING

Q. Please explain your position regarding the Company's wholesale billing adjustment.

A. NSP performed a review of the costs assigned to their wholesale jurisdiction and realized that the costs assigned to their wholesale customers in 2011 did not properly reflect the costs of providing billing and account management services provided to these customers. This adjustment assigns additional costs to the wholesale jurisdiction, decreasing South Dakota jurisdictional operating expenses. I accept the Company's adjustment, reflected on Exhibit___(BAM-1), Schedule 3, page 5, Column (am).

WEATHER NORMALIZED ALLOCATOR

Q. Please describe the weather normalized allocator adjustment.

A. The Company's unadjusted test year and pro forma adjustments are allocated to the South Dakota jurisdiction using actual 2011 allocators. The Company developed weather normalized demand and energy allocators using weather normalized sales. Weather normalizing the jurisdictional allocators in this case supports consistency between jurisdictions as the Company's Minnesota and North Dakota allocators are based on normal weather. The adjustment reflects the impact of the difference between the weather normalized demand and energy allocators and the actual demand and energy allocators.

Q. What is your recommendation regarding the weather normalized allocator adjustment?

A. I agree it is appropriate to weather normalize allocation factors and the Company's calculations are accurate. As this adjustment is dependent upon the pro forma investments, revenues, and expenses allocated to the South Dakota retail jurisdiction based on energy and demand, the precise value of the weather normalized allocator adjustment cannot be quantified until the Commission makes a final determination on all of the issues in the case. The adjustment reflected on Exhibit___(BAM-1), Schedule 3, page 5, Column (aq) and Exhibit___(BAM-2), Schedule 2, page 3, Column (x) represents the Company's filed adjustment, and needs to be revised based on the Commission's decision on all other issues in this case.

EL11-019 OUTCOME

Q. Please describe the Company's proposed EL11-019 Outcome Adjustment and your recommendation regarding this adjustment.

A. The test year retail revenues are based on the rates established in Docket EL09-009. However, rates were changed in Docket EL11-019, effective in 2012. This is a known and measurable change that should be reflected in the test year. The Company proposed an adjustment to reflect the rate increase based on weather normalized sales. I recommend accepting this adjustment, revised to reflect the changes proposed above to weather normalized sales. The resulting adjustment is reflected on Exhibit___(BAM-3), Schedule 1 and Exhibit___(BAM-1), Schedule 3, page 5, Column (au).

TCR RIDER REMOVAL

Q. Please provide your recommendation regarding the Company's TCR rider removal adjustment.

A. The Company proposed to remove all revenues and costs included in the test year associated with projects that will continue to be recovered through the TCR rider. The revenue requirements associated with projects approved for recovery in Docket EL12-035 will remain in the TCR rider and thus should not also be included in the calculation of base rates. During discovery, it was noted that the removal of the OATT revenues included in the test year was inadvertently overlooked[3]. My adjustment to operating income revises the Company's filed adjustment to remove the OATT revenues included in the test year other operating revenues as these revenues are reflected in the TCR rider. The Company labeled the rate base portion of this adjustment as the *Remove Riders* adjustment on Exhibit___(TEK-1), Schedule 6a, Column 25. For clarity, I have named this adjustment *TCR Rider Removal* to agree with the operating income portion of the adjustment. Exhibit___(BAM-2), Schedule 2, page 3, Column (z) reflects the rate base portion of this adjustment. The operating income portion of this adjustment can be found on Exhibit___(BAM-1), Schedule 3, page 6, Column (av).

ECR RIDER REMOVAL

Q. What is your recommendation in regard to the Company's ECR rider removal adjustment?

A. The Company's proposed ECR rider removal adjustment removes the revenues and amortization expense associated with the ECR from the test year. In Docket EL11-019, the Company shifted recovery of its environmental investments and expenses through the ECR rider into base rates. As such, NSP set the ECR rate to $0.00 in January 2012. However, since there were ECR revenues and expenses recorded in the 2011 test year, it is necessary to remove the revenues and expenses from the test year. I accept the Company's adjustment which is found on Exhibit___(BAM-1), Schedule 3, page 6, Column (aw).

RIDER AMORTIZATION

Q. Please explain your recommendation regarding the Company's proposed rider amortization adjustment.

A. The rider amortization adjustment brings into the test year the amortization expense associated with the TCR and ECR riders. This amortization expense is not included in the unadjusted test

[3] See Exhibit___(BAM-5)

year. This adjustment includes the amortization expense in the cost of service, and the TCR and ECR removal adjustments then remove the expense from the test year. Collectively, the Company's adjustments to amortization expense in the rider amortization adjustment and the TCR and ECR rider removal adjustments have no impact on the test year.

The Company's rider amortization adjustment also includes an adjustment to other operating revenues to remove the South Dakota portion of the interchange revenue related to the Minnesota Renewable Development Fund (RDF). In Docket EL09-009, the Commission disallowed recovery of expenses for payments by NSP to the Minnesota RDF. Since the amortization expense is not included in the cost of service, I agree it is appropriate for NSP to make an adjustment removing the interchange revenue related to the RDF.

I recommend the Commission accept the Company's adjustment which is reflected on Exhibit___(BAM-1), Schedule 3, page 6, Column (ba).

ROUNDING

Q. Please provide comments in regard to the Company's proposed rounding adjustment.

A. The Company proposed an adjustment to reflect potential rounding differences although the Company did not make a rounding adjustment in its filed case. In the event the Company believes a rounding adjustment is necessary upon the Commission's final decision on all issues in this case, Staff will review the adjustment at that time.

RIVERSIDE/BLACK DOG ONE-TIME EXPENSES

Q. Please explain the proposed adjustment regarding Riverside and Black Dog one-time expenses found on Exhibit___(BAM-1), Schedule 3, page 6, Column (bd).

A. Included in the test year are one-time expenses, including costs associated with the environmental remediation of approximately 13 acres of land near the Company's Riverside plant (Riverside Boundary Project)and exterior wall maintenance after the Black Dog bunker fire. The Company incurs environmental remediation and clean-up costs at various sites from time to time. However, the Company does not expect to incur additional costs specifically related to the Riverside Boundary Project and Black Dog bunker fire. Since these expenses are one-time, yet prudent costs, I recommend the expenses be amortized over a reasonable time period. I accept the Company's proposal to amortize the cost over a two year period, as noted in the Company's response to data request 8-3[4], with no return on the unamortized balance. I also recommend the Company refund any over-collections in the event the rates established as part of this proceeding remain in effect longer than two years.

MARGIN SHARING LAG

Q. Please explain the proposed margin sharing lag adjustment found on Exhibit___(BAM-1), Schedule 3, page 7, Column (bg).

A. The test year retail fuel revenues reflect the asset and non-asset based margins returned to customers through the fuel clause during 2011. However, due to the lag experienced with the fuel clause mechanism, the test year does not reflect the 2011 calendar year margin credits. The 2011 fuel revenues reflect the 2010 non-asset based margin credits that were flowed through the fuel clause in 2011, creating a one year lag. The asset based margin credits lag by two months. Similar to the Company's proposed fuel lag adjustment, I recommend a corresponding adjustment be made to correct the lag experienced with the margin sharing credits due to the fuel clause mechanism. My adjustment adjusts the test year fuel revenues associated with the asset and non-asset based margin credits to an actual 2011 calendar-month basis. Please see Exhibit___(BAM-7), Schedule 1 for details regarding this adjustment. Eliminating this lag ensures that, in conjunction with the margin sharing adjustment, non-asset and asset based margins have no effect on the revenue requirement. Exhibit___(BAM-7), Schedule 2 demonstrates the net effect of the two adjustments.

RATE DESIGN

Q. Are there any rate design issues examined by Staff not discussed in your testimony?

A. Yes. Staff Witness Dave Peterson discusses the appropriateness of the proposed customer charges and changes to voltage discounts.

Q. What are your recommendations regarding the Company's proposed rate design for issues not discussed by Staff Witness Peterson?

[4] See Exhibit___(BAM-6), page 2

A. I concur with the Company's rate design proposals for all rate schedules relating to matters not discussed by Staff Witness Peterson. Final rates should be based on the revenue requirement the Commission ultimately approves.

Q. Does this conclude your testimony?

A. Yes, it does.